



WD-24-02: Model Groundwater Protection Ordinance

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1 INTRODUCTION

1.1 OVERVIEW

This model ordinance has been designed for the protection of aquifers as well as other locally important groundwater, which may include wellhead protection areas (see the model ordinance for definitions).¹ The purpose of this model ordinance is to provide municipalities with an example of an ordinance that complies with state laws and is consistent with current approaches to groundwater protection. State law enables, but does not require, municipalities to adopt ordinances to enhance the protection of drinking water. This model ordinance does not represent a state or federal requirement. The model ordinance is a starting point and should be modified to be consistent with a municipality's existing land use regulations.

1.1.1 PETROLEUM-RELATED GROUNDWATER CONTAMINATION

Groundwater can be contaminated when chemicals or other substances are spilled or discharged to the ground. Liquids can flow through the ground into groundwater, and both solids and liquids can be flushed downward by rain and snowmelt. Once contaminants reach groundwater, they often move along with the groundwater flow. Petroleum storage has historically been a major source of groundwater contamination in New Hampshire. In FY 2021, there were 868 active projects eligible for site remediation funds from NHDES including 78 new projects reported during the fiscal year. The majority of releases were from new projects involving "on-premise" fuel oil storage tank systems as noted in the [Oil Fund Disbursement Board FY 2021 Annual Report](#). NHDES and other states have seen significant reductions in leaking underground fuel storage tanks over the last five years due to more stringent state and national petroleum storage tank regulations being implemented. In New Hampshire, NHDES' data suggests the most common releases associated with large petroleum storage tanks involve customer overfills at gas dispensers and spills that occur during bulk fuel deliveries.

Other compounds in gasoline are harmful to human health, including toluene or benzene; therefore, gasoline releases to the ground are still a concern. Some industrial solvents are especially potent contaminants; only 5 ounces of TCE (trichloroethene), a common industrial solvent, can make up to 7.8 million gallons of water unacceptable for drinking based on federal standards.

1.1.2. PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS)

Per- and Polyfluoroalkyl Substances (PFAS) can present public health risks when consumed in drinking water even at very low concentrations (parts-per-trillion (ppt)). These compounds are associated with a wide array of industrial, commercial and consumer products and residential land use activities and waste streams. This complex group of manufactured chemicals is found in many everyday products such as in food packaging, non-stick cookware, stain resistant clothes and carpets and in "Class B" firefighting foam.²

In April 2024, US EPA adopted a MCL of 4.0 nanograms per liter (ng/L) or parts per trillion (ppt) for PFOA and PFOS, and a MCL of 10 ppt for PFHxS, HFPO-DA (also known as GenX) and PFNA. US EPA also adopted a Hazard Index (HI) approach when considering chemical mixtures of four PFAS: PFHxS, HFPO-DA, PFNA and PFBS. A HI is a commonly used risk management approach when considering mixtures of chemicals that may affect human health. To find out more about how the MCL was developed visit the [PFAS National Primary Drinking Water Regulation Rulemaking](#).

¹ Locally important groundwater may also include other areas. For background on groundwater protection and the various regulatory and non-regulatory tools available to municipalities, see the [NHDES Guide to Groundwater Protection](#), available from NHDES' Drinking Water Source Protection Program, (603) 271-0688.

² [National Institute of Environmental Health Sciences](#).

PFAS has been detected at hundreds of waste sites and public water systems across New Hampshire. Since 2019, public water systems subject to the regulation have sampled approximately 1,400 sources of drinking water, mitigated over 100 drinking water sources with PFAS that exceed state standards and notified the public about PFAS testing results. In parallel to its work with public water systems, NHDES has coordinated the sampling and testing of the drinking water from over 12,000 private wells and assisted homeowners with addressing this contaminant. [NHDES' PFAS Sampling Map](#) shows PFAS testing results for thousands of locations where PFAS has been sampled. While PFAS have affected wells throughout New Hampshire, more frequently PFAS is detected at elevated levels in southern New Hampshire. For more information about NHDES' response to PFAS, please visit the [NHDES PFAS Response](#) website.

Products containing PFAS are used in a variety of domestic, commercial, institutional and industrial settings. Groundwater contamination has been associated with certain land use activities and the following activities are considered “major sources:”

- Industrial facilities that produce PFAS or process PFAS, or facilities that use PFAS chemicals or products in manufacturing or other activities.
- Areas where fluorine-containing Class B firefighting foams are stored, used or released.
- Waste management facilities, such as landfills.
- Domestic and non-domestic wastewater disposal areas.
- Wastewater treatment residuals and areas of biosolids production and application.

Efforts to identify safer product alternatives that contain little or no PFAS is underway through academic, governmental and environmental organizations. Currently, few products considered safer alternatives are field and/or lab verified to confirm the products do not contaminate groundwater during their intended use. More commonly, product ingredients are reviewed against labelling/certifying standards using chemical information available or provided by product manufacturers. For example, US EPA's Safer Choice and Green Seal programs both review product ingredients for PFAS content provided by manufacturers and leverage existing data as part of their review and assessment. If the product meets the Safer Choice or Green Seal program criteria expressed in their standard, the product receives that program's label. For more information on the standards, see the following online resources.

- [Taking a Leadership Position on PFAS in Certified Products – Green Seal.](#)
- [Green Policy Institute's List of PFAS-Free Alternatives.](#)
- [Environmental Working Group's List of Products without intentionally added PFAS or PFCs.](#)

PFAS compounds may not be listed on product labels or in SDS sheets, and, as discussed above, may not be field/lab verified. Product substitution decisions should consider these limitations.

1.1.3 LOCAL APPROACHES TO GROUNDWATER PROTECTION

There are many strategies that cities, towns and village districts can use to protect groundwater. Some of these involve passing new zoning or changing existing zoning, while others are entirely non-regulatory. The most effective way to protect groundwater is through land use planning. Options for protecting water quality include acquiring ownership or easements for land that is important for source water protection to ensure future land uses do not contaminate drinking water. Other land use planning options can include adopting local zoning ordinances, local regulations, site plan review regulations and subdivision regulations. Local regulations can address specific activities such as gravel excavations, blasting, septic system operation and maintenance and the use of underground storage tanks, fertilizer and wastewater residuals (e.g., sludge or biosolids). Non-regulatory approaches include household hazardous waste collection, low salt zones and public education. All of these techniques are described in the [NHDES Guide to Groundwater Protection](#).

1.1.4 PLANNING AS A PRELUDE TO ZONING

Before adopting a groundwater protection ordinance, a municipality should address the need for groundwater protection in its master plan, typically in the natural resources chapter. Groundwater protection may also be addressed in a source water protection plan.

Source water protection planning usually involves assembling a team of stakeholders who understand local protection needs, identifying source water threats, management approaches and priorities for actions necessary to protect drinking water sources (i.e., aquifers, wells and/or surface water sources). Source water protection may address the protection of areas to develop water supply wells in the future and extend across municipal boundaries to protect regional resources (aquifers, watersheds). With an expectation of greater industrial or commercial development, a source water protection plan may focus on land use management. Examples of adopted source protection plans are available upon request from NHDES' Source Water Protection Program or Granite State Rural Water Association. (603-756-3670) For information about developing a source water protection plan, including available grant resources, contact the Source Water Protection Program at (271-0688).

1.1.5 GROUNDWATER PROTECTION ZONING AND BETTER MANAGEMENT OF LAND USES

Nearly half (113) of all incorporated municipalities in New Hampshire have some form of groundwater or aquifer protection zoning. Many of the municipalities include zoning and other land use-based regulations to ensure that proposed new land uses are compatible with the protection of critical groundwater resources that are sources of drinking water. Zoning and other land use regulations that protect drinking water have a relatively low cost of administration and can provide a high degree of protection. The main drawbacks of relying exclusively on zoning and other land use regulations are that most existing uses³ are allowed to continue (i.e., they are "grandfathered") and some land uses that may pose a low risk if properly designed and managed, are prohibited.

Alternatively, many New Hampshire municipalities and water suppliers rely on inspection programs to protect their groundwater resources, especially in wellhead protection areas. Inspection programs typically are administered and conducted using the requirements of [Env-Wq 401 - Required Best](#)

³ An existing use is a land use established before a zoning regulation goes into effect and it may continue unless it includes an activity which is a nuisance or harmful to public health and welfare; it cannot be changed or substantially expanded without being brought into compliance (Cohen v. Henniker, 134 N.H. 425, 427 (1991); see also RSA 674:19).

Management Practices (BMPs) Rules. These rules stipulate practical practices that apply to the storage, handling and disposal of regulated substances (as defined in this rule).⁴ BMP inspection programs may be either voluntary or mandatory, meaning that the facility owner may or may not have the option to deny the inspector access to the facility. Mandatory inspection programs typically derive their authority from a local health ordinance or from groundwater reclassification, a cooperative state-local approach.⁵ The advantage of inspection programs over zoning and other land use regulation is that a greater variety of commercial and industrial land uses may be permitted. The disadvantage of relying too heavily upon inspection is that land uses that pose a relatively higher risk of contamination are still permitted, and periodic inspections may not be adequate to ensure the protection of groundwater.

Specialized expertise is not needed to conduct BMP inspections however training is strongly recommended. NHDES has successfully trained hundreds of water supply operators and municipal code enforcement/health officers to conduct inspection programs and has found their background and experience appropriate. Call 603-271-3906 if you are interested in this training. Municipalities with public water supplies that already conduct BMP inspections within wellhead protection areas (WHPAs) should discuss and coordinate BMP inspection activities to be added through zoning. This model ordinance integrates inspection into a zoning ordinance as described in the following section.

1.1.6 A COMBINED APPROACH: ZONING AND BMP INSPECTIONS

The model ordinance in this document prohibits only a small number of land uses that have a relatively high-risk of causing groundwater contamination. Land uses that have a relatively low risk of causing groundwater contamination (except those with *no regulated substances* in containers of five gallons or more, and others exempted under Article 12, *EXEMPTIONS*) under the model ordinance in this document, must conform to performance standards. The model performance standards incorporate many of the state's BMP rules, and also require pollution prevention measures (e.g., spill prevention and control) and stormwater treatment for commercial and industrial land uses.

RSA 674:21 authorizes Planning Boards to require a Conditional Use Permit that requires applicants meet conditions for approval by the Planning Board. With respect to PFAS, several relatively high-risk land uses are specifically prohibited in the model ordinance in this document. Planning Boards, however, may consider approving industrial or commercial land uses that present a relatively low risk of causing groundwater to become contaminated with PFAS, by issuing a conditional use permit. Appendix I lists categories of industries/applications that use PFAS for general reference. Applicants proposing new land uses where PFAS is a concern would be asked to provide supplemental information. (See Appendix H, *Supplemental Submittal Requirements for Industrial Uses Involving PFAS*). The supplemental information should provide relevant information to the Planning Board regarding how structural and non-structural source controls will be designed, operated and maintained over time to prevent the release of PFAS to the environment.

1.1.7. ADOPTION AS A STAND-ALONE OR OVERLAY DISTRICT

The model ordinance in this document can either be adopted as an overlay district or a stand-alone ordinance. If it is to be adopted as an overlay district in an existing zoning ordinance, several articles could be removed to avoid duplicating existing text. Specifically, Articles 1, 11, 13, 15 and 16 of the model ordinances in this document may duplicate existing provisions in local zoning ordinances. A list of communities with aquifer/groundwater protection ordinances is in Appendix J. Before using this or any other ordinance as a model, carefully review this model ordinance's provisions for consistency

⁴ For a summary of the BMP Rules, see fact sheet WD-DWGB 22-4 in Appendix A.

⁵ For more information about groundwater reclassification, contact NHDES' Drinking Water Source Protection

with your municipality's health, zoning as well as other municipal regulations including municipal site plan, subdivision and earth excavation regulations.

1.1.8. INSPECTIONS NECESSARY

In order for the model ordinance in this document to be effective at minimizing the risk of groundwater contamination, the municipality must conduct periodic inspections of every facility that may store or use regulated substances in containers with a capacity of five gallons or more. Municipalities may charge a fee to pay for an inspection program, but experience suggests that in most communities the costs of such programs are so low that they can be administered by existing personnel. If a municipality wishes to protect its important groundwater resources but is unable to make a permanent commitment to conducting an inspection program, it should consider expanding the list of prohibited uses in the model ordinance in this document (see Appendix C). BMP training and guidance to conduct inspections are available from NHDES [online](#) or by calling NHDES at 271-0688.

1.1.9 NARROWING OR BROADENING THE SCOPE OF THE ORDINANCE

Because a community's need for groundwater protection is usually driven by its need for drinking water supplies, the geographic scope of the model ordinance is established in Article 4, [2 MODEL GROUNDWATER PROTECTION ORDINANCE – TEMPLATE](#) Language, and should be reviewed carefully and the technical basis of the district's area noted in the municipality's master plan, source water protection plan and/or water resources plan.

