





# A Guide To Groundwater Reclassification

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Prepared by:

Source Water Protection Program

<http://des.nh.gov/organization/divisions/water/dwgb/dwspp/index.htm>

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## **Preface**

Sixty percent of New Hampshire's residents are dependent on groundwater for their drinking water supplies. The New Hampshire Groundwater Protection Act, passed by the state legislature in 1991, authorizes DES to regulate large groundwater withdrawals and commercial discharges of wastewater, establishes best management practices that must be employed by activities that are considered potential contamination sources, creates four classes of groundwater, establishes groundwater quality standards and enables local entities (e.g., water suppliers and town boards) to play a role in actively managing activities having the potential to contaminate valuable groundwater. DES's Groundwater Reclassification Program allows local entities to secure greater protection of valuable groundwater resources that serve as a current or future source of drinking water.

### **NHDES Source Water Protection Message**

Ensuring safe and adequate drinking water supplies requires maintaining the quality and availability of present and future water supply sources, because in the long run it is less expensive and more protective of public health to prevent contamination than it is to treat water to meet health standards, and it is less expensive to use existing sources than it is to develop new ones.

New contaminants of concern continue to emerge, potentially requiring more costly treatment of source waters if they have not been adequately protected. Municipalities and water suppliers have crucial roles in managing activities that affect source water quality and availability. DES's primary role is to provide technical and financial assistance and to enforce state regulations that serve to protect the state's sources of drinking water. Effective protection relies on the combined efforts of the state, water suppliers, municipalities, businesses, institutions and individuals whose activities have the potential to affect source water quality and availability.

# Chapter 1: Reclassification to Protect Drinking Water Resources

## Introduction

Every day, residents of New Hampshire use approximately 93.8 million gallons of groundwater for irrigation, manufacturing and domestic consumption. New Hampshire is fortunate to possess groundwater stored within underground aquifers capable of supplying drinking water to 60 percent of the state’s population. In many communities, groundwater is the sole source of available drinking water. Groundwater also replenishes rivers, lakes and wetlands during dry periods, ensuring healthy ecosystems and water for other uses. It provides an estimated 40 percent of the total flow in New Hampshire’s rivers, which in turn feed the state’s lakes, reservoirs and estuaries. Maintaining the high quality and availability of groundwater is important to protect public health and the environment; however, it is greatly affected by local decisions regarding land use and the management of harmful substances.

Groundwater quality and availability depend upon the capacity for clean precipitation to soak into the ground and recharge local aquifers. Since the 1970s New Hampshire’s population has grown rapidly and in some areas changes made to the landscape have affected groundwater quality and reduced its availability. Groundwater contamination due to leaking underground storage tanks, mishandling of industrial solvents and spills have resulted in millions of dollars dedicated to clean-up and treatment of contaminated soils and groundwater. DES records indicate that approximately 329<sup>1</sup> public and private (domestic) water supplies have been affected by petroleum or hazardous waste contamination sites scattered across the state and within almost every New Hampshire community.

In 1991, in response to growing public awareness and concern, New Hampshire’s Groundwater Protection Act (RSA 485-C) was enacted to protect and preserve valuable groundwater resources. The act recognizes the importance of groundwater to municipalities and public water suppliers and authorizes these local entities to develop local groundwater protection programs. The act establishes four classes of groundwater—GAA, GA1, GA2 and GB—and a process to “reclassify” groundwater to a classification that better protects current or future water supply resources. Areas are initially classified as GA2 (certain high-yield stratified-drift

<b>Groundwater Classification</b>	<b>Classification Description and Protection Activities</b>
GAA	<b>Delineated Wellhead Protection Areas.</b> Prohibits new and monitors existing high-risk uses, such as landfills. Authorizes active management of PCSs on local level.
GA1	<b>Groundwater of high value for present or future drinking water.</b> No land use prohibitions. Authorizes active management of PCSs on local level.
GA2	<b>Potentially valuable stratified drift aquifers.</b> No active management.
GB	<b>All groundwater not assigned to a higher class.</b> No active management.

1 The total number (329) of public and private water supplies affected by contamination sites is based on DES information involving remediation of contaminated sites. One hundred twelve contamination sites have had a detectable impact on a public water supply in addition to 217 contamination sites that have impacted other drinking water resources, including private water supplies.

aquifers) and GB (all other areas). The term “reclassification” refers to the change from class GA2 or GB to a classification affording greater local and state protection (GAA or GA1).

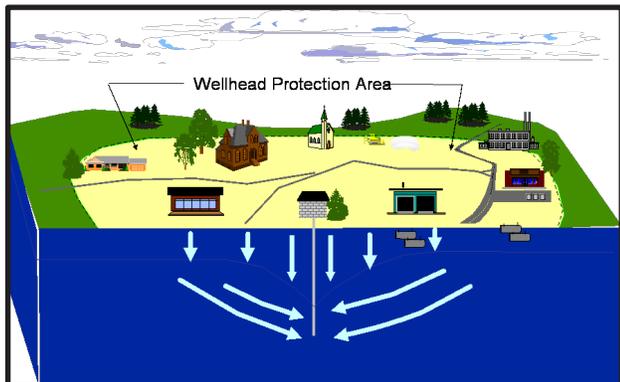


Figure 1-1. Example of a Wellhead Protection Area.

Only wellhead protection areas can be reclassified to GAA. Wellhead protection areas represent the surface (land) area contributing water to an active non-transient public water supply well. Wellhead protection areas are determined through technical study or are based on the volume of water the well is designed or permitted to produce. The most immediate effect of GAA reclassification is prohibition of a few high-risk land uses (see Table 1-3 on page 4) and the requirement that existing high-risk uses conduct groundwater monitoring under a DES Groundwater Release Detection Permit.

Areas that can be reclassified GA1 are “high-value” groundwater areas that are or have the potential to be sources of drinking water for an entire community. These typically include stratified-drift aquifers but could include other areas of local significance.

Reclassification to GAA or GA1 requires the adoption of a local management program (discussed below in this section and in more detail in Chapter 3) administered by a town or public water supplier to prevent the release of harmful substances that may contaminate groundwater, such as gas or oil.

Local management programs must identify activities referred to as “potential contamination sources” or PCSs and conduct on-site inspections to ensure that “best management practices” or BMPs are being followed. BMPs are simple practices required under state rules to prevent the release of gasoline, oil and other substances that may contaminate groundwater. These practices include basic “housekeeping” practices, such as cleaning up spills, labeling containers, use of funnels or drip pans, and structural controls, such as berms or dikes to prevent releases to the ground. Local inspections are important as there are far too many PCSs with the capacity to contaminate groundwater for DES to oversee directly.



Figure 1-2. BMP rules require spill control and containment materials be available and used to prevent releases to the ground. (NHDES photo)

### How is groundwater protected locally in New Hampshire? A Brief Overview

Measures to protect groundwater typically involve land conservation, management of land uses posing a threat to groundwater and public education. Often, protection activities undertaken by a town or public water supplier are coordinated through a municipal source water protection plan or wellhead protection program developed by a public water supply. The most effective way to protect groundwater is to exclude contamination threats from the area that contributes water through recharge to groundwater by controlling land uses. This can be done through land conservation or through

land use zoning. Local zoning and regulations for subdivisions, site plans or health can limit potential groundwater impacts by requiring site designs that retain natural areas suitable for infiltrating clean runoff, minimize infiltration of contaminated runoff, control the density of septic systems, ensure treatment of commercial wastewater, and limit wasteful irrigation. Local outreach and education is essential to build support and explain the need for any protection.

#### Approach to Groundwater Protection

- ✓ Identify the groundwater resource area(s) that contribute water to public water supply wells and high-value aquifers.
- ✓ Conserve the most sensitive areas immediately around public water supply wells.
- ✓ Prohibit high-risk activities through land use local controls within areas that contribute water to a drinking water supply.
- ✓ Manage land use activities to ensure they follow BMPs according to state rules, specifically Env-Wq 401, Best Management Practices for Groundwater Protection.
- ✓ Regularly notify PCSs of BMP requirements and build public awareness of the value of clean groundwater as a community resource.
- ✓ Institute water conservation and efficiency measures.
- ✓ Provide compelling public education for residents concerning the use of substances that could contaminate groundwater as well as management and disposal options.

Selection of the right approach and protection measures to protect groundwater depends upon local circumstances. For example, land conservation may be the most appropriate tool in nearby fast-growing areas that directly contribute water to a public water supply well. However, in more developed areas with more commercial land uses, the priority may be to ensure that Best Management Practices limit the release of regulated substances to the ground or surface water.