Zoning protections should also be designed to address the known vulnerabilities or gaps in local groundwater protection in light of existing or potential future land uses.⁶ A community with extensive areas underlain by stratified-drift aquifers and/or wellhead protection areas may or may not wish to include all such areas in the Groundwater Protection District. For example, the town may wish to include only wellhead protection areas, only some aquifers, or only some areas of mapped aquifers, such as areas where transmissivity (i.e., the rate at which water is transmitted through a unit width of an aquifer under a unit hydraulic gradient) is mapped as 1,000 ft²/day or greater. Protecting potential (future) public drinking water supplies may also be a priority, and NHDES' Drinking Water Source Protection Program (DWSPP) can assist in those efforts. For example, the DWSPP and most regional planning commissions, can provide maps as well as assist with providing local groundwater quality data or support a community with grant funding to conduct a Favorable Gravel Well Analysis to identify areas of the municipality that are potentially developable as future public water supplies. Land conservation grant funding from the Drinking Water and Groundwater Trust Fund is also available to protect wellhead protection areas (WHPAs) for current or future community wells, as well as high-value stratified drift aquifers defined as "GA2" under RSA 485-C. GA2 is a state groundwater classification that includes stratified drift aquifers with transmissivity of 2,000 ft²/day or greater that may support new high-yield public water supply wells. See [WD-DWGB 22-3 Groundwater Reclassification and how it Affects the Property Owner \(nh.gov\)](#) for more information about GA2 and other classifications).

The model ordinance in this document defines a *wellhead protection area* (WHPA) to include all wellhead protection areas delineated and/or approved by NHDES for either "community" or "non-transient, non-community" water systems. Community water systems are those that serve at least 15 service connections used by year-round residents or regularly serve at least 25 year-round residents. Non-community systems are categorized by NHDES as either "transient" (e.g., restaurants) or "non-transient" systems, such as those serving schools and workplaces. Sources of drinking water for

community and non-transient, non-community public water systems have defined WHPAs, while sources of drinking water for transient systems do not have delineated WHPAs. Information concerning WHPAs for public water systems, [Source Water Assessment Reports](#) that summarize potential contamination risks are available online or can be obtained from NHDES Source Water Protection Program (271-0688). Note, most of these reports are over two decades old and will require updates.

1.1.10. OTHER RECOMMENDED MEASURES

Local officials might also consider the following water resource-related strategies.

- **Private water well testing.** Approximately 40-45 percent of New Hampshire residents use private wells for domestic water supply and many private well users who fail to test their well water risk being exposed to unhealthy levels of natural or anthropogenic contaminants in groundwater. Testing well water in a lab is the only way to determine the presence of contaminants and potential health risks. Municipalities should encourage regular well water testing for both aesthetic and health-based contaminants as recommended by NHDES and listed within the “Standard Analysis.” Municipalities may also refine their local definition of *potable water* found in their building codes to establish an enforceable standard for private well water quality. NHDES’ [Guidance to Refine the Potable Water Definition in NH in Municipal Building Codes](#) (2022) is available for download on the [NHDES website](#). The guidance provides example language for refining the *potable water* definition in local building codes. Residents with private wells may also use NHDES’ “Be Well Informed” web application to help interpret their private well water quality results from a lab report and obtain recommended treatment for specific contaminants. The web application is available at [the Be Well Informed website](#).

NHDES guidance regarding contaminants to test for and minimum yields for private wells is available online from NHDES website (See [NHDES’ Private Well Testing Program](#)).

- **Protect water resources from non-point source pollution.** Municipalities should consider adopting other ordinances for the prevention of non-point source pollution of surface waters and for the protection of wetlands. The New Hampshire Stormwater Manual, Volumes I-III (December 2008) and the [Center for Watershed Protection](#), a leading national non-profit organization, are two useful technical resources when working to reduce non-point source pollution and improve watershed management. Model stormwater regulations, such as the *Model Stormwater Standards for Coastal Watershed Municipalities* (UNH Stormwater Center & Rockingham Planning Commission, 2017) provide sample regulatory language that municipalities can use as a starting point for considering site plan regulations to minimize non-point source pollution.⁷ Non-regulatory programs, like NHDES’ [Soak Up The Rain NH](#), promote voluntary installation of *do-it-yourself* stormwater practices, such as rain barrels or rain gardens, designed to conserve water or treat contaminants before being infiltrated or discharged by a practice to groundwater or surface water.
- **Prevent contamination from home-based businesses or accessory uses.** Many zoning ordinances allow home occupations in residential districts with few restrictions. Home occupations such as beauty shops or small engine service shops that store and use gasoline, solvents, cleaners (including products that may contain PFAS) or other chemical products in quantities under five gallons are exempt from inspections under this model ordinance. Home occupations, subject to local approval, could be evaluated as to their potential to release PFAS to the environment or ability to reduce and eliminate products/activities that may result in a

⁷ Southeast Watershed Alliance [Model Stormwater Standards](#), 2017 update Prepared by the Rockingham Planning Commission and University of New Hampshire Stormwater Center. (Draft: November, 2017)

release.

Consider amending Article 6, [PERFORMANCE STANDARDS](#), of the model ordinance in this document if local conditions warrant inspections of home-based businesses or accessory uses.

To minimize the risk of groundwater contamination, the following provisions can be included in a local ordinance:

- ❑ Prohibit home-based businesses that, by their nature, regularly expose regulated substances, including those that contain PFAS, to precipitation and cannot segregate clean stormwater from stormwater contaminated with regulated substances.
- ❑ Prohibit home-based business that utilize regulated substances and discharge all wastewater to groundwater.
- ❑ Restricting the total volume of regulated substances that home occupations may keep on-site without being subject to best management practices inspections to five gallons.
- ❑ Home-based businesses should be required to use appropriate storage containers that control the release of potentially contaminating substances including those with a capacity of less than five gallons or else be treated as a business that is subject to inspections.

1.1.11 EDUCATION

Regardless of whether your municipality chooses to take a regulatory approach, every groundwater protection program should have a strong education component. Regulatory programs, which focus on only the riskiest land uses, can accomplish only so much. Since nearly all businesses and households use substances that can potentially contaminate groundwater, most potential contamination sources are unregulated, such as household cleaners, personal care, yard and garden products. Education is a practical way to address the situation. Education and outreach activities may be targeted at the general public, specific groups such as business owners and residents of the groundwater protection district, and school-age youth. To improve the results of education programs, public health and environmental officials often use a marketing approach referred to as community-based social marketing (CBSM). CBSM involves the use of social science methodologies and techniques to more effectively design and implement public education resulting in better health or environmental choices. An example of an innovative CBSM organizations is "[Tools of Change](#)." NHDES' Drinking Water Source Protection Program, Regional Planning Commissions and non-profit organizations such as the [American Ground Water Trust](#) offer a variety of assistance to municipal boards (e.g., conservation commissions), neighborhood groups and teachers interested in groundwater education.

2 MODEL GROUNDWATER PROTECTION ORDINANCE – TEMPLATE LANGUAGE

<p>1. AUTHORITY</p> <p>The [City or Town] of [Town Name] hereby adopts this ordinance pursuant to the authority granted under RSA 674:16 as an Innovative Land Use Control pursuant to RSA 674:21. This ordinance shall be administered, including the granting of conditional use permits, by the planning board.</p>	<p>Explanatory Notes</p> <p><i>RSA 674 includes the zoning enabling law; RSA 675 governs enactment and adoption procedures; and RSA 676 governs administrative and enforcement procedures. RSA 674:21 provides examples of the innovative land use controls that municipalities may adopt under RSA 674:16, including performance standards and environmental characteristics zoning.</i></p>
<p>2. PURPOSE</p> <p>The purpose of this ordinance is, in the interest of public health, safety and general welfare, to preserve, maintain and protect from contamination existing and potential groundwater supply areas <i>and to protect surface waters that are fed by groundwater.</i></p> <p>Consistent with [master plan, date], the purpose is to be accomplished by regulating land uses which could contribute pollutants to designated wells and/or aquifers identified as being needed for present and/or future public water supply.</p>	<p><i>This section describes the purposes of this ordinance, which should be consistent with the purposes of an up-to-date, properly adopted master plan. The italicized text at left is optional; protection of drinking water sources is usually more compelling, if for no other reason than the fact that the contamination of drinking water sources has potentially significant public health and community development implications.</i></p> <p><i>Master plans, source water protection plans or natural resource management plans, adopted by the town, should support the adoption and purpose of the ordinance. The rationale for such a district should be incorporated into the municipal master plan prior to adoption of this ordinance.</i></p>
<p>3. DEFINITIONS</p>	<p><i>Definitions provided in this model should be reviewed against the same or similar definitions in existing zoning regulations.</i></p>
<p>A. Petroleum bulk plant or terminal: means that portion of the property where petroleum products are received by tank vessel, pipeline, tank car or tank vehicle and are stored or blended in bulk for the purpose of distributing such liquids by tank vessel, pipeline, tank car, tank vehicle, portable tank or container.</p>	<p><i>This term is used in Prohibited Uses, Article 9, PROHIBITED USES, part F.</i></p>

<p>B. Groundwater: subsurface water that occurs beneath the water table in soils and geologic formations.</p>	<p><i>From RSA 485-C, the Groundwater Protection Act.</i></p>
<p>C. Gasoline station: means that portion of a property where petroleum products are received by tank vessel, pipeline, tank car or tank vehicle and distributed for the purposes of retail sale of gasoline.</p>	<p><i>This term is used in Prohibited Uses, Article 9, PROHIBITED USES, part G.</i></p>
<p>D. Impervious: not readily permitting the infiltration of water.</p>	<p><i>“Impervious” is used in Performance Standards Article 6, PERFORMANCE STANDARDS part D. It is defined to distinguish it from “Impervious surface.”</i></p>
<p>E. Impervious surface: a surface through which regulated substances cannot pass when spilled. Impervious surfaces include concrete unless unsealed cracks or holes are present. Earthen; wooden or gravel surfaces; or other surfaces which could react with or dissolve when in contact with the substances stored on them are not considered impervious surfaces.</p>	<p><i>What is considered impervious with respect to stormwater infiltration is not necessarily considered impervious with respect to containment of regulated substances.</i></p> <p><i>From NH Code of Administrative Rules Env-Wq 401 .03(c), Best Management Practices rules for groundwater protection, except that “substances” has been substituted for “contaminants.”</i></p>
<p>F. Junkyard: an establishment or place of business which is maintained, operated or used for storing, keeping, buying or selling junk, or for the maintenance or operation of an automotive recycling yard. The word does not include any motor vehicle dealers registered with the director of motor vehicles under RSA 261:104 and controlled under RSA 236:126.</p>	<p><i>From RSA 236:91 IV. Junkyard owners must obtain an annual town or city issued "junkyard" license under RSA 236:111-129 and certify in their application for this license that the yard operates in compliance with best management practices (BMPs) established by NHDES. The BMPs, in addition to other helpful information about auto recycling issues, are available from NHDES' Green Yards Program.</i></p>
<p>G. Outdoor storage: storage of materials where they are not protected from the elements by a roof, walls and a floor with an impervious surface.</p>	<p><i>Outdoor storage is a term used in the Performance Standards (Article 6, PERFORMANCE STANDARDS part F and G and under Prohibited Uses (Article 9, part B).</i></p>
<p>H. Per- and polyfluoroalkyl substances (PFAS).</p>	<p><i>Per-and polyfluoroalkyl substances (PFAS) are an extensive group of chemicals used to make fluoropolymer coatings and products that resist heat, oil, stains, grease and water.</i></p>

<p>I. Public water system: a system for the provision to the public of piped water for human consumption, if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.</p>	<p><i>From RSA 485:1-a, XV. The definition used here is abbreviated because the only reference in this ordinance to a public water system is in the definition of wellhead protection area.</i></p>
<p>J. Regulated substance: means any of the following, excluding substances used for the treatment of drinking water or waste water at department-approved facilities: (1) Oil as defined in RSA 146-A:2, III; (2) Any substance that contains a regulated contaminant for which an ambient groundwater quality standard has been established pursuant to RSA 485-C:6; and (3) Any substance listed in 40 CFR 302, in the most recent edition.</p>	<p><i>The regulated substance definition is the same as found in Env-Wq 401.03(h).</i></p> <p><i>Certain PFAS compounds are defined as regulated substances as they are listed in 40 CRF 302 as “hazardous substances” or as “regulated contaminants” in Env-Or-603.03(c) and RSA 485-C:6. These include Perfluorohexane sulfonic acid (PFHxS), Perfluorononanoic acid (PFNA), Perfluorooctane sulfonic acid (PFOS) and Perfluorooctanoic Acid (PFOA) and have ambient groundwater standards in addition to MCLs for drinking water provided by public water systems. An unofficial searchable list of regulated substances is published by NHDES online.</i></p> <p><i>Note, chemicals used by NHDES-permitted facilities to treat drinking water or wastewater are excluded from the definition of regulated substance because they are used in the treatment of water supplies and are not considered to pose a significant risk to groundwater.</i></p> <p><i>State administrative rule Env-Wq 401, BMPs for Groundwater Protection is online at NHDES’ website.</i></p>
<p>K. Sanitary protective radius: The area around a public water supply well which must be maintained in its natural state as required by Env-Dw 302 or 305 (for community water systems); Env-Dw 405.14 and 406.12 (for other public water systems).</p>	<p><i>The sanitary protective radius ranges from 75 to 400 feet, depending on the amount of water withdrawn from the well. The minimum radius for a community well is 150 feet. The “natural state” requirement for community wells prohibits any development in the sanitary radius of the well. Other non-community public water systems (i.e. schools, hotels, campgrounds, convenience stores) have a less restrictive natural state requirement that allows a limited set of uses (i.e. parking lots, tennis courts) in the sanitary radii.</i></p>
<p>L. Seasonal high water table: The depth from the mineral soil surface to the</p>	<p><i>Adapted from the definition under Env-Wq 1502.56, NHDES Alteration of Terrain rules.</i></p>