Reclassification to GAA or GA1 requires a local protection program that implements most of the protections summarized above, excluding land conservation. For more detailed guidance concerning how to protect groundwater, see *The DES Guide to Groundwater Protection*, available online at [http://des.nh.gov/organization/divisions/water/dwgb/dwspp/guidance\\_documents.htm](http://des.nh.gov/organization/divisions/water/dwgb/dwspp/guidance_documents.htm).

## Groundwater Reclassification to GAA or GA1: Process and Local Implementation

Reclassification to GAA or GA1 is initiated by a local entity defined under RSA 485-C:2 as a water supplier, city or town, village district or other duly constituted municipal unit, such as a planning board or conservation commission. There are six steps to reclassifying groundwater to GAA or GA1 as summarized in Table 1-2. More detail concerning the six-step process may be found in fact sheet WD-DWGB-22-2, “Local Reclassification of Groundwater To Implement Protection Programs: A Six-Step Process” (<http://des.nh.gov/organization/commissioner/pip/factsheets/dwgb/documents/dwgb-22-2.pdf>).

Six Steps to GAA/GA1 Reclassification	DES can provide...
Step 1: Identify the area to protect	Maps, GIS data or technical reports that identify groundwater resources
Step 2: Inventory, visit and verify potential contamination sources (PCSs)	An initial PCS inventory (spreadsheet) and/or GIS data
Step 3: Hold an informational meeting (optional)	Guidance in conducting an informational meeting for the public
Step 4: Describe the management program	Examples of management plans
Step 5: Submit a request to reclassify groundwater to des	A checklist for completing the application and review content
Step 6: Following DES approval, implement the local management program	Guidance and training concerning program administration and compliance

To complete Step 5, the local governing body, either the board of selectmen or city council, must vote to submit a GAA and/or GA1 reclassification application to DES. DES will determine whether the application is complete and assess the capacity of the local entity to conduct on-going PCS management activities. If the application is approved, DES will notify the local entity which will then implement the management program. The reclassification process is governed by state administrative rule Env-Dw 901, Groundwater Reclassification, and RSA 485-C. Refer to DES’s detailed checklist of the information necessary to complete the application found in Appendix 1.

### Local Implementation: GAA Limits Six High-Risk Land Uses

Immediately after DES approves a GAA reclassification, six land uses (Table 1-3) are prohibited in the reclassified area. Existing uses prohibited under GAA and all proposed composting and resource recovery facilities, such as waste-to-energy incinerators, must apply to DES and receive a Groundwater Release Detection Permit. A Groundwater Release Detection Permit requires periodic monitoring of groundwater quality at the facility to ensure that any release of a harmful substance to the ground is quickly detected and addressed to minimize impacts to human health and the environment. The GA1 classification has no associated land use prohibitions.

Hazardous waste disposal facilities
Solid waste landfills
Outdoor bulk storage of road salt
Junkyards
Snow dumps
Wastewater or septage lagoons

## Local Potential Contamination Source Management Programs

GAA or GA1 reclassification involves inspection of each potential contamination source in the reclassified area at least once every three years to ensure that harmful substances, such as gasoline or paint thinners, are being used, transferred and stored in accordance with Env-Wq 401, Best Management Practices for Groundwater Protection. These rules apply to all regulated substances found in greater than household quantities, specifically in containers that are five gallons or greater. A local management plan is usually administered by a local building inspector or health officer and involves conducting the following activities:

- Maintain a current inventory of PCSs requiring inspection in GAA/GA1 areas.
- Notify PCS owners/operators that they are within a GAA/GA1 classified area.
- Inspect PCSs to ensure compliance with best management practices.
- Follow up with letters to PCSs concerning compliance with BMPs.



**Figure 1-3. BMP rules apply to containers having the capacity to hold five or more gallons of a regulated substance. (NHDES photo)**

The management program must be described in the reclassification application, explaining how each of the above items will be carried out. The narrative should also include a discussion of the committed local resources and capacity to carry out all reclassification activities and include a schedule for conducting BMP inspections. Details concerning how violations and non-compliance issues will be addressed should be included. An example of a management plan is available online at [http://des.nh.gov/organization/divisions/water/dwgb/dwspp/reclassification/documents/durham\\_reclass\\_app.pdf](http://des.nh.gov/organization/divisions/water/dwgb/dwspp/reclassification/documents/durham_reclass_app.pdf), which is Durham’s reclassification application. DES provides comprehensive guidance and training concerning how to develop a PCS inventory, perform BMP inspections and administer a local management program. For additional details concerning local management programs see Chapter 3.

### Why pursue GAA or GA1 Reclassification?

The primary benefit of reclassification is increased safety of public water supply wells or aquifers in the area that has been reclassified. Limiting high-risk land uses and ensuring compliance with BMP rules are effective groundwater protection tools. While municipal zoning or site plan regulations may apply some protection during review of new land use activities, GAA/GA1 reclassification ensures that all land uses with the potential to contaminate groundwater follow simple BMPs and minimize the risk of releasing regulated substances.

<b>Table 1-4. Why GAA and GA1 Reclassification?</b>	
	To ensure BMPs are used to prevent the release of contaminants when PCS activities involve regulated substances.
	To apply protections across municipal boundaries within wellhead protection areas, aquifers, or watersheds.
	To receive special notification and a longer local comment period on permits pending at DES.
	To require groundwater monitoring for certain existing high-risk uses under a DES Groundwater Release Detection Permit.
	To create greater awareness of the importance of local water supplies and groundwater resources.

As mentioned earlier, within GAA reclassified areas high-risk uses must obtain a Groundwater Release Detection Permit from DES (within six months) requiring groundwater monitoring. GAA and GA1 reclassification also extends by 30 days the comment period for local entities to comment on all pending DES permits involving PCSs within reclassified areas.

All PCSs within GAA or GA1 reclassified areas are periodically notified that they are operating within an area that contributes water to a public water supply, or may in the future. They must also review the BMP rules and their operations to ensure they are in compliance. That awareness and review is important to ensure better management of regulated substances, minimizing the risk of contamination.

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## Chapter 2: Preliminary Steps and Getting Started

### Forming a Local Reclassification Committee (Optional)

Establishing a local committee is a good way to organize and work to gather necessary information, involve stakeholders and build public support. Forming a committee is optional and the process to form a committee may differ locally; however, many committees are established through appointments made by the board of selectmen or city council. Committee members share the work of gathering information and determining the benefits of reclassification with relevant decision makers and stakeholders. Committees can serve as the hub for organizing and completing the six-step reclassification process, and are a resource for the local governing body that must consider and eventually sign the application made to DES for GAA/GA1 reclassification.

There are often many stakeholders who have an interest in groundwater or who will be affected by reclassification. Recruit committee members from a variety of organizations to represent a cross-section of the community. Organizations with strong interests in protecting drinking water, such as the local conservation commission, planning board, public water supplier(s) and local businesses may wish to participate on a reclassification committee. Committee members should form a consensus concerning why GAA/GA1 reclassification is important, estimate the local personnel resources necessary, and gain an understanding of the reclassification process. Members should be able to answer common questions or concerns that arise, such as:

- Where will reclassification apply in town?
- How will it protect our drinking water?
- What impact will it have on my property?
- Will it have an impact on municipal budgets or staffing?
- How will it affect my business?

#### Talking Points That Resonate with Select Boards and Councils

- ✓ Reclassification is a local program to prevent groundwater contamination.
- ✓ Reclassification has few direct costs and typically does not require additional staff.
- ✓ Reclassification does not result in new regulations.
- ✓ Reclassification protects sources of drinking water important to future economic development.

Committees should prepare outreach materials with answers to common questions in advance of public meetings or discussions with local decision-makers. This will help to avoid creating misunderstandings or misconceptions that may stall momentum or cost the support of certain stakeholders. See DES fact sheet WD-DWGB-22-3, “Groundwater Reclassification and How It Affects the Property Owner,” for a summary of how reclassification affects the use of private property (<http://des.nh.gov/organization/commissioner/pip/factsheets/dwgb/documents/dwgb-22-3.pdf>).

### Finding Answers to Basic Reclassification Questions: Obtaining Guidance and Information from DES (Optional)

Contacting DES’s Reclassification program manager early in the process will save time and provide access to guidance and information.

<b>Table 2-1. DES Publications, Rules and Forms</b>	
<b>Fact Sheets</b>	
The NH Groundwater Protection Act: An Overview (WD-DWGB-22-1)	
Local Reclassification of Groundwater to Implement Protection Programs: A Six Step Process (WD-DWGB-22-2)	
Groundwater Reclassification and How It Affects the Property Owner (WD-DWGB-22-3)	
Best Management Practices (BMPs) for Groundwater Protection (WD-DWGB-22-4)	
<b>Guidance Documents</b>	
Managing Groundwater Protection Areas: Guidance and Sample Letters (WD-06-47)	
<b>Rules/Statute</b>	
Env-Dw 901, Groundwater Reclassification	
Env-Wq 401, Best Management Practices for Groundwater Protection	
RSA 485-C, N.H. Groundwater Protection Act	
<b>Forms/Sample Applications</b>	
DES's Request for Groundwater Reclassification Form	
Sample GAA/GA1 Reclassification Application	
DES's Reclassification Checklist	

The resources are available at <http://des.nh.gov/organization/divisions/water/dwgb/dwspp/reclassification/index.htm>.