<p>upper most soil horizon that contains 2 percent or more distinct or prominent redoximorphic features that increase in percentage with increasing depth as determined by a licensed Geologist, Soils Scientist, Wetlands Scientist, Civil or Environmental Engineer or other qualified professional approved by the Planning Board or the shallowest depth measured from ground surface to free water that stands in an unlined or screened borehole for at least a period of seven consecutive days.</p>	<p><i>“Water table” refers to a saturated zone in the soil. Estimates of the seasonal highest water table for a soil are based mainly on observations of the water table at selected sites or on physical characteristics of the soil that are considered to be evidence of a saturated zone, typically, gray redoximorphic depletions.(USDA, NRCS TSSH Part 617) Alternatively, it may be measured by creating a borehole and measuring the difference in the elevation of the land surface to standing water over a defined period of time.</i></p>
<p>A. Secondary containment: a structure, such as an impervious berm or dike, that is adequate to contain any spills or leaks at 110% of the volume of the largest regulated container in the storage area.</p>	<p><i>From Env-Wq 401.03(i).</i></p>
<p>B. Snow dump: For the purposes of this ordinance, a location where snow, which is cleared from roadways and/or motor vehicle parking areas, is collected from other locations and placed for disposal.</p>	<p><i>Prohibited under Article 9, PROHIBITED USES.</i></p>
<p>C. Stratified-drift aquifer: A geologic formation of predominantly well-sorted sediment deposited by or in bodies of glacial meltwater, including gravel, sand, silt or clay, which contains sufficient saturated permeable material to yield significant quantities of water to wells.</p>	<p><i>From RSA 485-C:2, XIV. Most stratified drift aquifers in the state have been mapped by the United States Geological Survey (USGS). NHDES’ One Stop Web GIS viewer can display aquifer location and some characteristics or maps and full technical reports can be obtained from USGS, Pembroke, NH Office (call 603-226-7800). This definition is not needed if the ordinance is to be used only to protect wellhead protection areas.</i></p>
<p>D. Surface water: streams, lakes, ponds and tidal waters, including marshes, watercourses and other bodies of water, natural or artificial.</p>	<p><i>From RSA 485-A:2 XIV, Surface waters of the state.</i></p>
<p>E. Wellhead protection area: The surface and subsurface area</p>	<p><i>From RSA 485-C:2, XVIII, except that the definition for zoning has been narrowed to</i></p>

<p>surrounding a water well or wellfield supplying a community public water system, through which contaminants are reasonably likely to move toward and reach such water well or wellfield.</p>	<p><i>include only wells for community (residential) public water systems and do not include other types of public water systems (i.e., non-community wells). This definition is not needed if the ordinance is to be used only to protect stratified-drift aquifers. Check with NHDES to see how the wellhead protection areas in your district have been delineated.</i></p>
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<p>4. GROUNDWATER PROTECTION DISTRICT</p> <p>The Groundwater Protection District is an overlay district which is superimposed over the existing underlying zoning and includes within its boundaries,</p> <p>(1) all of the Wellhead Protection Areas approved by NHDES for public water supply wells as defined under Article 3, DEFINITIONS part (I) of this ordinance. The district is shown on the map entitled, Town of [Town Name] Groundwater Protection District, dated [Date Adopted].</p> <p>Or...</p> <p>(2) the Stratified Drift Aquifer(s) shown on the map entitled, [City/Town Name] Groundwater Protection District, dated [Date Adopted].</p> <p>Or... a combination of the two.</p>	<p><i>Two options are presented in this model to define the district boundary: one for wellhead protection areas and one for stratified-drift aquifers. A municipality may choose to protect one or both of these groundwater resource areas.</i></p> <p><i>Update printed zoning maps every year as public water system wells and their wellhead protection areas change over time. WHPA and stratified drift mapping is available through NHDES. Contact (603) 271-7483 for information about using NHDES OneStop GIS.</i></p> <p><i>Instead of creating a static aquifer map, the district language could cite USGS's reports. For example,</i></p> <p><i>(2) Stratified-Drift Aquifers in the Lower Merrimack and Coastal River Basins - US Geological Survey Water-Resources Investigations Report 91-4025, "Geohydrology and Water Quality of Stratified-Drift Aquifers in the Lower Merrimack and Coastal River Basins, Southeastern New Hampshire."</i></p> <p><i>Be sure to change the title of the ordinance (i.e., Wellhead Protection or Aquifer Protection District), as appropriate.</i></p> <p><i>See Appendix G, Defining and Revising Boundaries for Aquifer Protection Districts for guidance on drafting and revising the district boundary.</i></p>
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<p>5. APPLICABILITY</p> <p>This Ordinance applies to all uses in the Groundwater Protection District, except for</p>	<p><i>The effectiveness of this model ordinance depends on the ability of the municipality to</i></p>
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<p>those uses exempt under Article 12 EXEMPTIONS of this Ordinance.</p>	<p><i>ensure initial and continuing compliance with these performance standards.</i></p>
<p>6. PERFORMANCE STANDARDS</p> <p>The following Performance Standards apply to all uses in the Groundwater Protection District unless exempt under Article 12:</p> <p>A. For any new or expanded uses that will render impervious more than 15 percent or more than 2,500 square feet of any lot, whichever is greater, a stormwater management plan shall be prepared which the planning board determines is consistent with New Hampshire Stormwater Manual Volumes 1-3, December 2008, NH Department of Environmental Services.</p>	<p><i>The performance standards apply to all existing uses, including expansions and new uses requiring Planning Board approval, except as noted.</i></p> <p><i>A Planning Board review of a land use application normally occurs when there is new land use activity or expansion of use. Expansion of existing parking areas or other uses that render an area impervious should be subject to this provision.</i></p> <p><i>Impervious cover on any lot equal to or greater than 15% or 2,500 square feet requires a stormwater management plan. For lots less than 0.38 acre,⁸ the 2,500 square foot impervious area maximum applies while for lots larger greater than 0.38 acres, the 15% limit applies in terms of requiring a stormwater management plan.</i></p> <p><i>Surface water quality declines as the percentage of impervious cover in a watershed increases. When impervious surfaces reach 10–20% of the watershed area, surface runoff doubles and continues to increase until, at 100% impervious surface coverage, runoff is five times that of a forested watershed. (US EPA, Jan 2018)</i></p>
<p>B. Conditional uses, as defined under Article 10, Conditional Uses shall develop stormwater management and pollution prevention plans and include information consistent with Developing Your Stormwater Pollution Prevention Plan: A Guide for Industrial Operators (US EPA, March 2021) The plan shall demonstrate that the use will:</p>	<p><i>Conditional uses, as listed in Article 10 Conditional Uses, should infiltrate only clean and, as needed, properly treated runoff and use pollution prevention measures (referred to as “source controls”) that prevent any regulated substances, including PFAS, from mixing with clean runoff. Industrial activities, petroleum related areas or other sites that cannot prevent contamination of stormwater or effectively treat contaminants should be prohibited from infiltrating stormwater.</i></p>

⁸ 0.38 acres is the minimum lot size at which point 2,500 sq. ft. equals 15% of the total lot area. (2,500 sq. ft / 16,553 sq. ft), and 2,500 sq.ft. represents the maximum amount of impervious cover for lots under 0.38 acres.

<p>I. Meet minimum stormwater discharge setbacks between public water supply wells and constructed stormwater practices to be no less than the radius established in NHDES Community Well Siting regulations, Env-DW 305, Small Production Wells For Small Community Water Systems or Env-DW 302, Large Production Wells And Wells For Large Community Water Systems.</p>	<p><i>Discharge to the ground of large volumes of stormwater near water supply wells may expose well users to harmful contaminants (PFAS, bacteria, nitrates, salt, etc.). In no case should regulated substances mix with precipitation and discharge as stormwater, unless as approved by local and state permits.</i></p> <p><i>Minimum discharge setbacks from a stormwater practice to a community water supply well range between 150 to 400 feet, depending upon the production volume of the well.</i></p> <p><i>For certain uses, USEPA, through its NPDES General Permit for Storm Water Discharges Associated with Industrial Activity, a stormwater pollution prevention plan (SWPPP) is required.⁹</i></p>
<p>II. Minimize, through a source control plan that identifies pollution prevention measures, the release of regulated substances into stormwater.</p>	<p><i>A source control plan involving stormwater is similar to a SWPPP and should provide details concerning how operational or structural BMPs segregate clean from contaminated stormwater runoff (i.e., exposed to regulated substances). See Section 4.2 Source Control BMPs in the NH Stormwater Manual. Certain industry specific source control BMPs are available for review online in the 2019 Stormwater Management Manual for Western Washington (Washington State Dept. of Ecology, 2019).</i></p>
<p>III. Stipulate that expansion or redevelopment activities shall require an amended stormwater plan and may not infiltrate stormwater through areas containing contaminated soils without completing a Phase I Assessment in conformance with ASTM E 1527-05, also referred to as All Appropriate Inquiry (AAI).</p>	<p><i>Expansions or redevelopment of areas with preexisting soil contamination problems should be evaluated to determine whether changes to the surface or underlying soils will release existing contamination to groundwater. Environmental assessment standards and guidance for evaluating “brownfield” conditions can be obtained from the American Society of Testing and Materials (ASTM) or the US EPA. See EPA’s Brownfield’s website.</i></p>
<p>IV. Maintain a minimum of four feet vertical separation between the bottom of a stormwater practice that infiltrates or filters stormwater</p>	<p><i>The UNH Stormwater Center suggests maintaining a minimum of 3 to 4 feet of vertical separation (undisturbed soil) distance between the bottom of stormwater infiltration or unlined filtration practices and the average seasonal high-water table, and five feet of</i></p>

⁹ [Developing Your Stormwater Pollution Prevention Plan: A Guide for Industrial Operators](#) (US EPA, Feb 2021).

<p>and the average seasonal high-water table as determined by a licensed hydrogeologist, soil scientist, engineer or other qualified professional as determined by the Planning Board.</p>	<p><i>separation when the practice is in a sole source aquifer.</i></p>
<p>C. Animal manures, fertilizers and compost must be stored in accordance with Manual of Best Management Practices for Agriculture in New Hampshire, NH Department of Agriculture, Markets and Food, (June 2017) and any subsequent revisions.</p>	<p><i>Manure, pesticides and fertilizers if not managed properly can contaminate groundwater. BMPs limit the potential of groundwater contamination. NH Department of Agriculture, Markets and Food (DAMF) may be consulted to help determine whether a particular facility is in compliance with the agriculture BMPs. NH DAMF may order property owners to develop a nutrient management plan when state BMPs related to manure or fertilizers are not followed and RSA 431:35 authorizes local health authorities and NHDES to enforce the plan.</i></p>
<p>D. All regulated substances stored in containers with a capacity of five gallons or more must be stored in product-tight containers on an impervious surface designed and maintained to prevent flow to exposed soils, floor drains and outside drains.</p>	<p><i>Five performance standards (D through H) are based on Env-Wq 401, Best Management Practices for Groundwater Protections, which apply in all areas of the state. However, the state rules apply only to containers greater than or equal to five gallons used at businesses considered Potential Contamination Sources that purchase, store or handle regulated substances in containers five gallons or larger in capacity. The advantages of including these standards here are:</i></p> <ul style="list-style-type: none"> <i>• they are enforceable on the local level.</i> <i>• owners are put on notice that the rules apply.</i> <i>• they apply to a broader range of uses and activities than Env-Wq 401.</i> <i>• they apply to small containers as well as large.</i> <i>• there is a process to ensure initial compliance (for uses that come under planning board review.</i> <i>• the planning board may require a performance bond to ensure compliance (for conditional uses).</i>
<p>E. Facilities where regulated substances are stored must be secured against unauthorized entry by means of a door and/or gate that is locked when</p>	<p><i>The presence of a five-gallon (or larger) container for regulated substances makes a facility subject to this ordinance, but performance standards E through H could be</i></p>

<p>authorized personnel are not present and must be inspected weekly by the facility owner.</p>	<p><i>applied to all regulated substances containers at those facilities, even if they are smaller than five gallons.</i></p>
<p>F. Outdoor storage areas for regulated substances, associated material or waste must be protected from exposure to precipitation and must be located at least 50 feet from surface water or storm drains, at least 75 feet from private wells, and outside the sanitary protective radius of wells used by public water systems.</p>	
<p>G. Secondary containment must be provided for outdoor storage of regulated substances in regulated containers and the containment structure must include a cover to minimize accumulation of water in the containment area and contact between precipitation and storage container(s).</p>	
<p>H. Containers in which regulated substances are stored must be clearly and visibly labeled and must be kept closed and sealed when material is not being transferred from one container to another.</p>	
<p>I. Prior to any land disturbing activities, all inactive wells on the property, not in use or properly maintained at the time the plan is submitted, shall be considered abandoned and must be sealed in accordance with We 604 of the New Hampshire Water Well Board Rules.</p>	<p><i>The purpose of the New Hampshire Well Water Board's rule (We-604) concerning sealing abandoned wells is to prevent contaminants from groundwater through unsealed, abandoned wells. Prior to development or redevelopment activities, inactive wells should be identified and determined to be in compliance with the NH Well Board's We 604 rule. For more information about Well Water Board rules contact 271-1974.</i></p>
<p>J. Blasting activities shall be planned and conducted to minimize groundwater contamination.</p>	<p><i>Municipalities have the authority to regulate excavations under RSA 155-E and may require blasting plans. NHDES guidance includes</i></p>

<p>Excavation activities should be planned and conducted to minimize adverse impacts to hydrology and the dewatering of nearby drinking water supply wells.</p>	<p><i>recommended BMPs and model regulatory language within WD-10-12 Rock Blasting and Water Quality Measures That Can Be Taken To Protect Water Quality and Mitigate Impacts (2019) or contact 271-0660 for more information.</i></p>
<p>K. All transfers of petroleum from delivery trucks and storage containers over five gallons in capacity shall be conducted over an impervious surface having a positive limiting barrier at its perimeter.¹⁰</p>	<p><i>Fuel transfers must be conducted over an impervious surface per Env-Wq 401.05(b) and should have a containment barrier (e.g., berm, lip) at the perimeter to contain the “most likely” volume that may be spilled. See NHDES Fact Sheet WD-DWGB 22-6 Best Management Practices for Fueling and Maintenance of Excavation and Earthmoving Equipment for guidance.</i></p>
<p>L. Any industrial use or activity having the potential to release PFAS to the environment, including related activities associated with normal cleaning or maintenance, must develop a source control plan per VI B(2) of this section. A source control plan will include applicable information outlined in the Supplemental Submittal Requirements for industrial Uses Involving PFAS.</p>	<p><i>Certain high-risk categories of land use that use PFAS are listed as prohibited in Article 9, Prohibited Uses. Other industries that may present a risk of release are listed in Appendix I General Industrial Uses and Applications Involving PFAS for information about uses known to use or generate PFAS compounds.</i></p> <p><i>See Appendix H Supplemental Submittal Requirements for Industrial Uses Involving PFAS, contains a checklist for applicants to develop a source control plan as part of a Conditional Use Permit.</i></p>

¹⁰ A positive limiting barrier (PLB) is a depression (e.g., groove) in the surface of an otherwise level impervious area designed to impede the flow and contain spilled substances within the perimeter of the impervious area. PLBs are typically constructed and maintained to contain small spills or releases (five to fifteen gallons).

<p style="text-align: center;">7. SPILL PREVENTION, CONTROL AND COUNTERMEASURE (SPCC) PLAN</p> <p>An application for a Conditional Use Permit made pursuant to Article 10, CONDITIONAL USES using regulated substances shall submit a spill control and countermeasure (SPCC) plan to the [Fire Chief, Health officer or Emergency Management officer] who shall determine whether the plan will prevent, contain, and minimize releases from ordinary or catastrophic events such as spills, floods or fires that may cause large releases of <i>regulated substances</i>. It shall include:</p>	<p>NHDES requires prepare an SPCC plan for facilities that store oil for, 1) above ground in an aggregate capacity of greater than 1,320 gallons or, 2) a completely buried storage capacity greater than 42,000 gallons. Note, a conditional use permit in Article 10 requires a SPCC at much lower volumes/weights (vs. state SPCC requirements) for regulated substances that will be on-site. (55 gallons, 660 lbs. of regulated substances)</p> <p>Regardless, Env-Wq 401.04(g), Best Management Practices for Groundwater Protection, specifies the spill controls, if any, required for commercial uses of regulated substances in containers greater than or equal to five gallons.</p> <p>SPCC plans approved by local boards should have applicants confirm that the plans are consistent with spill control requirements under state or federal rules.</p>
<p>a. A description of the physical layout and a facility diagram, including all surrounding surface waters and wellhead protection areas.</p>	
<p>b. Contact list and phone numbers for the current facility response coordinator(s), cleanup contractors and all appropriate federal, state and local agencies who must be contacted in case of a release to the environment.</p>	
<p>c. A list of all regulated substances in use and locations of use and storage.</p>	<p><i>A searchable online list of regulated substances has been compiled in an Excel spreadsheet on NHDES' website.</i></p>
<p>a. A prediction of the direction, rate of flow and total quantity of regulated substance that could be released where experience indicates a potential for equipment failure.</p>	<p>Typically, this element would only apply with outdoor use or transfer of regulated substances.</p>

<p>b. A description of containment and/or diversionary structures or equipment to prevent regulated substances from infiltrating into the ground.</p>	
<p>c. List of positions within the facility that require training to respond to spills of regulated substances.</p>	<p>Current contact information for facility response coordinators is vital to public safety and emergency clean-up efforts so that responders can quickly assess the situation and nature of the substances on-site. NHDES Spill Response should be notified of spills involving more than 25 gallons, and any spill that enters a waterway.</p>
<p>d. Prevention protocols that are to be followed in an event to limit future large releases of any regulated substance.</p>	<p><i>Containment or diversionary structures should be located on plans and include: dikes, berms, retaining walls, curbing, culverts, gutters or other drainage systems; weirs, booms or other barriers; spill diversion ponds; retention ponds; catch basin covers and sorbent materials.</i></p>
<p>8. PERMITTED USES</p> <p>All uses permitted by right or allowed by special exception in the underlying district are permitted in the Groundwater Protection District unless they are Prohibited Uses or Conditional Uses. All new or expanded uses must comply with the Performance Standards unless specifically exempt under Article 12, Exemptions.</p>	<p><i>No Planning Board review is required unless such review is triggered by other provisions such as site plan or subdivision review.</i></p>
<p>9. PROHIBITED USES</p> <p>The following uses are prohibited in the Groundwater Protection District.</p> <ul style="list-style-type: none"> A. The development or operation of a solid waste landfill. B. The outdoor storage of road salt or other deicing chemicals in bulk. C. The development or operation of a junkyard. D. The development or operation of a snow dump. 	<p><i>This model ordinance includes two regulatory approaches to protecting important groundwater: (1) prohibiting high-risk land uses and, (2) ensuring that other land uses comply with performance standards. The short list (A-G in Article 9 PROHIBITED USES) of prohibited uses assumes that the municipality has the personnel resources to review allowed development - inspect construction activities and ensure continuing post-construction compliance through periodic facility inspections.</i></p> <p><i>Adopting this short list calls out the need for regular on-site inspections of allowed</i></p>

<p>E. The development or operation of a wastewater or septage lagoon.</p>	<p><i>moderate risk activities to ensure continuing compliance with performance standards that do provide a significant level of protection.</i></p> <p><i>Parts A-E of this section prohibit the same uses listed in RSA 485-C:12, Prohibited Uses in GAA (groundwater) state classified areas.</i></p> <p><i>New hazardous waste disposal facilities may be prohibited from specific locations through state reclassification to GAA. Otherwise, municipal regulation of the location of a hazardous waste disposal facility is preempted by state permitting authority. See <i>Stablex v. Hooksett</i>, 122 N.H. 1091 (1982).</i></p>
<p>F. The development or operation of a petroleum bulk plant or terminal.</p>	<p><i>If the municipality does not plan to carry out an inspection program, the list of prohibited uses should be expanded. See Appendix C.</i></p>
<p>G. The development or operation of gasoline stations.</p>	
<p>H. Industrial facilities that produce PFAS, process PFAS, or facilities that use PFAS compounds in manufacturing <i>that present a risk of release and groundwater contamination.</i></p>	<p><i>RSA 72:80(c) defines "Industrial uses" to include all manufacturing, production, assembling, warehousing or processing of goods or materials for sale or distribution, research and development activities, or processing of waste materials." Some industrial facilities may pose little or no risk to groundwater, e.g., purchasing parts from an off-site supplier that contain PFAS but are only part of a contained on-site assembly.</i></p> <p><i>Local boards will need to determine whether the industrial use presents a risk of contamination that is prohibited based on a submitted application. When the Planning Board is not clear whether an industrial use should be prohibited, it can require more information for consideration under a conditional use permit under Article 10.</i></p> <p><i>Other land use activities involving PFAS and determined to be a risk for groundwater contamination by the Planning Board, could be added to the list of prohibited uses. See</i></p>

	<p><i>Appendix I, General Industries Uses and Applications involving PFAS.</i></p>
<p>I. The use of fluorine-containing Class B (aqueous film-forming foam, AFFF) firefighting foams other than for emergency fire-fighting response.</p>	<p><i>Typical uses where AFFF is found include: chemical plants; flammable liquid storage and processing facilities; merchant operations (oil tankers, offshore platforms); municipal services (fire departments, firefighting training centers); oil refineries, terminals and bulk fuel storage farms; aviation operations (aircraft rescue and firefighting, hangars) and military facilities. (IRTC, 2022)</i></p>
<p>10. CONDITIONAL USES</p> <p>The Planning Board may grant a Conditional Use Permit for a use which is otherwise permitted in the underlying district should it find the following:</p> <p>A. Industrial uses that control the potential release of PFAS that may contaminant groundwater or drinking water.</p>	<p><i>RSA 674:21(II) states that an innovative land use control ordinance may provide for the granting of conditional or special use permits by any of several different municipal authorities, including planning boards.</i></p> <p><i>See Appendix I, General Industrial Uses and Applications that Use PFAS for a listing of categories of industry that may use PFAS.</i></p> <p><i>See Appendix H, Supplemental Submittal Requirements for Industrial Uses Involving PFAS, provides a checklist of items to consider when issuing a conditional use permit. Board decisions for conditional permits should be based on technical details presented by applicants in conjunction with third-party consultants, as necessary. See Trustees of Dartmouth College vs. Town of Hanover (2018)</i></p>
<p>B. Storage, handling and use of regulated substances in quantities exceeding 55 gallons or 660 pounds dry weight at any one time, provided that an adequate spill prevention, control and countermeasure (SPCC) plan, in accordance with Article 7, <i>SPILL PREVENTION, CONTROL AND COUNTERMEASURE (SPCC) PLAN</i> is approved by the [local Fire Department, Health officer or Emergency Management officer].</p>	<p><i>The SPCC plan are required when a land use activity has the potential to result in a large spill. According to the Pipeline and Hazardous Materials Safety Administration’s Emergency Response Guidebook, large spills are considered to involve volumes greater than 55 US gallons (208 liters) for liquids and those exceeding 660 pounds (300 kilograms) for solids with respect to initial isolation and protection action distances.</i></p> <p><i>Facilities that store and use regulated substances only in containers smaller than five gallons are exempt from the ordinance; other</i></p>

	<i>facilities are subject to inspections per Article 14; and amounts exceeding 55 gallons/660 pounds (solid) of regulated substances require a conditional use permit.</i>
C. Any use that will render impervious more than 15 percent or 2,500 square feet of any lot, whichever is greater.	
D. Any activities that involve blasting of bedrock.	
<p>In granting such approval the Planning Board must:</p> <ol style="list-style-type: none"> (1) First determine that the proposed use is not a prohibited use (as listed in Article 9, PROHIBITED USES, of this Ordinance). (2) Be in compliance with the PERFORMANCE STANDARDS in Article 6 as well as all applicable local, state and federal requirements. (3) Industrial uses having the potential to release PFAS, require the Planning Board to find that the proposed use/activity institute adequate source controls that effectively limit releases of PFAS substances and present no significant risk to public health, groundwater and drinking water resources and the environment. <p>Consistent with RSA 674:36, IV, the Planning Board may, at its discretion, require a performance guarantee or bond, in an amount and with surety conditions satisfactory to the Board, to be posted to ensure completion of construction of any</p>	<p><i>The applicability of the performance guarantee or bond is limited to apply only to the construction of facilities, such as roads/utilities¹¹, dikes, berms or stormwater treatment facilities, so that the bond can be released once the facilities are constructed in compliance with the Performance Standards.</i></p> <p><i>In order to determine the amount of the guarantee or bond, the Planning Board generally will have to retain a consulting engineer to estimate the cost of building the required structures. The Planning Board will also need to consult with legal counsel to ensure that the city/town obtains the authority to enter the property to complete construction of the required structures if necessary. The Conditional Use Permit should reference approved plans so that it is clear what conditions are necessary for the Board to release the bond.</i></p>

¹¹ RSA 674:36, IV was amended in 2023 to require a planning board to allow road and utility construction to start without a bond, provided the bond is in place prior to the sale of any parcel of land within a subdivision or a residential building permit is issued. See:

https://www.gencourt.state.nh.us/bill_status/legacy/bs2016/billText.aspx?sy=2023&id=986&txtFormat=pdf&v=current