Download the entire set of documents to create a portfolio that committee members and local decision makers can refer to throughout the reclassification process.

### Identifying Area(s) To Reclassify to GAA/GA1

Choosing an area to reclassify may depend upon a number of factors including whether there are activities that use regulated substances, whether the town or local water supplier has the resources to conduct regular BMP inspections, and whether the area is suitable for the development of future municipal wells. The number of potential contamination sources is an important factor in determining staff time and resources necessary to conduct notification and inspection activities under the local management program. The reclassification application must include a map to delineate the extent of the area to be reclassified to GAA and/or GA1, for example a wellhead protection area, aquifer or other resource area(s). Paper copies of U.S. Geological Survey 1:24,000 topographic maps or maps produced using geographic information systems (GIS) data from DES or UNH (GRANIT Program) are suitable base maps for delineating areas proposed for GAA/GA1 reclassification. Technical reports prepared as part of a DES approval for a well typically include a wellhead protection area map suitable for GAA reclassification applications (see Figure 2-1 for an example). Contact the municipal water department or DES for copies of available reports.

Consider the following questions when selecting resource areas to reclassify:

- How important is the area to be reclassified to providing current or future water supply?
- What local resources (time, personnel) are available to administer the local PCS management program?

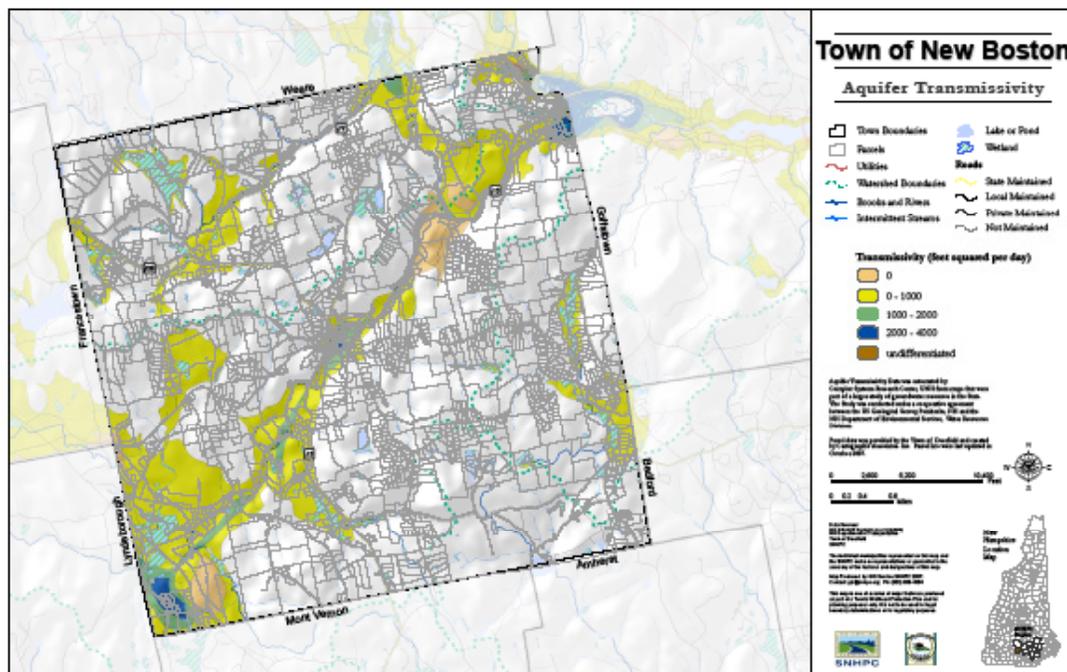


Figure 2-1. Stratified Drift Aquifers in New Boston, New Hampshire.

Source: Southern New Hampshire Planning Commission (2010)

- To what extent do current PCS activities use regulated substances subject to Env-Wq 401?
- Will the reclassified area(s) be consistent with other planning policies within the master plan?
- Are WHPAs/aquifers zoned or designated as future industrial or commercial development areas?
- Do stratified-drift aquifers and/or WHPAs extend into adjoining communities? Should those areas be included in the reclassification?
- Do public water systems within the area already conduct similar PCS inspection activities? (Contact DES's Drinking Water Source Protection Program for this information.)

DES publishes a standard map referred to as a Drinking Water Resources Protection Map that identifies local groundwater resource areas, such as WHPAs or aquifers, PCSs and other groundwater hazards. GIS shape files containing WHPAs are also available upon request or may be viewed through DES's OneStop database at <http://des.nh.gov/onestop/index.htm> after user registration. Maps and technical reports concerning stratified-drift aquifers are available from the U.S. Geological Survey, (603) 226-7800. For copies of maps, GIS shape files or access to view water supply information online through the DES OneStop, call (603) 271-0688.

### Completing a Potential Contamination Source Inventory Report

Reclassification applications must include a potential contamination source inventory report containing basic information about PCSs as defined under RSA-485C:7. The inventory report must include a map showing the location of each PCS as well as the street address, tax map and lot number and the property owner/business operator's name. Information required as part of the inventory report is specified in Env-Wq 901.14 and 901.15 in the Groundwater Reclassification rule. Much of this information can be obtained from the town or city clerk.

The report must also document the use of regulated substances and waste materials at each potential

Regulated Substance	Quantity (gallons)	Regulated Substance	Quantity (gallons)
Transmission and brake fluid		Cleaners and Disinfectants	
Radiator coolants		De-icing salt	
Hydraulic fluid		Refrigerants	
Motor oil		Fertilizer	
Waste oil		Pesticides and herbicides	
Gaoline or jet fuel		Photo processing chemicals	
Diesel Fuel and kerosene		Printing ink	
#2 Heating oil		Lye or caustic soda	
Grease and lubricants		Metal buffing compounds	
Degreasers		PCBs (bulk)	
Battery acid (bulk)		Products labeled poison	

Figure 2-2. DES BMP Inspection Form: Section 4 – Inventory Interview

contamination source to determine whether the PCS requires regular inspection for compliance with BMPs. Contacting PCS owners or operators and obtaining information about the use of regulated substances is referred to as an “inventory interview.” Inventory interviews may be done over the phone or on-site with some advance notice. If regulated substances are being stored in containers with a capacity of five or more gallons, the PCS must be visited to record the specific type and estimated volume of each regulated substance. DES publishes a standard BMP inspection form. Section 4 of this form (see Figure 2-2) may be used or modified to record the type and amount of regulated substances found on-site. For specific products in use, request Material Safety Data Sheets (MSDS) that include information including the name, proper use, handling, health effects and toxicity of the material.

Env-Wq 401 BMP Exemptions See Env-Wq 401.02(c)	Description of Exemption
Potential contamination sources listed in RSA 485-C:7, II(j).	Including but not limited to: golf courses; feed lots, kennels, piggeries, and manure stockpiles; parks; nurseries and sod farms; and the use of registered pesticides.
Regulated substances defined as pesticides under RSA 430:29, XXVI.	Any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest.  Any chemical or biological agent, or substance or mixture of substances or such agents, intended to control a pest or for use as a plant regulator, defoliant, or desiccant.
Aboveground and underground storage tanks regulated under Env-Wm 1401, Env-Wm 1402, or successor rules in subtitle Env-Or.	A single AST with a capacity larger than 660 gallons or two or more ASTs with a total storage capacity larger than 1,320 gallons.  Non-residential USTs that contain regulated materials (such as gasoline or chemicals) and are larger than 110 gallons.
On-premise-use facilities as defined in RSA 146-E:2, III.	A system of storage tanks, pipes, pumps, and appurtenant structures, singly or in any combination, which is or has been used for the storage of fuel oil for on-premise use.