<p>facilities required for compliance with the Performance Standards.</p>	
<p>11. EXISTING NON-CONFORMING USES</p> <p>Existing non-conforming uses may continue without expanding or changing to another non-conforming use. All commercial uses of regulated substances in containers greater than or equal to five gallons are subject to state administrative rule Env-Wq 401, Best Management Practices for Groundwater protection.</p>	<p><i>Pre-existing, non-conforming structures and uses are generally exempt from new zoning requirements under RSA 674:19, however existing and new uses must follow state BMP rules. Non-compliance with state BMPs per Env-Wq 401 that are similarly stated within the Performance Standards of this model ordinance can be enforced at pre-existing non-conforming uses by the local health officer under RSA 485-C or RSA 147 if the non-compliance is considered an immediate public health threat, e.g., a nuisance.</i></p> <p><i>See the fact sheets in Appendix A for a summary of Best Management Practices Rules and the facilities to which they apply.</i></p>
<p>12. EXEMPTIONS</p> <p>The following uses are exempt from the specified provisions of this ordinance if they comply with all applicable local, state and federal requirements:</p> <p>A. Any private residence is exempt from all Performance Standards.</p>	<p><i>Residences and exempt businesses may still pose a risk of groundwater contamination from relatively small releases of regulated substances. A public education program that includes periodic distribution of educational fliers can help reduce the release of contaminants to the ground (see example in Appendix K). For more information or assistance concerning public education and media resources available for your community, contact NHDES at 271-0688.</i></p>
<p>B. Any business or facility where regulated substances are stored in containers with a capacity of less than five gallons is exempt from Article 6, PERFORMANCE STANDARDS, sections E through H.</p>	<p><i>Note that propane and liquefied gas fuels are not regulated under this ordinance; they are excluded from the definition of “Regulated Substance” because they do not pose a groundwater contamination hazard by virtue of their volatility.</i></p>
<p>C. Storage of heating fuels for on-site use or fuels for emergency electric generation, provided storage tanks are indoors on a concrete floor or have corrosion control, leak detection and secondary containment in place, is exempt from Performance Standard E.</p>	
<p>D. Storage of motor fuel in tanks attached to vehicles and fitted with</p>	

permanent fuel lines to enable the fuel to be used by that vehicle is exempt from Performance Standards E through H.	
E. Storage and use of office supplies is exempt from Performance Standards E through H.	
F. Temporary storage of construction materials on a site where they are to be used is exempt from Performance Standards E through H if incorporated within the site development project within six months of their deposit on the site.	<i>The municipality may wish to define temporary in terms of a certain number of months.</i>
G. The sale, transportation and use of pesticides as defined in RSA 430:29 XXVI are exempt from all provisions of this ordinance.	<i>RSA 430:49 prohibits local governments from regulating the registration, sale, transportation or use of pesticides.</i>
H. Household hazardous waste collection projects regulated under NH Code of Administrative Rules Env-Hw 401.03(b)(1) and 501.01(b) are exempt from Performance Standards E through H.	
I. Underground storage tank systems and aboveground storage tank systems in compliance with applicable state rules are exempt from inspections under Article 14 of this ordinance.	<i>Contact NHDES at 271-3644 concerning compliance with state rules. See the UST and AST fact sheets in Appendix A. The presence of a UST/AST system in compliance does not exempt the rest of the business or facility from inspections.</i>
<p>13. RELATIONSHIP BETWEEN STATE AND LOCAL REQUIREMENTS</p> <p>Where both the State and the municipality have existing requirements the more stringent shall govern.</p>	<i>Articles 12, 15 and 16 are usually included in an existing ordinance and may not be necessary to be incorporated if this ordinance is adopted as an amendment.</i>

<p>14. MAINTENANCE AND INSPECTION</p> <p>A. For uses requiring planning board approval for any reason, a narrative description of maintenance requirements for structures required to comply with Performance Standards shall be recorded so as to run with the land on which such structures are located, at the Registry of Deeds for [name of county] County. The description so prepared shall comply with the requirements of RSA 478:4-a.</p>	<p><i>The provision for recording maintenance requirements on the deed serves to put future property owners on notice that they are subject to these requirements. It applies to any structure associated with any facility that comes under planning board review, not only those that require a conditional use permit under this ordinance.</i></p>
<p>B. Inspections may be required to verify compliance with Performance Standards. Such inspections shall be performed by the [designated agent] at reasonable times with prior notice to the landowner.</p>	<p><i>To achieve the goals of this ordinance, inspections should be performed at least once every three years. The municipality may wish to perform inspections in the entire groundwater protection district or only in areas considered most sensitive, most vulnerable or most valuable. Including the reference to inspections, would serve to put business owners on notice that inspections will be conducted.</i></p>
<p>C. All properties in the Groundwater Protection District known to the [designated agent] as using or storing regulated substances in containers with a capacity of five gallons or more, except for facilities where all regulated substances storage is exempt from this Ordinance under Article 12, shall be subject to inspections under this Article.</p>	<p><i>The term “designated agent” should be replaced with the appropriate person’s title, such as Code Enforcement Officer, if such a position exists. If not, the governing body may wish to designate some other town official and include a definition of the term “designated agent.” (The person designated by the [governing body] to carry out its inspection and enforcement role with respect to this ordinance.)</i></p>
<p>D. The [governing body] may require a fee for compliance inspections. The fee shall be paid by the property owner. A fee schedule shall be established by the [governing body] as provided for in RSA 41-9:a.</p>	<p><i>The term “governing body” should be replaced with the name of the governing body, e.g., Selectmen, City or Town Council.</i></p>
<p>15. ENFORCEMENT PROCEDURES AND PENALTIES</p>	<p><i>Municipal enforcement procedures and penalties to address violations of local</i></p>

<p>Any violation of the requirements of this ordinance shall be subject to the enforcement procedures and penalties detailed in RSA 676 and RSA 485-C.</p>	<p><i>ordinances are enumerated under the Penalties and Remedies subdivision of RSA 676, specifically Fines and Penalties (676:17), Cease and Desist Orders (676:17-a) and Local Land Use Citations (676:17-b). RSA 485-C:16 through 485-C:19 establish the authority for NHDES and local authorities to issue cease and desist orders, impose administrative fines and related penalties. Enforcement procedures, penalties and violations should conform to existing municipal requirements and statutory procedures.</i></p>
<p>16.SAVING CLAUSE</p> <p>If any provision of this ordinance is found to be unenforceable, such provision shall be considered separable and shall not be construed to invalidate the remainder of the ordinance.</p>	
<p>17.EFFECTIVE DATE</p> <p>This ordinance shall be effective upon adoption by the legislative body.</p>	

APPENDIX A: NHDES FACT SHEETS

WD-DWGB-22-1	The NH Groundwater Protection Act: An Overview
WD-DWGB-22-2	Local Reclassification of Groundwater to Implement Protection Programs: A Seven Step Process
WD-DWGB-22-3	Groundwater Reclassification and How It Affects the Property Owner
WD-DWGB-22-4	Best Management Practices (BMPs) for Groundwater Protection
WD-DWGB-22-5	Source Control Programs Required for Infiltration of Stormwater at Industrial and Petroleum-Related Facilities
WD-DWGB-22-6	Best Management Practices for Fueling and Maintenance of Excavation and Earth Removal Equipment
WD-DWGB-22-8	Holding Tanks for Floor Drains
WD-DWGB-22-9	Protecting Groundwater from Floor Drains and Other Typical Discharges
WD-DWGB-22-10	Wastewater Discharges from Vehicle Washing

APPENDIX B: 40 CFR 302 (ONLINE LIST OF REGULATED SUBSTANCES)

[eCFR : 40 CFR Part 302 – Designation, Reportable Quantities and Notification](#)

APPENDIX C: EXPANDED LIST OF PROHIBITED USES

Although this model ordinance advocates a balanced approach to using performance standards together with restrictive zoning, the following is a list of land uses that a municipality may wish to prohibit in a groundwater protection district if no inspection program is planned *and implemented*. It is recommended that the municipality review each land use on the list to determine which to prohibit, based upon the risk each land use poses to groundwater resources.

The community should also carefully consider which area(s) of the town to include in the groundwater protection district if an expanded list of prohibited uses is to be employed, since stratified-drift aquifers may underlie a substantial portion of the economically developable land in some towns. In such situations, the community may wish to designate only some aquifers, such as those used, or anticipated to be used, for water supplies, in which to prohibit a long list of uses. The following are some additional uses to consider as prohibited uses.

1. Certain uses or activities associated with PFAS that fall within industry categories listed in Appendix I General Industrial Uses and Applications.
2. Storage of liquid petroleum products, except the following:
 - a. normal on-site household use, outdoor maintenance and heating of an on-site structure.
 - b. waste oil retention facilities required by statute, rule or regulation.
 - c. emergency generators required by statute, rule or regulation.
 - d. treatment works approved by NHDES for treatment of ground or surface waters.

provided that such storage, listed in items (a.) through (d.) above, is in free-standing containers in buildings or above ground with secondary containment adequate to contain a spill 110 percent the size of the container's total storage capacity;

3. Sludge and septage lagoons (not already permitted by the state).

Storage of animal manure unless managed (e.g., stored) in accordance with the applicable best management practices contained in the Manual of Best Management Practices for Agriculture in New Hampshire (July 2001, or later) or additional practices required by the United States Natural Resources Conservation Service.

4. Facilities that generate, treat, store hazardous waste subject to Env-Hw 500-900 except for:
 - a. household hazardous waste centers and events regulated under Env-Hw 401.03(b)(1) and Env-Hw 501.01(b).
 - b. water remediation treatment works approved by NHDES for the treatment of contaminated ground or surface waters.
5. Storage of regulated substances in greater than household quantities (i.e., five-gallons), unless in a free-standing container in a building or above ground with secondary containment

adequate to contain 110 percent of the container's total storage capacity.

Storage of commercial fertilizers, unless such storage is consistent with BMPs required by the NH Department of Agriculture, Markets and Food, in a structure designed to prevent the generation and escape of contaminated runoff or leachate.

APPENDIX D: SAMPLE COMPLIANCE AND ENFORCEMENT LETTERS

The sample letters in this appendix are designed to be used as part of a best management practices survey program to ensure compliance with the model groundwater protection ordinance and with Env-Wq 401 Best Management Practices for Groundwater Protection. Please review each letter carefully before using it to ensure that it is consistent with the ordinance adopted by your community. The letters should not be used, as written, if different or additional requirements (beyond those within Env-Wq 401) are adopted in the groundwater protection ordinance. It is **highly recommended** that in those cases, new compliance and enforcement letters are drafted to ensure compliance with the requirements of local ordinance as it is adopted.

Municipal enforcement procedures and penalties to address violations of local ordinances are enumerated under the Penalties and Remedies subdivision of RSA 676, specifically Fines and Penalties (676:17), Cease and Desist Orders (676:17-a) and Local Land Use Citations (676:17-b). References to the procedures and fines in statute may be appropriate to reference in compliance letters.

Please note that sample letters 1 through 3 refer to inventory interviews and compliance inspections completed using the *Survey Form and Instructions for BMP Compliance*. This form, a copy of which is in Appendix E, is also available online at [Inspection Form and Instructions for Best Management Practice \(BMP\) Compliance](#). An inventory interview is an informal scheduled visit, not required under the terms of the model ordinance, to determine whether a facility stores or uses enough regulated substances (over five gallons) to come under the provisions of the ordinance. During an inventory interview the inspector completes the first two sections of the inspection form with the facility owner/operator. The interview is an opportunity to explain the provisions of the ordinance and to give the facility owner/operator an opportunity to come into compliance before an inspection takes place. During an inventory interview the inspector may determine, without actually walking through the facility, that the facility is exempt from the ordinance and that a compliance inspection will not be necessary.

A compliance inspection is a formal walk-through of a facility to ensure compliance with all provisions of the ordinance. The inspector may wish to schedule a compliance inspection without scheduling a separate inventory interview. It is generally considered less intimidating to conduct an inventory interview first, but the approach that is chosen will depend on local circumstances.

The NH Department of Environmental Services Drinking Water Source Protection Program provides training to local BMP inspectors in how to conduct inspection programs. For information, please contact the Drinking Water Source Protection Program at 271-0688.

Sample Letter 1

Explaining the Program and Setting a Time for an Inventory Interview

PUT THIS SAMPLE LETTER ON YOUR LETTERHEAD

Date: _____

RE: **[Give name and location of facility]**, Present use: **[List present use of property]**

Dear **[Customer, Neighbor, Facility Owner - fill in appropriate term]**:

The purpose of this letter is to ask for your cooperation in ensuring safe drinking water. If we are all careful, substances that could pollute our drinking water will never find their way to our wells.

Your facility has been identified as being located in the area from which water flows to our wells **[give location of wells]** or **[which we are protecting as a future source of drinking water]**. As such, it is important that you are aware that the present use of your property listed above has the potential to affect the quality of groundwater. Your activity could also affect the water quality of your own well if you have one.

No one wants to drink polluted water. Who would pour gasoline, motor oil, paint, garden chemicals or household chemicals into their drinking water? Yet, the equivalent is done when someone pours any of these products down their toilet, sink drain or onto the ground.

To help you avoid activities that could threaten water quality, we are enclosing an informational flyer, a copy of the State Best Management Practices for Groundwater Protection Env-Wq 401, (which is also available online at <https://www.des.nh.gov/documents/env-wq-401-required-best-management-practices-groundwater-protection>), and the Survey Form for BMP Compliance that can be used to perform a self-audit. Compliance with these rules is mandatory if you use, store, handle or dispose of regulated substances in greater-than-household quantities. Any unpermitted discharges to groundwater or contamination of groundwater is illegal under RSA 485-A:13 and Env-Or 603.03, Ambient Groundwater Quality Standards. By complying with these rules and implementing the suggested practices contained on the flyer you will both help us to protect this valuable source of drinking water and at the same time reduce your own environmental liability.

Providing you with this information is the first phase of the protection program we are undertaking to protect this source of water. The next step is to contact you to determine whether you use greater-than-household quantities of regulated substances and to answer any questions you may have. We will be contacting you at your facility on **[date]**. Please contact me at **[phone number]** between the hours of **[]** and **[]** if there is a specific time or alternate date you would like to meet with me. If you have any questions about this program please call me or contact N.H. Department of Environmental Services at 271-0688.

Thank you.