Table 2-3. Potential Contamination Sources that Do or Do Not Require Inspection	
PCSs That Typically Require BMP Inspections	PCSs That Typically Do <u>Not</u> Require BMP Inspections
Vehicle service & repair	Cemeteries
General service & repair	Salt sheds
Metalworking	Transportation corridors
Manufacturing	Septic systems
Waste & scrap processing	Snow dumps
Laboratories	Stormwater infiltration ponds or leaching catch basins
Hazardous waste facilities	
Concrete, asphalt, or tar manufacturing	

A potential contamination source inventory should include all PCSs as defined under RSA 485-C:7, but note which types of PCSs are exempt from BMP rules and inspections. Env-Wq 401.02(c) lists exemptions (see Table 2-2). For example, above ground storage tanks (ASTs) permitted by DES are PCSs, but if regulated under Env-Wq 1401 or 1402 (AST regulations) or used for on-premise heating, they are exempt from BMP rules. Also exempt from BMP rules is the storage and use of pesticides. DES works with the Department of Agriculture, Markets and Food to ensure proper use and application of pesticides. A comprehensive set of agricultural BMPs are published by the Department of Agriculture, Markets and Food and both agencies are involved with facilitating the adoption of agricultural BMPs to limit the release of arsenic, bacteria or nitrite/nitrates. ASTs should be listed in the inventory report as PCSs but the report should note that they are not part of the management program if they are exempt. Contact DES at (603) 271-0688 if further guidance is necessary to make a determination.

PCSs that do not use regulated substances, such as transportation corridors and stormwater infiltration trenches, do not require BMP inspection (see Table 2-3).

### Making a Compelling Case for Reclassification (Optional)

Whether or not stakeholders and local decision-makers embrace reclassification may depend upon whether the rationale for it is clear, credible and important to the audience. Whether discussing reclassification in front of a local board or within a pamphlet, it is important to have a clear, simple message supported but not overwhelmed by the facts.

Use meaningful words and images that resonate with people in messages. For example, the use of technical terms,

Put a message into 27 words that can be stated in nine seconds with three key messages.

Articulate a short, clear message to the city council, a neighborhood association, a reporter or someone who needs to know about reclassification.

**Example Message for Property Owners**

1. Contamination on nearby properties has diminished property values in town.
2. These contaminants can affect your family’s health.
3. Reclassification prevents contamination and protects your family’s drinking water.

Source: The Center for Risk Communication ([www.centerforriskcommunication.com](http://www.centerforriskcommunication.com))

complex charts, maps and data should be limited to avoid confusing the audience and distracting from your case. Instead, use words that resonate with a broader audience and present the facts in terms of local values, such as health, recreation or property values. Resources may be found online. “Water Words that Work” is one option that promotes a four-step approach to clear communication on environmental initiatives (Table 2-4).

DES can provide sample slides and examples of outreach and education media useful for public presentations. Call (603) 271-0688 for more information.

<b>Table 2-4. Water Words That Work: The Water Words Message Method</b>	
<b>Step 1: Begin with Behavior.</b>	What will your audience do after they hear or read your words? Craft your message to motivate that behavior.
<b>Step 2: Find Foolproof Photos.</b>	A picture is worth a thousand words, so tell a story with photos before you start writing or begin speaking.
<b>Step 3: Swap the Shoptalk.</b>	Replace professional shoptalk with plain English when communicating to the public.
<b>Step 4: Insert Words that Work.</b>	Use common words that everyone understands and connects to their lives.



Source: Water Words That Work, LLC (2011)

Image source: U.S. Geological Survey Ohio Water Science Center,  
[http://oh.water.usgs.gov/Consumptive\\_Water-Use.htm](http://oh.water.usgs.gov/Consumptive_Water-Use.htm) (retrieved September 20, 2011)

## Chapter 3: Developing A PCS Management Program

### Drafting the Management Plan

Within GAA/GA1 reclassified areas, local inspectors must conduct on-going PCS management activities, including inventory, notification and inspection. The local entity requesting reclassification develops the potential continuation source management program, which describes the process for updating the PCS inventory, notifying PCSs and performing inspections for compliance with the Env-Wq 401. The management program narrative must include specific information required under Env-Dw 901.16 (Management Program) such as a copy of the PCS notification letter, an assessment of the capacity of the local entity to conduct inspections, and a statement that inspections will be conducted at least once every three years. In essence, the program management narrative should be a blueprint for those responsible for conducting all of the required management activities.

***Before drafting a plan for PCS management activities, determine the area(s) to be reclassified (Step 1) and complete the PCS inventory report (Step 2).***

**1. Describe the process the local entity will follow to update the PCS inventory at least once every three years.** An initial PCS inventory is developed as part of the inventory report and included within the reclassification application. That initial inventory is kept by the local entity and used to perform BMP inspections. It must be updated at least once every three years. When doing the update, the local entity should contact PCSs listed in the inventory to verify that they still require inspection. DES also recommends conducting a “windshield survey,” in other words, driving through reclassified areas to identify new PCSs. Then follow up with on-site inventory interviews to verify the use of regulated substances requiring inspection. Sample windshield survey forms are available from DES upon request. Also, the local entity should review new municipal permits or current state databases, such as DES’s most current local PCS inventory to identify new PCSs. Guidance for updating a local PCS inventory may be found in DES fact sheet WD-DWGB 12-3, “Performing an Inventory for Drinking Water Protection” (<http://des.nh.gov/organization/commissioner/pip/factsheets/dwgb/documents/dwgb-12-3.pdf>). New PCSs added to the PCS inventory that require inspection must be incorporated into program management notification and inspection activities, while those that have stopped using regulated substances or ceased operations may be removed from the PCS inventory.

***“The update process will include, if applicable compilation of new business operating/licensing permits issued by the Town of Lee since the last update. The permits will be recorded in the Lee Five Corners Well PCS inventory database as they are issued. The Durham Town Administrator will be responsible for maintaining this database.”***

Durham, N.H., GAA/GA1 Reclassification Application, 2004

**2. Describe the process to notify each PCS in the reclassified area.** The local entity must notify PCSs storing, transferring or otherwise using regulated substances in quantities equal to or greater than five gallons at least once every three years. The program management narrative should briefly outline the steps involved to conduct PCS notification. The narrative should identify who will be responsible for sending the written notification to PCSs. PCS notification letters must include a statement that the PCS is operating in a reclassified wellhead protection area, an area likely to have groundwater contributing water to a community water supply well (if GAA). If reclassifying an area not currently used as a source of drinking water, such as an aquifer or watershed to GA1, the notification must state that the area is considered a potential source for future public water supply. The notice must state that certain

activities involving regulated substances are subject to Env-Wq 401, Best Management Practices for Groundwater Protection and indicate where copies may be obtained, for example, by citing the website address for the rule on the DES website. The following summarizes the information that must be in the PCS notification letter as specified in Env-Dw 901.16(c):

- The name and address of the contact person for the local entity, and, for GAA areas, the location(s) of the well(s) for which the wellhead protection area was delineated.
- A statement that the PCS is in a wellhead protection area, an area likely to have groundwater below it that is drawn to a community water supply well, or an area of potential use for future public water supply, as applicable.
- A statement of what the present use of the property is and a statement that it is considered to have potential for groundwater contamination.
- A statement that any unpermitted discharge to groundwater, or contamination of groundwater, is illegal under RSA 485-A:13 and Env-Wm 1403 or successor rules in subtitle Env-Or and Env-Ws 1500 or successor rules in subtitle Env-Wq.
- The name and phone number of a contact person and affiliated agency to call at the local level and at the state level to answer any questions about the program.

***“The Durham Town Administrator or agent will be responsible for sending notification in a hardcopy format or an electronic format as appropriate to each owner of a property with a potential contamination source (Table 1). The notification will be sent at least once every three years.”***

Durham, N.H., GAA/GA1 Reclassification Application, 2004

DES has a model potential contamination source notification letter that can be modified and used to schedule PCS inspections. See Sample Letter C-3 (Program Explanation Letter that Sets a Time for BMP Compliance Survey) in the DES publication “Managing Groundwater Protection Areas Guidance and Sample Letters.”

**3. Describe the process the town or water supplier will follow to conduct BMP inspections.** Using the PCS inventory report, local entities must conduct at least one on-site BMP inspection at each PCS requiring inspection every three years, consistent with Env-Dw 901.17, Performance of Management Inspections. New Hampshire’s Groundwater Protection Act provides clear authority for local entities to conduct BMP inspections in GAA/GA1 reclassified areas and to enforce BMPs specified under Env-Wq 401. The program management narrative should identify the local inspector(s) by position, if not by name, and describe the process they will follow to conduct inspections, as well as related administrative activities, including necessary enforcement procedures. DES provides training on how to properly conduct BMP inspections. Call (603) 271-0688 for training opportunities.

In order for either DES or local authorities to act upon rule violations, copies of correspondence and inspection details must be organized and clearly document the violation(s) found on-site. Letters, pictures, email and copies of BMP inspection reports or other relevant information should all be organized in local records maintained by inspection or clerical staff.

***“The Durham Town Administrator or agent (e.g., code enforcement officer) will be responsible for completing a periodic inspection on behalf of the Towns of Lee and Durham of the properties listed in the Lee Five Corners Well Potential Contaminant Source Inventory at least once every three years. The inspection will be conducted to ensure that the PCS activities comply with applicable best management practices.”***

Durham, N.H., GAA/GA1 Reclassification Application, 2004

Achieving compliance of BMP rules results in greater groundwater protection. Voluntary compliance is always more desirable than resorting to enforcement actions, which is costly and often counterproductive.