Sincerely,

[Contact person's name, title]

Enclosures: BMP Rules Flyer, BMP Rules, Survey Form and Instructions for BMP Compliance

Sample Letter 2

Scheduling an Appointment for a Compliance Inspection if an Inventory Interview Has Already Been Conducted

PUT THIS SAMPLE LETTER ON YOUR LETTERHEAD

Date: _____

RE: [Give name and location of facility]

Dear [Facility Owner - fill in appropriate name]:

Thank you for giving me a chance to explain the groundwater protection program that we are in the process of implementing. As I explained during the inventory interview, the next step in this program is to conduct best management practice (BMP) inspections of facilities using larger than household quantities of regulated substances.

The purpose of this letter is to notify you of the date that I will be performing an inspection of your facility. I will be in your area on [date]. Please contact me at [phone number] during the hours of [] and [] if you need me to be at your facility at a specific time or if you need to reschedule for another day.

The first letter I sent you contained a copy of the Survey Form and Instructions for BMP Compliance that I will be using. I urge you to do a self-audit to correct any violations of the Best Management Practices Rules before I arrive. This will also allow you to clarify any questions you may have about the inspection before my visit.

Thanks again for your help in protecting this valuable source of drinking water.

Sincerely,

[Contact person's name, title]

Sample Letter 3

Program Explanation Letter that Sets a Time for BMP Compliance Inspection

PUT THIS SAMPLE LETTER ON YOUR LETTERHEAD

Date: _____

RE: [Give name and location of facility], Present use: [List present use of property]

Dear [Facility Owner - fill in appropriate name]:

The purpose of this letter is to ask for your cooperation in ensuring safe drinking water. If we are all careful, we can protect our current or future sources of drinking water from contamination.

Your facility has been identified as being located in the area from which water flows to our wells [give location of well(s)] or [that we are protecting as a future source of drinking water]. As such, it is important that you are aware that the present use of your property listed above has the potential to affect the quality of the water. Your activity could also affect the water quality of your own well if you have one.

No one wants to drink polluted water. Who would pour gasoline, motor oil, paint, garden chemicals or household chemicals into their drinking water? Yet, the equivalent is done when someone pours any of these products down their toilet, sink drain or onto the ground.

To help you avoid activities that could threaten water quality, we are enclosing an informational flyer, a copy of the State Best Management Practices Rules (Env-Wq 401) and a Survey Form and Instructions for Best Management Practice (BMP) Compliance that can be used to perform a self-audit. Compliance with these rules is mandatory if you use, store, handle or dispose of regulated substances in greater-than-household quantities. Any discharges, without a NHDES permit, to groundwater or contamination of groundwater is illegal under RSA 485-A:13 and Env-Or 603.03, Ambient Groundwater Quality Standards. By complying with these rules and implementing the suggested practices contained on the flyer you will help us to protect our wells while at the same time reducing your own environmental liability.

Providing you with this information is the first phase of a protection program we are undertaking to protect water quality. The next step is to perform a compliance inspection to ensure that you are in compliance with the enclosed rules. I will be coming to your facility on [date]. Please contact me at [phone] during the hours of [] and [] if you need me to arrive at a certain time or if we need to reschedule for a different day. I urge you to perform a self-audit with the attached Survey Form so that any violations of the rules can be remedied before my visit. This will also allow you to clarify any questions you may have.

Please feel free to contact me if you have any questions. Or, call the N.H. Department of Environmental Services at 271-0688. We need your help to protect this valuable source of drinking water! Thank you.

Sincerely,

[Contact person's name, title]

Encl.: Flyer, BMP Rules, Survey Form and Instructions for BMP Compliance

Sample Letter 4

The Facility is in Compliance

PUT THIS SAMPLE LETTER ON YOUR LETTERHEAD

Date: _____

Dear **[Facility Owner - fill in appropriate name]**:

Thank you for participating in the inspection for compliance with the Best Management Practices Rules, Env-Wq 401 that I performed at your facility, **[name of facility]** on **[date]**. I am pleased to inform you that I found no violations of these rules. Therefore, you will not hear from me again until the next round of compliance inspections, which we anticipate will be conducted in **[year]** (*Insert year you intend to do inspection again*).

In the meantime, if you have any questions concerning these rules or our groundwater protection program please do not hesitate to contact me at **[phone number]**.

Thanks for your help in keeping this valuable source of drinking water safe.

Sincerely,

[Contact person's name, title]

Sample Letter 5

The Facility is Not in Compliance

PUT THIS SAMPLE LETTER ON YOUR LETTERHEAD

Date: _____

Dear **[Facility Owner - fill in appropriate name]**:

The purpose of this letter is to summarize the results of the Best Management Practices (BMP) Inspection conducted at your facility on **[date]**. The Survey was performed to meet the requirements of the **[water system or town name]** Drinking Water Source Protection Program and to gauge compliance with New Hampshire Administrative Rule Env-Wq 401, Best Management Practices. The results of the inspection are as follows:

Facility Description: **[Describe the facility and what you observed during the survey]**

Regulation Description: **[Quote the pertinent rule, such as Env-Wq 401 .04(e) states that regulated containers shall be clearly and visibly labeled with the name of the material stored within.]**

Compliance Description: **[Describe the violation and what can be done to correct it. You should have already discussed this with the facility representative during the inspection.]**

If you need clarification of the rules or the waiver provisions contained in them, please contact NHDES directly at 271-2862.

Thank you in advance for your willingness to help protect our valuable source of drinking water. If you have any questions about this letter, please call me at **[phone number]** between the hours of **[]** and **[]**.

Sincerely,

[Contact person's name, title]

Enclosure: Completed Survey Form and Instructions for BMP Compliance

Sample Letter 6

Second Warning

PUT THIS SAMPLE LETTER ON YOUR LETTERHEAD

Date: _____

Dear: **[Facility Owner - fill in appropriate term]**,

In a letter dated **[date]**, I informed you that you were not in compliance with certain Best Management Practices rules. On **[date]**, I conducted a follow-up inspection to determine compliance with the rules. To the best of my knowledge, you remain out of compliance with the following:

Regulation Description: **[Quote the pertinent rule, such as Env-Wq 401 .04(e) states that regulated containers shall be clearly and visibly labeled with the name of the material stored within.]**

Compliance Description: **[Describe the violation and what can be done to correct it. You should have already discussed this with the facility representative during the inspection.]**

[Refer to and include a copy of completed form from follow-up inspection]

Unless I hear from you within 30 days of the receipt of this letter with an indication that you have corrected the violation(s) or we have agreed to a compliance schedule, I will have no choice but to refer these violations to the New Hampshire Department of Environmental Services (NHDES). NHDES is authorized to levy substantial fines and to issue cease and desist orders. Under Env-C 609, fines can range from \$500 to \$1,000 for each day of a continuing violation, and up to \$2,000 for non-compliance with a cease and desist order. It is our policy that unresolved violations are referred to NHDES.

Thank you in advance for your willingness to help protect our valuable source of drinking water. If you have any questions, please call me at **[phone number]** between the hours of **[]** to **[]**.

Sincerely,

[Contact person's name, title]

Enclosures: Copy of first violation letter Copy of completed Survey Form and Instructions for BMP Compliance

Sample Letter 7

Referring a Violation of Env-Wq 401 to NHDES

PUT THIS SAMPLE LETTER ON YOUR LETTERHEAD

Date _____

[Name], Commissioner

N.H. Department of Environmental Services

29 Hazen Drive, P.O. Box 95

Concord NH 03302-0095

RE: Enforcement Activities under the Groundwater Protection Act, RSA 485-C

Dear Commissioner [Name]:

I am writing to request the Department's assistance in managing Potential Contamination Sources in a wellhead or groundwater protection area by enforcing Env-Wq 401 Best Management Practices. I have attempted to bring about voluntary compliance with Env-Wq 401 as described below:

A first compliance inspection was held [date] at [Name of facility, location]. The following violations were discovered during that inspection:

violation(s): [description of the violations as found on inspection]

[Cite specific sections of the rules, describe nature of violation(s) and specify the regulated substance(s) involved].

The enclosed violation letter was sent on [date] and a follow-up inspection was conducted on [date]. The second inspection indicated [describe results], and second warning was sent on [date]. [Describe any communication with the PCS owner since sending the second warning.]

I have enclosed copies of all pertinent correspondence and inspection forms. Thank you for your attention to this matter.

Sincerely,

[Contact person's name, title]

Enclosures: Completed form from initial inspection
 Copy of first violation letter
 Completed form from follow-up inspection
 Copy of second warning
 Copies of other correspondence to or from PCS owner
 Copies of records of telephone conversations with PCS owner

cc.: PCS owner

**APPENDIX E: SURVEY FORM AND INSTRUCTIONS FOR BEST MANAGEMENT PRACTICES
(BMP) COMPLIANCE**

Obtain the [Survey Form and Instructions for BMP Compliance](#) from NHDES online.

APPENDIX F: ENV-WQ 401, BMP RULES FOR GROUNDWATER PROTECTION

Visit the [published rule](#) online.

[Fact Sheet 22-4](#) provides a summary of the rule.

APPENDIX G: DEFINING AND REVISING BOUNDARIES FOR AQUIFER PROTECTION DISTRICTS

NHDES' Drinking Water Source Protection Program completed a survey of New Hampshire municipalities to identify aquifer/groundwater protection ordinances and their key provisions. The survey found a number of ordinances with the following problems:

- District defined in terms of out-of-date maps. Many older ordinances, when initially adopted, relied on aquifer maps prepared in the 1970s and 1980s (the so-called Cotton maps). Those maps were the best available at the time, but the aquifer maps prepared by the United States Geological Survey in the 1990s are based on much more data (earlier mapping, surficial geology data, well logs, well yield data, borings, seismic surveys) and more intensive analysis, and are considered more accurate than the earlier maps. The later maps are also available in digital form, along with mapped groundwater contours and aquifer saturated thickness.
- Ambiguous language describing district. For example, the Cotton maps typically identified "high-potential" and/or "medium-potential" aquifers, while the newer maps identify the saturated thickness and transmissivity of the aquifers. Some ordinances contain the old language, without defining the terms, while referencing the newer maps. Consequently, it is not clear which areas are included in the district.
- In some cases, the ordinance references a map to define the location and extent of the aquifer protection district, but the town officials responding to the survey could not locate the map. In other cases, only one copy of the map existed.
- In some cases, for various other reasons, the ordinance's textual description of the district was not consistent with the map referenced by the same ordinance.
- As a result of the above problems, some towns responding to the survey were unable to clarify the location and extent of their aquifer protection districts!

To avoid confusion or disagreement regarding the location and the extent of an aquifer protection district, NHDES recommends the following:

- The drafters should take time to understand the various identified groundwater resources that might be included in a local groundwater protection district. This could include NHDES-approved wellhead protection areas (for all public water systems, or just for community systems, or just for certain municipal systems), stratified-drift aquifers (all mapped aquifers, or just areas with a certain minimum transmissivity, or just certain aquifers likely to be of use for municipal water supply), and till areas located up-gradient of certain stratified-drift aquifers. The staff of NHDES' Drinking Water Source Protection Program are available to help municipalities understand and evaluate the alternatives.
- The ordinance should define the district with reference to a current map, citing the name, date and preparer of the map, and include a textual description of what is intended to be included in the district. A few examples follow:
 - The district shall include all areas of stratified drift contiguous with stratified-drift

aquifers shown on (map citation).

- The district shall include all areas of stratified-drift aquifer with a minimum transmissivity of 1,000 ft² per day associated with aquifers shown on (map citation). [Less inclusive than previous example]
- The district shall include all wellhead protection areas approved by the NH Department of Environmental Services for active wells associated with active community water systems. Wellhead protection areas currently included in the district are shown on (map citation).
- The ordinance should include a provision to enable the Planning Board or other body to revise the aquifer protection district boundary based on the availability of new information. For example, new wellhead protection areas could be approved by NHDES, or existing wellhead protection areas could be re-delineated. For stratified-drift aquifers, existing maps are not 100 percent accurate, so the map could be revised “based on the recommendation of a professional geologist using 1:24,000 scale surficial geology maps prepared by the NH Geological Survey, if available, other existing data (including wells, borings or other excavations of sufficient depth), or appropriate field-testing methods.” Such a redrawing of aquifer boundaries would necessarily rely on the textual description of what is intended to be included in the district; if that definition is not clear, it would be difficult for a geologist to make a recommendation as to what the ordinance intended to include.

Revisit the map every few years to make sure it includes the latest information, such as new wellhead protection areas (if included) and surficial geology. The rest of the ordinance should also be reviewed periodically to make sure it reflects the latest understanding of groundwater contamination hazards, best management practices, effective regulatory approaches, etc., and is consistent with other local ordinances and state and federal rules and regulations.

APPENDIX H: SUPPLEMENTAL SUBMITTAL REQUIREMENTS FOR INDUSTRIAL USES USING PFAS (CONDITIONAL USE PERMIT):

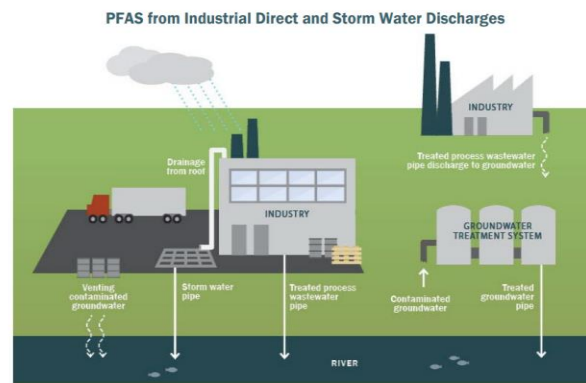
Authority: Pursuant to RSA 674:21, the Planning Board is authorized to grant a Conditional Use Permit to allow for a conditional use in accordance with the purposes and requirements of the [ordinance name]. Proposals for new activities (and expansion of non-conforming uses) that have a potential to release PFAS compounds must submit information involving source controls that will limit releases to the ground, through air or in waste(s) produced on-site.