The local entity must follow up violations of Env-Wq 401 found during BMP inspections with a written notice sent to the owner/operator of the PCS within 30 days of the inspection. Local health officers may issue a cease and desist order under RSA 485-C:16 and refer the violation to DES for follow-up after a reasonable period of time to allow for compliance (typically 30-60 days). Refer to “Step E for Programs Authorized by Groundwater Reclassification or Local Ordinance” in *Managing Groundwater Protection Areas* (DES, 2006) for additional information concerning the enforcement process. If the local entity is denied access to the PCS site, that must also be reported by the local entity to the health officer and to DES under Env-Dw 901 Groundwater Reclassification rules.

### Estimating Reclassification Program Costs

Correctly estimating the amount of human and financial resources necessary to carry out program management activities associated with reclassification will be important to select board members, city counselors, town managers and others concerned about finances. Local officials may be reluctant to add responsibilities related to reclassification to existing staff without a time estimate for associated tasks and additional costs for time and materials. DES is not aware of towns or public water suppliers hiring additional staff to conduct inventory, notification or inspection activities. According to several local reclassification program managers, management activities conducted over a three-year timeframe require relatively little personnel time and related resources. Table 3-1 provides an example of direct and indirect costs related to GAA/GA1 reclassification.

The amount of time, money and related resources will likely be a focal point for the local governing body, department heads and staff. Simple descriptions of the reclassification tasks (summarized in Table 3-1) and an estimate of staff time and other supporting resources will assist local decision makers with their analysis of whether or not there is the local capacity to carry out the reclassification program.

***“I would estimate at least one and a half hours per facility and sometimes up to 2 and one half hours for the larger facilities.”***

Brian A. Lockard, Health Officer, Salem, N.H.  
***(Estimated time to conduct one BMP inspection)***

Discussion of the costs associated with reclassification is also an opportunity to emphasize the benefits. As noted in Chapter 2, making a compelling case to your audience may help with obtaining approval from your local governing body. For example, the relatively small cost of reclassification activities can be expressed in terms of the cost of delivering 1,000 gallons of drinking water supplied through a municipal water system. Studies have indicated that drinking water protection activities cost about \$0.01 per 1,000 gallons of water supplied by a public water supplier.<sup>2</sup> Information such as this may help illustrate the cost of protection in relation to the value of the water. Also, the cost associated with past contamination events may help demonstrate the value of greater protection through reclassification. Clean-up and groundwater treatment costs vary according to the details of the event but can be very expensive. Since 1990 the New Hampshire Petroleum Fund program has disbursed nearly \$187 million

2 Williams, Mark B. and Bruce A. Fenske. 2004. *Demonstrating the Benefits of Wellhead Protection Programs*. Denver, Colorado: AWWA Research Foundation 2004). \$0.01 per 1,000 cost per gallon reflects the cost associated with standard wellhead protection activities similar to management activities under GAA/GA1 reclassification. The \$0.01 exclude costs associated with identifying the wellhead protection area.

**Table 3-1. Summary of Reclassification Program Management Activities.**

Activity	Description	Guidance
<b>A. Notifying Abutting Municipalities</b>	Describe the process to notify abutting municipalities in advance of performing BMP compliance inspections if your reclassified area extends into another municipality and contains PCSs.	A sample letter is available in the DES publication “Managing Groundwater Protection Areas Guidance and Sample Letters”; see sample letter A: “To Notify Abutting Communities in Groundwater Protection Program Areas.”
<b>B. Updating PCS Inventory</b>	Describe the process for updating the PCS inventory. Inventory must include PCS/property owner address, tax map and lot number, types and estimated quantities of regulated substances in use as well as other information.	An overview of the process to construct and update a PCS inventory is in the DES publication “Managing Groundwater Protection Areas Guidance and Sample Letters.” Also, review recent municipal permits to operate businesses and conduct “windshield surveys.”
<b>C. Notifying PCSs</b>	<p>Compose a letter with the following:</p> <ul style="list-style-type: none"> <li>• The name and address of the contact person for the local entity and, for GAA areas, the location(s) of the well(s) for which the wellhead protection area was delineated.</li> <li>• A statement that the PCS is in a wellhead protection area, an area likely to have groundwater below it that is drawn to a community water supply well, or an area of potential use for future public water supply, as applicable.</li> <li>• A statement of what the present use of the property is and a statement that it is considered to have potential for groundwater contamination.</li> <li>• A copy of or website address of Env-Wq 401, Best Management Practices for Preventing Groundwater Contamination.</li> <li>• A statement that any unpermitted discharge to groundwater, or contamination of groundwater, is illegal under RSA 485-A:13 and Env-Wm 1403 or Env-Or and Env-Ws 1500 or successor rules in subtitle Env-Wq.</li> <li>• The name and phone number of a contact person and affiliated agency to call at the local and state levels to answer questions about the program.</li> </ul>	A sample letter is available in the DES publication “Managing Groundwater Protection Areas Guidance and Sample Letters”; see C-3, “Program Explanation Letter that Sets a Time for BMP Compliance Survey.”
<b>D. Conducting BMP Inspections</b>	Guidance for conducting BMP inspections under reclassification is found in the DES publication “Managing Groundwater Protection Areas Guidance and Sample Letters”; see Step D, page 14.	

to individuals, small business owners, corporations, political subdivisions and agencies of the state for cleaning up petroleum contamination (Petroleum Reimbursement Fund Program, Annual Report, 2009). Total disbursement of funds in each community to address petroleum related contamination is available online at DES's OneStop website, <http://www2.des.state.nh.us/DESONestop/BasicSearch.aspx>.

Table 3-2 presents a basic outline of direct and indirect costs associated with program management activities.

<b>Table 3-2. Example of Direct and Indirect Costs of Reclassification Program Activities.</b>					
	<b>Recurring Activity (Once every three years)</b>	<b>Hours to Conduct Task</b>	<b>Salary with Fringe</b>	<b>Equipment &amp; Supply Costs *see note</b>	<b>Total Cost</b>
<b>PCS Inventory (30 PCSs)</b>	Conducting a windshield survey	4 hours	\$30/hr	50 miles @ \$0.50 per mile	
	Reviewing local or state permits	2 hours			
	Updating a PCS list/ spreadsheet in a database	1 hour			
<b>Inventory Total</b>		<b>7 hours</b>	<b>\$210</b>	<b>\$25</b>	<b>\$235</b>
<b>PCS Notification</b>	Printing and mailing 30 PCS notification letters	2 hours	\$17/hr	\$0.50 per copy and letter	
<b>Notification Total</b>		<b>2 hours</b>	<b>\$34</b>	<b>\$6</b>	<b>\$40</b>
<b>BMP Inspection</b>	Conducting BMP inspections	60 hours (est. 2 hour per inspection)	\$30/hr	100 miles @ \$0.50 per mile	
<b>Inspection Total</b>		<b>60 hours</b>	<b>\$1,800</b>	<b>\$50</b>	<b>\$1,850</b>
<b>BMP Enforcement (per case)</b>	Drafting post inspection letter outlining violations	2 hours	\$30/hr	6 miles @ \$0.50 per mile	
	Following up with on-site inspection	2 hours			
	Referral to DES	2 hours			
<b>Enforcement Total</b>		<b>6 hours</b>	<b>\$180</b>	<b>\$3</b>	<b>\$183</b>
<b>Total Cost</b>		<b>75 hours</b>			<b>\$2,308</b>

\*Note: Direct costs include salary and benefits. Indirect costs include use of vehicle, telephones, personnel administration, accounting and room or equipment rental and usage. Standard mileage rates are available from the Internal Revenue Service at [www.irs.gov/index.html](http://www.irs.gov/index.html).



## Chapter 4: Preparing and Submitting a Reclassification Application

### Application Requirements and Approval Process

Completing a GAA/GA1 reclassification application involves submitting information discussed earlier in this guide that is required under RSA 485-C (New Hampshire's Groundwater Protection Act) as well as DES's reclassification regulations, Env-Dw 901 Groundwater Reclassification. DES's Reclassification Checklist provides a quick reference to navigate the application requirements and approval process. One can also refer to the Sample Reclassification Application in Appendix 2 for sample language and format of the application. At a minimum, applications to DES for GAA/GA1 reclassification must include the following elements:

1. **A completed Groundwater Reclassification Application form** signed by the local governing body or its duly authorized representative. Certified minutes noting the approval of the local governing board must be attached if the request is coming from a planning board, conservation commission or other duly-constituted municipal unit.
2. **A map, such as a U.S. Geological Survey topographic map**, with a clear boundary of the area to be reclassified to GAA (current wellhead protection areas) or GA1 (aquifers or other groundwater of "high value" for present or future drinking water supply). Suitable maps associated with technical studies or hydrological reports are available from DES upon request.
3. **A potential contamination source inventory report**, with PCS information required under RSA 485-C:8 II and Env-Dw 901.14 and 901.15 that has been verified locally.
4. **A narrative plan for a PCS management program** outlining the resources and process the local entity will follow to complete the PCS inventory, notification and inspection.
5. **Description of the optional informational meeting held under Env-Dw 901.13**. If this optional meeting is held, the application must include:
  - The date of the meeting.
  - The location of the meeting.
  - The number of people attending.
  - The location where the meeting notice was posted and newspaper in which it was published.