Industrial uses may be required to provide supplemental chemical inventory details, engineering design, operational and maintenance procedures and processes that demonstrate PFAS control through source controls. If this information was provided as part of a state or federal permit approval, that information may be provided to satisfy items listed on the PFAS Conditional Use Checklist.

Conditional use permits will be issued by the Planning Board should the Board find that the proposed use/activity and related supplemental information, including source controls, effectively limit releases of PFAS substances and thereby present no significant risk to public health, groundwater and drinking water resources and the environment.

State or federal permit approvals and/or compliance records may be requested of applicants and may offer technical information that can be provided for local board consideration.

The intent of the supplemental submittal related to PFAS as part of a conditional permit is to allow a reasonable degree of review by the Planning Board to determine the potential for a release that may affect groundwater. This review should be conducted with the understanding that there are many land use activities that may contain PFAS but that inherently pose no or very low risk of groundwater contamination.



Graphic Credit: Michigan Dept. of Environment

PFAS Conditional Use Checklist of *Supplemental Information for Industrial Uses Involving PFAS*¹²

Applicants will provide a PFAS Source Control Plan with the following elements (as applicable):

Potential PFAS Activity	Description of PFAS Reduction and Controls	Information Provided (Yes No NA)
1. Chemical Inventory (all products to be used on-site including those that may contain PFAS)	Provided a list of all products and PFAS compounds within those products stored and/or used or may be potentially discharged. Note, most product labels will not indicate specific PFAS compounds, some compounds containing PFAS may be proprietary, and certain PFAS(s) may not have methods to detect them. Confirmation of chemical content based on correspondence with the product manufacturer is acceptable as part of a “good faith” effort by the applicant.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
2. PFAS Product Substitution	Listed all product substitutions proposed to replace products with PFAS compounds. Applicants must propose all feasible substitutions. ¹³ Applicants must provide published third-party reviews of products to confirm the environmental and health safety of substitutions.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
3. Storage and Containment of Chemicals Containing PFAS	Provided a technical/engineered plan and details for physical storage and containment systems, appropriate to the storage and use.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
4. Outdoor use(s) or applications that involve products containing PFAS	Described any activities involving the spreading, spraying or other outdoor use of products containing PFAS and description of source control measures.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
5. Process Flow with respect to the use of PFAS in manufacturing processes	Described all processes (production, sealing, etc.) that involve PFAS, frequency and concentration of potential discharges and internal controls and monitoring of air, waste and/or water discharges within a manufacturing context.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
6. Identify potential release(s) and the most likely media	Described how PFAS may be released, the estimated frequency, volume/concentration to air, water or waste.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
7. Collection and cleaning systems and discharge points that may contain PFAS	Described collection system or production system cleaning (rinse water) or replacement, such as cleaning pipes, tanks, racks, vats, air handling equipment or product storage and handling areas	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA

¹² Checklist adapted from [Addressing PFAS \(PFOS / PFOA\) from Industrial Direct and Industrial Stormwater Discharges: Compliance Strategy](#) (Michigan Dept of Environment, Great Lakes and Energy, (May 2023))

¹³ PFAS alternatives largely fall into two categories: functional alternatives, which involve technical or engineering solutions (non-chemical methods), and chemical alternatives, which involve the replacement of fluorinated compounds (short-chain PFAS up to large fluoropolymers) with non-fluorinated alternatives that impart a similar function in the manufacturing process or finished product. ([Per – and Polyfluoroalkyl Substances \(PFAS\) Report, Joint Subcommittee on Environment, Innovation and Public Health](#), PFAS Strategy Team of the National Science and Technology Council, March 2023)

8. Use of all external feedstocks and sources (e.g., recycled feedstocks)	Listed waste-derived feedstocks containing PFAS and controls.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
9. Elimination/isolation procedures of impacted and non-impacted flows	Described process to separate discharges or reduce flows that may require treatment to remove PFAS. Include all interior and exterior (outside flows).	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
10. PFAS Treatment (if applicable)	Indicated the treatment technology and specifications for PFAS treatment or removal.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
11. Authorized discharge to a public wastewater treatment for sewered flows or removal by third-party authorized agent	Provided an approval granted for the determined PFAS concentration and flow to be discharged to a public sewer, or plan detail showing holding tank and tank service vendor. Note, acceptance by a permitted wastewater treatment plant would be required from the pre-treatment coordinator at the facility.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
12. Facility & Site monitoring activities (recurring) for potential fugitive releases	Described the monitoring that will be conducted, lab(s) and analytical methods involved, frequency and reporting cycle.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
13. Emergency Response procedures	Explained actions to control PFAS to be taken by facility managers, off-site contractors and government agencies during an unexpected release.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
14. Annual certification statement	Agreed to annual statement certifying continued completion of all PFAS control measures as described in the permit have been maintained or improved to limit releases.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
15. List State or Federal Permits Required	Listed all permits/approvals and explained the permit(s) relevance with respect to discharge/control/elimination/reduction of PFAS.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA

APPENDIX I: GENERAL INDUSTRIAL USES AND APPLICATIONS INVOLVING PFAS (IRTC, 2022)

Note: Information presented in this table captures potential instances of use but is not intended to indicate universal use nor suggest that every land use proposal involving these industries/applications presents a high-risk for groundwater contamination. In addition, the table is not exhaustive in terms of PFAS use in various industries.

Industry/Application	PFAS Type	Documented Use and Examples
Aviation and Aerospace	Polymer	Mechanical components made of fluoropolymers (such as PTFE and PFA tubing, piping, seals, gaskets, cables and insulators)
	Nonpolymers	Hydraulic fluid additives made from PFSA salts (such as PFOS at about 0.1%) to prevent evaporation, fires and corrosion
Automotive	Polymer	Mechanical components made of fluoropolymers, including wiring and cable, fuel delivery tubing, seals, bearings, gaskets and lubricants and some polymer coatings on carpets
	Nonpolymers	Surface treatment for textiles, upholsteries, carpets, leather and exterior surfaces
Biocides (Herbicides and Pesticides)	Polymer	None reported
	Nonpolymers	Active ingredients such as short-chain sulfonamides in plant growth regulators and herbicides, and EtFOSA (sulfluramid) in ant and termite baits; inert enhancing ingredients in pesticides; PFPAs and PFPiAs as anti-foaming agents in solutions
Building and Construction	Polymer	Fluoropolymer membranes and coatings (such as PTFE, PVDF and/or side-chain fluorinated polymers) in architectural materials (like fabrics, roofing membranes, metals, stone, tiles, concrete, radomes); adhesives, seals, caulks; additives in paints (for example, low- and no-VOC latex paints), varnishes, dyes, stains, sealants; surface treatment agent and laminates for conserving landmarks
	Nonpolymers	Additives in paints, coatings and surface treatments (PASf- and fluorotelomer- based compounds, ammonium salt of PFHxA)
Cable and Wiring	Polymer	Coatings and jacketings made of fluoropolymers (such as PTFE and PVDF) for weathering, flame and soil resistance, with cables used in many applications,

		including communication facilities, antennae and computer networks
	Nonpolymers	None reported
Cosmetics/Personal Care Products	Polymer	Dental floss and micro powders used in creams and lotions.
	Nonpolymers	Cosmetics, shampoos, nail polish, eye makeup, denture cleaners
Electronics	Polymer	Fluoropolymers (such as PVDF and PTFE) used in insulators, solder sleeves, printed circuit boards, cell phones, computers, speakers and transducers
	Nonpolymers	Flame retardants for polycarbonate resin (such as the potassium salt of PFBS)
Energy	Polymer	Fluoropolymer films (such as FEP, PVDF) to cover solar panel collectors, electrolyte fuel cells, PTFE expansion joint materials for power plants
	Nonpolymers	Fuel cell and battery electrolyte (such as the lithium salt of PFAAs)
Firefighting/Safety	Polymer	Fluoropolymers used in firefighting equipment and protective clothing (such as those woven with PTFE). Other polymer coatings using side-chain fluorinated polymers)
	Nonpolymers	Coatings and materials used as water repellents and some Class B foam (may contain PFCAs, PFSA and fluorotelomer-based derivatives), vapor suppression for flammable liquids (for example, gasoline storage)
Food Processing	Polymer	Fluoropolymer fabrication materials (such as PTFE) (liners for trays, ovens, grills)
	Nonpolymers	May be used as coatings on food packaging
Household Products	Polymer	Nonstick coatings (fluoropolymers such as PTFE); aftermarket treatment for textiles, upholsteries, carpets and leather (such as FT-based side-chain fluorinated polymers)
	Nonpolymers	Aftermarket treatment for textiles, upholsteries, carpets and leather (such as PASFs; floor polishes (such as the ammonium salt of PFDA), coatings and floor finishes (PFPA and PFPiAs) and cleaning agents and alkaline cleaners; automobile waxes; may include PFAAs, PASF- and fluorotelomer-based derivatives
Medical Products	Polymer	Fluoropolymers used in surgical patches, cardiovascular grafts, raw materials for human body implants (such as

		catheters, stents, needles and other) given biocompatibility and extremely low coefficient of friction
	Nonpolymers	X-ray film, stain- and water-repellent protective medical fabrics (like surgical drapes and gowns) created from PASF- or fluorotelomer-based (meth)acrylate polymers and polyurethanes
Metal Plating	Polymer	None reported
	Nonpolymers	Wetting agent, mist suppression for harmful vapors and surfactants (may include potassium, lithium, diethanolamine and ammonium salts of PFOS or 6:2 FTS)
Oil Production	Polymer	Lining of gas pipes
	Nonpolymers	Marketed for and potential instances of use in oil well production
Mining	Polymer	None reported
	Nonpolymers	Instances of surfactants used in ore mining flotation
Paper and Packaging	Polymer	Oil and grease and water repellent to paper, paperboard, molded pulp products (including food contact materials) and LDPE bags; examples include side-chain fluorinated polymers in which the PASF- or fluorotelomer-based alcohols or their acrylate or methacrylate esters are attached on side chains
	Nonpolymers	Phosphate ester salts (esterification of PASF or FT-based alcohols with phosphoric acid; PFPEs
PFAS Production	Polymer	Not applicable
	Nonpolymers	Emulsion polymerization processing aids for fluoropolymers (such as PTFE, FEP, PFA, PVDF), (co)monomer of side-chain fluorinated polymers; (co)monomer of fluoropolymers and to make fluoroelastomers; may use salts of long-chain PFCAs (such as PFOA and PFNA), salts of short-chain PFCAs (such as PFHxA) or PFECAs
Photolithography & Semiconductor	Polymer	Equipment raw materials (such as PFA) for molded wafer baskets to handle corrosive liquids and gases, use as fluids in mechanical vacuum pumps
	Nonpolymers	Photolithography (such as using PFOS) in manufacture of semiconductor chips
Textiles (Upholstery, Carpets), Leather and Apparel	Polymer	Fluoropolymers (such as PTFE) are used in the construction of outdoor gear, clothing and housewares; side-chain fluorinated polymers (such as PASF- or fluorotelomer-based (meth)acrylate polymers and -

		polyurethanes) may be used in oil- and water-repellent and stain release finishing and treatment coatings
	Nonpolymers	PFOA-based chromium treatment for paper and leather. Nonpolymer coatings used to treat textiles to provide oil- and water- repellent and stain release finishes

APPENDIX J: PFAS CONTROL CONSULTING SERVICES

Disclaimer: The following list of companies providing third-party services involving the control or reduction of PFAS is provided only as an informational resource for municipal boards and does not constitute an endorsement of the company or its services by NHDES. Municipalities seeking third-party services should confirm the qualifications, nature and extent of services provided by the consultant. Companies listed and the information below were compiled from NHDES survey responses from consulting companies received in the fall of 2024.

Consultant Name	Contact Name	Contact Phone	Contact Email	Description of Services/Website
Air Measurement LLC	Brett Smith	207-848-0808	bsmith@airmeasurementllc.com	Emissions testing of existing sources
Bridge House Associates	Beth Fitzpatrick	401-680-9963	bfitzpatrick@bhacorp.com	Toxic use reduction planning.
Civil & Environmental Consultants, Inc	Jonathan D Kitchen	508-326-8727	jkitchen@cecinc.com	Design of pilot tests and full-scale treatment systems for the treatment of PFAS in water and leachate, third party review for other designs, pollution prevention for food manufacturing industry.
EnSafe Inc.	Lori Goetz	901-937-4276	lgoetz@ensafe.com	Investigation, pollution prevention, engineering, permitting, site management strategies surrounding PFAS.
GZA GeoEnvironmental, Inc.	Jeremiah Duncan	781-327-9229	Jeremiah.Duncan@gza.com	Evaluating stack emission controls, processing water permitting, monitoring and treatment, human health risk, toxicology and epidemiology assessments, toxic substance reduction/pollution prevention planning, design and installation of groundwater control systems, municipal review support.
Jacobs	Robert McCoy	603-568-0010	Rob.McCoy@jacobs.com	PFAS assessments, characterization, treatment, management, research, technology evaluation, cost estimating, testing, design, and operations and management.