Contact DES's Groundwater Reclassification Manager if there are questions about specific content that is required or how to develop or obtain information that may already be available from DES.

### Obtaining Approval from the Local Governing Body

After putting together the reclassification application as described above, it must then be approved and signed by the local governing body or its duly authorized agent. Approval from a local board of selectman or city council will require them to vote on a motion to apply to DES for GAA/GA1 reclassification. Before this important request for a vote, local reclassification committee members should attend selectman or city council meetings to discuss the merits of reclassification, exchange information and encourage local governing body members to participate in the process of developing the application. Their approval will likely depend upon the perceived need to reclassify as well as the level of support and feedback expressed by residents, businesses and municipal department heads.

While not required, DES recommends a letter of support or neutrality be included in the application from the local governing body of any adjoining town affected by the reclassification. Letters of support for reclassification from other local boards, public water suppliers, local chambers of commerce, rotary clubs or interested parties are optional, but could be important to the local governing body when asking for their approval. Signed letters of support may be attached to the application or cover letter accompanying the application.

### **DES Review and Approval of Applications for GAA/GA1 Reclassification**

Applications for reclassification should be sent to the DES Groundwater Reclassification Manager at 29 Hazen Drive, P.O. Box 95, Concord, NH 03302-0095. The application will be reviewed to make sure that all of the requisite information is in the application.

If the application is complete, DES will notify the local entity in writing and schedule a public hearing in accordance with RSA 485-C:9, VI. DES will conduct the public hearing and record public comments according to the provisions of Env-C 200, applicable to non-adjudicative hearings. Public comments received at the hearing along with the completed application will be provided to DES's Commissioner who will either approve or deny the application. The Commissioner's decision regarding the application will be provided in writing to the local entity by DES.

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## Chapter 5: Administering GAA/GA1 Reclassifications

### **BMP Inspections: Schedules, Training and Current Guidance**

Once an area is reclassified to GAA/GA1, the local entity must implement the activities outlined in the potential contamination source management program submitted to DES. Local inspectors should schedule PCS management activities to allow time to complete all management activities within a three-year period as required under Env-Dw 901. Failure to complete the management activities as outlined in the reclassification application may result in DES assuming PCS management activities or changing the higher classification (GAA or GA1) back to its original, lower classification.

Guidance documents concerning how to perform BMP inspections and post-inspection follow-up is available from DES (see Table 2-1). Training is also provided by DES staff upon request, which includes a review of Env-Wq 401 BMPs. It covers how to properly apply the BMP rules in the field and how to follow up inspections with documentation and additional visits, when required. The training also provides local inspectors with experience performing an inspection at a local PCS with DES assistance. Call (603) 271-0688 to schedule free local training.

### **Reclassification Renewal Requirements: Completing Program Management Activities Every Three Years**

In each three-year period following DES's approval of the GAA/GA1 reclassification request, local entities must complete the PCS management activities to maintain the GAA/GA1 reclassification status. The following program management activities, as outlined in the reclassification application, must be completed within this three-year period.

- Local entity has mailed or delivered PCS notification (to owner/operator) consistent with Env-Dw 901.16 (c) to all PCSs within GAA/GA1 reclassified area.
- Local entity has updated the PCS inventory to include all new PCSs operating within reclassified areas.
- Local entity has completed BMP inspections of all PCSs requiring inspection.

DES tracks each local GAA/GA1 reclassification to ensure these management activities are completed and will notify the local reclassification contact every three years of the upcoming deadline. DES also provides a one-page form (see Appendix 3) to be signed by the local entity's authorized representative certifying all program management activities have been completed within the three-year timeframe.

### **Updates and Boundary Changes to a Reclassified Area**

Boundary changes to GAA/GA1 reclassified areas may be necessary over time as new information becomes available that better defines the extent of valuable local drinking water resources. For example, a public water system may hire a professional hydrogeologist or engineer to conduct a study that more accurately delineates a WHPA or reflects the influence of nearby newly approved water wells. Typically, this occurs when new large community wells are permitted through DES, and is determined through rigorous technical study. GAA reclassifications approved using an older WHPA delineation should be updated to reflect the newer, more accurate boundary. Also, state and federal agencies as well as academic institutions may publish studies better defining the extent of aquifers or subsurface geology. Maps and narrative from such work are useful for updating boundaries of GA1 reclassified areas. Contact DES for current WHPA maps and technical references that may be useful for updating

local reclassification boundaries.

Any person<sup>3</sup> may make a request to modify a reclassification boundary in accordance with Env-Wq 901.09, Requests for Boundary Changes. Among other information, requests must include a narrative explaining the technical reasons for the boundary change with a U.S. Geological Survey topographic map showing the existing and proposed boundaries for the reclassified area. Upon finding that the request for a boundary change is complete, DES will acknowledge receipt of the request in writing to the local entity or other person making the request, notify the municipality or municipalities in which the reclassified area is located and schedule (and issue notice of) a public hearing in accordance with RSA 485-C:9, VI. Following the public hearing, DES will make a decision based on the merits of the request and notify the requestor, local entity and the municipalities where the reclassified area is or will be located. Once the boundary change is approved by DES, land use restrictions and other program management activities associated with the classification must be implemented in areas incorporated into GAA/GA1 classified areas.

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<sup>3</sup> Person” means “person” as defined in RSA 485-C:2, XI, namely “any individual, partnership, company, public or private corporation, political subdivision or agency of the state, department, agency or instrumentality of the United States, or any other legal entity.”

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## **Appendix 1: DES Groundwater Reclassification Checklist**

## N.H. Department of Environmental Services Water Division

**Statutory or regulatory authority for each information requirement is noted in parentheses.**

<b>GROUNDWATER RECLASSIFICATION CHECKLIST</b>	
<b>Reclassification Application and Protection Area Delineation</b>	
<b>1</b>	DES request form filled out and signed by the duly-authorized representative (Env-Dw 801.05(b)) with concurrence from local governing body (Env-Dw 901.05(d))
<b>2</b>	If reclassifying to GAA, WHPA delineation (Env-Dw 901.11(a)), or estimated WHPA for future WHPA delineation (Env-Dw 901.12(c)), or GA1 area defined and presented on 7.5' topo map (Env-Dw 801.12(a))
<b>3</b>	If reclassifying to GA1, a description of the relationship of the proposed area to existing or planned drinking water supplies including any hydro-geologic information that supports the definition of the area on the map and a statement regarding the extent of current or future use of area for drinking water supply purposes (Env-Dw 801.12(b)(1) and (2))
<b>Public Informational Meeting description containing items 4a-4f (Env-Dw 901.13). (Meeting is optional, but if meeting is held the following information must accompany reclassification request.)</b>	
<b>4a</b>	Date
<b>4b</b>	Location
<b>4c</b>	Number of people attending
<b>4d</b>	Locations where meeting notice was posted (2 public places)
<b>4e</b>	Name of local newspaper in which notice was published
<b>4f</b>	Information presented at the meeting regarding estimated cost of seeking and maintaining reclassification, if not a private water supplier (Env-Dw 801.13(b))
<b>Potential Contamination Source (PCS) "inventory report" containing items 5-6f (RSA 485-C:8 II and Env-Dw 901.14 and 901.15)</b>	
<b>5</b>	General description of how the inventory was performed and what sources of information were used to ensure its completeness, based on site visits
<b>6</b>	A listing of information containing items 6a-6f for each PCS in the protection area.
<b>6a</b>	Site address
<b>6b</b>	Tax map and lot number
<b>6c</b>	Property owner name and address