Haley Ward, Inc.	Jacalyn Gorczyński	207-404-5972	jgorczynski@haleyward.com	Development of sampling protocols, performing sampling and reporting, evaluation of potential PFAS sources and migration pathways, aquifer and surface source watershed protection, PFAS investigation and treatment, groundwater modeling.
HSE Partnering Solutions	Philip M Landry	508-341-0265	phil@hsepartneringsolutions.com	Process review, alternatives investigation, coordinate/manage third party vendors for PFAS controls.
Mabbett & Associates, Inc.	Kelly Winson	781-275-6050	winson@mabbett.com	Testing services to evaluate PFAS in soil, groundwater, drinking water, etc., toxic use reduction planning and support.
REMSERV, Inc.	Thomas P Simmons	781-760-1944	tsimmons@remserv.com	Assessment and remediation of PFAS contaminated groundwater, assessment of potential indoor air exposure from dissolved PFAS, identification of PFAS route(s) of entry into the environment from manufacturing and commercial applications.
Tighe & Bond	Suzanne Courtemanche	603-294-9660	scourtemanche@tighebond.com	Assessment and sampling, source identification, modeling and mapping, community engagement, treatment system design, operation, monitoring and maintenance, remedial design and implementation.
TRC Environmental Corporation	Elizabeth Denly	978-328-2551	edenly@trccompanies.com	Risk evaluation, source identification, sampling and analysis, conceptual site model development, human health and ecological risk assessment, treatment design recommendations, engineering design, ambient air and stationary source PFAS measurements, Toxic Release Inventory (TRI) reporting.
Weston Solutions, Inc.	Lisa Kammer	603-656-5457	Lisa.Kammer@westonsolutions.com	Design, design review, bid, build, and operation of PFAS controls and reduction practices.

APPENDIX K: MUNICIPALITIES WITH GROUNDWATER OR AQUIFER PROTECTION DISTRICTS

TOWN	Name
ALLENSTOWN	Groundwater Protection Overlay District
ALTON	Aquifer Protection Overlay District
AMHERST	Aquifer Cons. District-Zoning Ord.
ANTRIM	Aquifer and Wellhead Protection District
ASHLAND	Ashland Groundwater Protection Ord
BARNSTEAD	Aquifer Recharge District
BARRINGTON	Groundwater Protection District
BELMONT	Article 7 Aquifer and Groundwater Protection
BENNINGTON	Water Resource Protection Zone
BERLIN	Wellhead Protection Overlay Zone
BETHLEHEM	AQUIFER PROTECTION ORDINANCE
BOW	Aquifer Protection Overlay District
BRENTWOOD	Aquifer Protection in Zoning
BROOKLINE	Aquifer Protection Ord/Wetlands Cons Ord
CANAAN	Drinking Water Protection Ordinance
CANDIA	Article XI: Groundwater Protection
CANTERBURY	Groundwater Protection Ordinance
CARROLL	Aquifer Protection Ordinance
CENTER HARBOR	10:8:3 Groundwater Protection District
CHARLESTOWN	Drinking Water Protection District Ordinance
CHESTER	Groundwater Protection Ordinance
CONCORD	AQUIFER PROTECTION ORDINANCE
CONWAY	Groundwater Protection Overlay District
DEERFIELD	Section 214: GROUNDWATER PROTECTION

TOWN	Name
DEERING	Aquifer Protection Ordinance
DERRY	Groundwater Resource Conservation District
DOVER	Groundwater Protection 170-28.3
DURHAM	Aquifer Protection Overlay District
EAST KINGSTON	Septage/Sludge Ordinance
EASTON	Groundwater Protection District
EFFINGHAM	Section 2203 GROUNDWATER PROTECTION District
EPPING	Article 7: Aquifer Protection District
EXETER	Aquifer Protection District
FARMINGTON	Aquifer Protection Overlay District
FITZWILLIAM	Groundwater Protection Overlay District
FRANCESTOWN	AQUIFER PROTECTION DISTRICT
FRANCONIA	Aquifer Conservation Overlay District
FRANKLIN	GROUNDWATER PROTECTION DISTRICT
FREEDOM	Groundwater Protection Overlay District
FREMONT	Aquifer Protection District
GILFORD	Aquifer Protection District
GILMANTON	AQUIFER PROTECTION OVERLAY ZONE
GORHAM	Town Well Source Protection Ordinance
GOSHEN	Water Resources Protection Ordinance
GREENFIELD	Groundwater Protection Ordinance
GREENLAND	Aquifer Protection District
HAMPSTEAD	Groundwater Protection Ordinance
HAMPTON	Aquifer Protection District Ordinance
HAMPTON FALLS	Section 13- Aquifer Protection District
HANCOCK	Article 12 Groundwater Protection District
HARTS LOCATION	Groundwater Protection Ordinance

TOWN	Name
HAVERHILL	5.2 Aquifer Protection District
HILL	Wellhead Protection Overlay District
HILLSBOROUGH	Groundwater Protection Ordinance
HINSDALE	Wellhead/Aquifer Protection District
HOLDERNESS	Section 525: Groundwater Protection
HOLLIS	Water Supply Cons. Zone/Aquifer Protection Overlay
HOOKSETT	Groundwater Resources Conservation District
KENSINGTON	AQUIFER PROTECTION
KINGSTON	Aquifer Protection Ordinance
LEE	Aquifer Conservation District
LITCHFIELD	Aquifer Protection District
MADBURY	Aquifer and Wellhead Protection Overlay District
MADISON	Groundwater Protection District
MASON	Aquifer and Wellhead Protection District
MERRIMACK	Aquifer Conservation District
MIDDLETON	Aquifer Protection District
MILFORD	Groundwater Protection District
MILTON	Groundwater Protection Overlay District
MONROE	Aquifer Protection Zone
MOULTONBOROUGH	GROUNDWATER PROTECTION ORDINANCE
NEW BOSTON	Groundwater Resource Conservation District
NEW DURHAM	Aquifer Protection Overlay District
NEW IPSWICH	Groundwater Protection District
NEWBURY	Aquifer Protection Overlay District
NEWFIELDS	Aquifer Protection District
NEWMARKET	Aquifer Protection District
NEWPORT	Groundwater Protection Ordinance

TOWN	Name
NEWTON	Aquifer-Watershed Protection Ordinance
NORTH HAMPTON	Water Resources & Aquifer Protection
NORTHFIELD	Groundwater Protection District
NORTHWOOD	Wellhead Protection Overlay District
NOTTINGHAM	Aquifer Conservation District
OSSIPEE	Water Resources Protection District
PELHAM	Aquifer Conservation District
PEMBROKE	Aquifer Conservation District
PETERBOROUGH	Groundwater Protection Overlay Zone
PLAISTOW	Aquifer Protection District
RAYMOND	Groundwater Conservation District
RICHMOND	AQUIFER PROTECTION DISTRICT
RINDGE	Aquifer Protection Ordinance
ROCHESTER	Aquifer Protection Zone
ROLLINSFORD	Aquifer Conservation & Well Site Protection District.
RYE	AQUIFER AND WELLHEAD PROTECTION DISTRICT
SANBORNTON	Aquifer Conservation District
SANDWICH	Groundwater Protection Ordinance
SEABROOK	Section 16 Aquifer Protection
SOMERSWORTH	Groundwater Protection District
SOUTH HAMPTON	Aquifer Protection District
STRATHAM	Aquifer Protection District
SUNAPEE	Aquifer Overlay District
TEMPLE	Aquifer Protection
TILTON	Groundwater Protection Ordinance
WAKEFIELD	Aquifer Conservation District
WALPOLE	Wellhead Protection Overlay District Ordinance

TOWN	Name
WARNER	Groundwater Protection Ordinance
WEARE	Aquifer Protection Ordinance
WEBSTER	Article XII Groundwater Protection Ordinance
WILTON	Aquifer Protection District
WINCHESTER	Aquifer Protection District
WINDHAM	609 Aquifer Protection District
WOLFEBORO	Groundwater Protection Overlay District

ENVIRONMENTAL Fact Sheet



29 Hazen Drive, Concord, New Hampshire 03301 • (603) 271-3503 • www.des.nh.gov

DWGB-12-12

2024

Clean Drinking Water: It's Up to You!

Why do you need to help protect drinking water?

Your drinking water comes from a groundwater or surface water source, both of which can be vulnerable to contamination from routine household activities. As water flows through the watershed, it can pick up contamination along the way. While some pollutants can be filtered out by soil, groundwater can be easily contaminated by a variety of chemicals. Surface water can be contaminated by soil erosion and pollutants picked up as water flows over land. A little bit of pollution can affect a lot of water.

To access an electronic version of this fact sheet (with live links), use this QR code.



What can you do to help prevent contamination of drinking water sources?

- **Dispose of Waste Properly**
 - Visit the [NHDES "Managing My Waste" website](#) for information on how to dispose of different types of household waste.
 - Utilize [household hazardous waste](#) collection days to dispose of hazardous wastes, such as pesticides, herbicides, fertilizer, batteries, cleaning fluids, paint thinners and thermometers.
 - Recycle used motor oil at a municipal solid waste transfer station that accepts [used oil](#).
 - Dispose of unused medicine properly; do not flush it down the toilet. Police Departments throughout the state have implemented a [prescription drug drop box program](#).
- **Use Safer Chemicals at Home, Work and School**
 - Consider switching to [non-toxic and less-toxic alternatives to traditional household chemicals](#), some of which may inadvertently contain chemicals like [PFAS](#).
 - There are [simple recipes](#) for kitchen and bathroom cleaners made from things like white vinegar and baking soda that are cost-effective and environmentally friendly.
 - The [EPA Safer Choice Program](#) has a list of household and business cleaning products that use safer ingredients. [PFAS Central](#) has a list of products that are likely PFAS-free.
 - Only buy what you need—avoid buying and storing large volumes of materials that may go unused.

- The NHDES [Greening Your Home website](#) has many useful links for ways to reduce waste and improve energy efficiency.
- **Maintain Your Septic System**
 - If your house is on septic, [regular maintenance of your septic system](#), including pumping the tank out every 3 years, is essential to its ongoing performance.
 - Any soggy areas around the system, or disagreeable odors, could indicate septic system failure. Have it checked by a professional.
 - Do not dispose of any toxic materials into the system. When in doubt, don't flush it.
- **Properly Store Gasoline and Oil at Your Home**
 - Check all fuel storage tanks for leaks. If a tank is more than 20 years old, consider replacing it with an aboveground storage tank that has a concrete slab underneath it, a cover and secondary containment.
 - [NHDES Safe Tank Program](#) can provide financial assistance to upgrade or replace home heating oil tanks.
 - Perform any refueling and engine work on an impervious surface like a concrete floor. Avoid any refueling in areas near surface water or wells.
 - Keep cat litter or absorbent pads available and soak up any gas spills immediately.
 - Contact NHDES and/or your local fire department or 911 to [report any oil or gas spills](#) that may have soaked into the ground. NHDES Spill Response can be reached at [\(603\) 271-3899](#).
- **Transform and Simplify Your Lawn Care**
 - Work with nature. The [NOFA Organic Landcare guide](#) provides many useful practices and tips for a healthy lawn which protects water. [Ahora disponible en español.](#)
 - Consider reducing lawn areas or replacing them with an alternative ground cover like wildflowers and native shrubs that require less maintenance and can benefit pollinators and other wildlife.
 - [Limit lawn fertilizer and herbicide/pesticide use](#), particularly near wells, lakes, rivers and streams. All of these chemicals can negatively impact drinking water sources. A single application of slow release, low phosphate fertilizer at the beginning of fall is adequate in most cases.
 - To help protect the environment and reduce fertilization costs, have your soil tested to determine if and what types of fertilizer are needed. You can have your soil tested by the [UNH Cooperative Extension](#).
 - For the healthiest lawn, support the soil that grows your lawn by applying compost to your lawn regularly. You can make your own compost with leaves, lawn clippings and kitchen scraps.
 - Be careful refueling your lawn equipment. During refueling, be sure to place the equipment on an impervious surface, such as a concrete floor or tarp so any spills don't soak into the ground.
 - Consider using hand tools instead of gas-powered machines (e.g., a rake instead of a leaf blower). It's good exercise and good for the environment.
 - If replacing your lawn equipment, consider purchasing an electric mower or trimmer instead of a gas-powered one.
- **During the Winter, Limit Salt Use on Sidewalks and Driveways**
 - Road salt contributes elevated sodium and chloride to rivers and groundwater, which can be harmful to aquatic life and humans.
 - Consider alternative de-icing materials, such as calcium magnesium acetate (CMA) or alfalfa meal, and/or using materials like sand, sawdust or cat litter to increase traction.
 - If you use a plowing company, request that they reduce/optimize their salt use and obtain the [Green Snow Pro certification](#).

For More Information

Please contact the Drinking Water and Groundwater Bureau at [\(603\) 271-2513](#) or dwgbinfo@des.nh.gov or visit our website at www.des.nh.gov.

Note: This fact sheet is accurate as of January 2024. Statutory or regulatory changes or the availability of additional information after this date may render this information inaccurate or incomplete.