<b>GROUNDWATER RECLASSIFICATION CHECKLIST</b>	
<b>6d</b>	Operator name and address
<b>PCS Inventory, continued (supply items 6a through 6f for each PCS)</b>	
<b>6e</b>	Estimates of the type and quantity of regulated substances used and wastes generated
<b>6f</b>	Location of each PCS shown on an indexed map (municipal or 7.5' topo map)
<b>PCS Management Plan (RSA 485-C:8 III. and Env-Dw 901.16), containing items 7-13c</b>	
<b>7</b>	Description of process for updating the inventory every three years or less (Env-Dw 901.16 (b)(1))
<b>8</b>	Description of process for written notification to the owner of each PCS every 3 years (Env-Dw 901.16(b)(2))
<b>9</b>	Copy of written notification to each PCS that was or will be used that contains 8a-9h
<b>9a</b>	Name and address of contact person for the local entity requesting reclassification (Env-Dw 901.16(c)(1))
<b>9b</b>	For GAA areas, location of wells to be protected (Env-Dw 901.16(c)(1))
<b>9c</b>	Statement that PCS is in either a wellhead protection area, or is in an area likely to have groundwater below it that is drawn to a community water supply well, or an area of potential use for future public water supply (Env-Dw 901.16(c)(2)).
<b>9d</b>	Listing of the present use of the property recorded in the inventory (Env-Dw 901.16(c)(3))
<b>9e</b>	Statement that present use of the property is considered to have potential for groundwater contamination (Env-Dw 901.16(c)(3))
<b>9f</b>	Copy of BMP rules (Env-Dw 901.16(c)(4)) and statement that PCS is subject to them (RSA 485-C:8 III (c))
<b>9g</b>	Statement that any unpermitted discharges to groundwater or contamination of groundwater is illegal under RSA 485-A:13 and under Env-Dr 600 and Env-Wq 1500 (Env-Ws 901.16(c)(5))
<b>9h</b>	Name and phone number of a contact person and affiliated agency to call at the local level and at the state level with questions about the program (Env-Dw 901.16(c)(6))
<b>PCS management plan, continued</b>	
<b>10</b>	A paper and computer database file listing of information containing items 10a-10c for each property within the area to be reclassified ((RSA 485-C:9, VI(b) and Env-Dw 901.16(b)(3))
	Owner's name

<b>GROUNDWATER RECLASSIFICATION CHECKLIST</b>	
<b>10a</b>	
<b>10b</b>	<b>Owner's full mailing address</b>
<b>10c</b>	<b>Tax map and lot number</b>
<b>11</b>	<b>List of all facilities requiring or having release detection permits (Env-Dwr 901.16(b)(4))</b>
<b>12</b>	<b>Assessment of the ability of the local entity to implement and maintain PCS management program (Env-Dwr 901.16(b)(6))</b>
<b>13</b>	<b>A description of the process for performing management inspections, including items 13a-13c (Env-Dwr 901.16(b)(5))</b>
<b>13a</b>	<b>Statement that inspections will be conducted every 3 years except for agriculture/pesticide sites (Env-Dwr 901.17(a))</b>
<b>13b</b>	<b>Statement that written notice of BMP violations will be sent to PCSs within 30 days of inspection (Env-Dwr 901.17(b))</b>
<b>13c</b>	<b>Statement that local entity will report to local health officer and DES if unable to gain access to PCS (Env-Dwr 901.17(c))</b>

**Comments:** \_\_\_\_\_

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## **Appendix 2: Sample Groundwater Reclassification Application**

**COPY**

Ground Water Reclassification  
Application

FILE

Lee Five Corners Wellhead Protection Area

Lee Five Corners Well Site  
Old Concord Road  
Lee, New Hampshire

Prepared for:

Town of Durham  
15 Newmarket Road  
Durham, NH 03224-2898

Town of Lee  
7 Mast Road  
Lee NH 03824-6555

Prepared by:

American Ground Water Trust  
16 Centre Street  
Concord, NH 03301

November 10, 2003



## REQUEST FOR GROUNDWATER RECLASSIFICATION

Date	November 10, 2003		
Local Entity	Town of Durham, New Hampshire		
Address	15 Newmarket Road, Durham, NH 03824-2898		
Contact Person	Michael Lynch	Phone	868-5578
We request reclassification of groundwater to: (check one or both)	GAA <input checked="" type="checkbox"/>	GA1 <input type="checkbox"/>	
Name(s) of municipality(ies) in which groundwater protection areas to be reclassified are located	Town of Lee 7 Mast Road Lee, NH 03824-6555		
Name(s) of the 7.5 USGS quadrangle map(s) showing the proposed groundwater classification	Dover West, 7.5 Minute USGS Quad Barrington, 7.5 Minute USGS Quad		
The following are attached to this form (please check)			
Wellhead Protection Area Delineation (GAA) <input checked="" type="checkbox"/>	(one or both)	Definition of High Value Groundwater (GA1) <input type="checkbox"/>	
Potential Contamination Source Inventory			<input checked="" type="checkbox"/>
Potential Contamination Source Management Plan			<input checked="" type="checkbox"/>
If the local entity requesting the reclassification is a municipality, the municipal governing body (Board of Selectmen, City or Town Council) shall indicate its concurrence with this proposal by signing below:			
Signature		Name	Ed J. Seab
Title	Administrator	Date	11/14/03
The signatures below indicate knowledge of and support for this reclassification by municipalities in which the area to be reclassified is located:			
Signature		Name	Richard H. Wellington
Title	selectman	Date	11/10/03
Signature		Name	Joseph P. Ford
Title	Selectman	Date	11-10-03
Signature		Name	Dwight E. Barney
Title	Selectman	Date	11-10-03

Please return completed form to Drinking Water Source Protection Program,  
NH Department of Environmental Services, PO Box 95, Concord NH 03302-0095

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## Lee Five Corners Well Ground Water Reclassification Application

### Introduction

The town's of Durham and Lee, New Hampshire request that the Wellhead Protection area for the Lee Five Corners well be reclassified to GAA status from its current status of GA2. The Lee Five Corners well is a gravel pack well (EPA ID # 0691010-004) located in the Town of Lee at the [dead] end of Old Concord Road west of the Lee Five Corners intersection (See Location Map). The area proposed for reclassification is shown on the map entitled Durham/ UNH Lee 5 Corners Well WHPA. Application materials are included here to support this request according to the requirements described in New Hampshire Rules Part Env-Ws 420 Groundwater Reclassification.

The Lee Five Corners well is used as drinking water supply primarily for the Town of Durham and the University of New Hampshire-Durham (UNH). The Town of Lee has access to a portion of the water from the well, but currently only has 6 full-time hook-ups and occasional fire suppression use. The population served by the Lee Five Corners well varies seasonally depending on enrollment at UNH. A minimum year-round customer base of 8,000 people in the town of Durham is served. This rises to about 24,000 people when UNH is in session. The Durham Office of Public Works oversees the operation of the Lee Five Corners well and reported an average of 8 to 10 new hook-ups per year over the last several years. The UNH 20-year Master Plan calls for an additional 2,000 students on campus per year by approximately 2020.

The following hydrogeologic reports have been published for the area surrounding the Lee Five Corners Well:

1. "Evaluation of the New Production Well at the Lee Five Corners Site, Lee, NH"; prepared for the Town of Durham by Hydro Group Inc., 15 Ryder Street, Arlington, MA; February 1986.
2. "Hydrologic Investigation of the Lee Five Corners Well Site"; prepared for the Town of Durham by D.L. Maher Company, North Reading MA; 1985.
3. "Test Well Report – Lee Five Corners Site for Town of Durham, New Hampshire"; prepared for the Town of Durham by Whitman and Howard, Inc. Wellesley, MA; March 1985.
4. "Geohydrology and Water Quality of Stratified-Drift Aquifers in the Exeter, Lamprey, and Oyster River Basins, Southern New Hampshire"; US Geological Survey Water-Resources Investigations Report 88-4128, 1988.
5. "Geohydrologic and Ground-Water-Quality Data for Stratified-Drift Aquifers in the Exeter, Lamprey, and Oyster River Basins, Southeastern New Hampshire"; US Geological Survey Open-File Report 92-95, 1992.

## Informational Meetings

An Informational Meeting was held on January 18, 2002 at 7 pm in the Lee Town Hall. Notice of the meeting was posted at the Town Hall and Lee Post Office. Notice was published in the Foster's Daily Democrat newspaper on December 18, 2003. A letter announcing the meeting was sent by the Town of Lee on December 5, 2003 to all the town residents of record within the tax map districts that included any portion of the proposed Ground Water Reclassification area. Joe Ford, Chairman of the Board of Selectman for the Town of Lee, moderated the meeting. Garret Graaskamp, PG presented information about the Ground Water Reclassification process under NHDES rule Part ENV-Ws 420 with specific information about the Lee Five Corners Wellhead Protection Area and the Spruce Hole aquifer area to be reclassified. Thirty-two citizens attended the meeting. The meeting adjourned at 9:00 PM.

An Informational Meeting was held on January 30, 2002 at 7 pm in the Council Chambers of the Durham Town Hall. Notice of the meeting was posted at the Town Hall, Department of Public Works Building, Durham Post Office and Durham Public Library. Notice was published in the Foster's Daily Democrat newspaper on December 19, 2003. Jim Campbell, Director of Planning for the Town of Durham, moderated the meeting. Garret Graaskamp, PG presented information about the Ground Water Reclassification process under NHDES rule Part ENV-Ws 420 with specific information about the Spruce Hole aquifer to be reclassified. Ten citizens attended the meeting. The meeting adjourned at 8:50

## PCS Inventory Report

The Potential Contaminant Source (PCS) Site Inventory data is compiled in Table 1 in the Appendix.

The inventory is preliminary and will be updated and confirmed by town representatives once the reclassification process is approved. The Inventory was accomplished using the following process.

The New Hampshire Department of Environmental Services delineated the Groundwater Reclassification area for the Lee Five Corners Well. American Ground Water Trust personnel accessed the NHDES "OneStop Environmental Site Information website to search for sites with known environmental concerns or active release detection permits within the proposed reclassification area. Databases on this website included:

- Active Underground Storage Tanks,
- Active Above Ground Storage Tanks
- Hazardous Waste Generators\Handlers (Transport, Storage, Disposal)
- Remediation and Initial Response Spill Sites (Properties with on-going soil or ground water remediation involving physical and/or chemical treatment)
- Site Remediation and Ground Water Hazard Inventory Listing of All Sites
- Release Detection Permits (per Env-Wm 1403)

To observe the business types and activities that would potentially constitute PCSs under RSA 485-C:7, Trust personnel traveled all the roads within the proposed reclassification area to survey the land uses. Global Positioning System (GPS) technology was used to document entrance locations to the PCS sites. The raw GPS information was converted to true locations and plotted on air photos and United States Geological Survey (USGS) 7.5 topographic minute base maps at the NHDES to check coordinate accuracy. The GPS information has been recorded in a Geographic Information System (GIS) format to assist data access and on-going water resource management of the reclassification area.

PCS sites identified in the NHDES environmental database and during the road survey were researched by the Trust at the town assessor's office to record ownership information (Table 1).

## Management Program

### *Potential Contaminant Source Inventory Update*

The Lee Five Corners Well Reclassification area is located entirely within the Town of Lee. The Town of Durham is entitled to the largest water volume from the well. Both towns have agreed that the Town of Durham will maintain and update the Lee Five Corners Well Potential Contaminant Source (PCS) Inventory on behalf of both towns at least once every three years. As the information becomes available, the Town of Lee shall inform the Durham Town Administrator of new or modified property uses and related information that could result in a change to the inventory status and the properties that must be inspected. The point of contact for the Town of Lee will be the Code Enforcement Officer in the Town of Lee Selectmen's office. The Town of Lee will assist the Town of Durham with gaining access to Lee properties for completing inspections as required by the ground water reclassification.

An authorized agent of the Town of Durham will conduct the update process. The person(s) performing the update (Inspector) will have experience making property inspections regarding health and safety and/or regulated materials situations. This person could be the health officer, code enforcement officer or other qualified person designated by the Durham Town Administrator.

The update process will include, if applicable, compilation of new business operating/ licensing permits issued by the Town of Lee since the last update. The permits will be recorded in the Lee Five Corners Well PCS inventory database as they are issued. The Durham Town Administrator will be responsible for maintaining this database. The database will help to foster timely communication with new business owners regarding their responsibilities to protect the Lee Five Corners Well ground water resource.

The inspector will perform a "windshield survey" from public property of the land parcels within the ground water classification area to update and compare the existing PCS inventory database with any new or changed property uses. The inspector will look for PCS site uses as listed in Table 2.

The inspector will obtain and review records and databases, maintained by the New Hampshire Department of Environmental Services (NHDES) or Town of Lee, of commercial operations handling regulated materials or conducting activities listed in Table 2 (compiled from RSA 485-C:7), which pose a foreseeable risk of introducing regulated substances into the environment in such quantities as to degrade the natural ground water quality. At a minimum, the following databases or their successors will be consulted:

- Active Underground Storage Tanks
- Active Above Ground Storage Tanks
- Hazardous Waste Generators\Handlers (Transport, Storage, Disposal)
- Remediation and Initial Response Spill Sites (Properties with on-going soil or ground water remediation involving physical and/or chemical treatment)
- Site Remediation and Ground Water Hazard Inventory Listing of All Sites
- Release Detection Permits (per Env-Wm 1403)

Other database information that would be appropriate to review, if available, includes

- Snow dumping/ storage permits
- New Hampshire Department of Transportation or Municipal Department of Public Works road salt application programs.

Based on the findings of the update process the Lee Five Corners Well PCS Inventory database will be modified by the Durham Town Administrator or agent to reflect the new information. The Town of Lee will supply town-related administrative, tax and or similar information to the Town of Durham, as needed to update and maintain the Lee Five Corners Well PCS Inventory database in a timely and useful fashion.

#### *Written Notification Process*

The Durham Town Administrator or agent will be responsible for sending notification in a hardcopy format or an electronic format as appropriate to each owner of a property with a potential contaminant source (Table 1). The notification will be sent at least once every three years. The correspondence will include:

- Name, address and telephone number of the contact person for the Town of Durham and for the Town of Lee responsible for overseeing or explaining the management of the Lee Five Corners Well GAA ground water reclassification area under Env-Ws 420.
- Notification that the property is located within the GAA ground water classification area of the Lee Five Corners public water supply well.
- A description of the PCS condition on the property and a statement that this condition holds the potential to contaminate ground water if not managed properly.
- A statement that any unpermitted discharge to ground water, or contamination of ground water, is illegal under RSA 485-A:13 and Env-Wm 1403 and Env-Ws 1500.
- References to and/or copies of Best Management Practices (BMPs) related to the PCS condition on the property. At a minimum, reference will be made to Env-Ws-421 Best Management Practices of the NH Administrative Rules,

- The name, address and telephone number of the contact person at the NHDES to answer questions about ground water and the NHDES ground water classification program.
- The Town of Durham shall include notification to the property owner of the proposed inspection date when the Durham inspector would visit the property on behalf of the Towns of Lee and Durham to observe the site conditions and update the PCS inventory.
- Other educational materials concerning ground water resources. For example, the materials may include, notice of new or proposed regulations, geology and hydrogeology information, conservation guidance and other facts or procedures that could help protect the water resources in the Towns of Lee and Durham.

#### *Management Inspection Process*

The Durham Town Administrator or agent will be responsible for completing a periodic inspection on behalf of the Towns of Lee and Durham of the properties listed in the Lee Five Corners Well Potential Contaminant Source Inventory at least once every three years. The inspection will be conducted to ensure that the PCS activities comply with applicable best management practices. An authorized agent of the Town of Durham will conduct the inspections. The person(s) performing the inspections will have experience making property inspections regarding health and safety and/or regulated materials situations. This person could be the health officer, code enforcement officer or other qualified person designated by the Durham Town Administrator.

As the information becomes available, the Town of Lee shall inform the Durham Town Administrator of new or modified property uses and related information that could result in a change to the inventory status and the properties that must be inspected. The point of contact for the Town of Lee will be the Code Enforcement Officer in the Town of Lee Selectmen's office. The Town of Lee will assist the Town of Durham with gaining access to Lee properties for completing inspections as required by the ground water reclassification.

The Durham Town Administrator will send written notification to the owner of a property with a PCS condition. The correspondence will propose a date for inspection of the property. The inspector will follow-up with the owner to confirm the inspection date and identify who will be on site to provide access for the inspector during the inspection. The correspondence will ask the owner to be prepared to show the inspector the property areas with the PCS conditions and any other situations that might require new or alternative BMPs. Properties with pesticides regulated under RSA 430:28-40 and agricultural operations that are operated in compliance with all applicable chapters of RSA title XL and the BMPs developed, administered and enforced by the New Hampshire Department of Agriculture shall not be subject to inspection under the reclassification of the Lee Five Corners Well.

Before the inspection date the inspector will consult with appropriate NHDES personnel to determine if there have been any changes to the BMPs that apply to the PCS to be inspected and to get assistance, as needed, to develop a fundamental understanding of the BMP(s) implementation and function. At a minimum, reference will be made to Env-

Ws 421 Best Management Practices. Additional BMPs specific to particular PCS activities may be available through the NHDES.

During the site visit inspection, the property owner or his representative will provide the inspector access to all PCS storage, handling, and disposal activity areas. The inspector will compare the on-site conditions with the BMPs suggested or required by the NHDES. The inspector may provide education and assistance during the inspection to ensure proper implementation of BMPs related to the PCSs on the property. If a PCS condition is found during the inspection that will require follow-up assistance to properly implement a BMP, the inspector will arrange with the property owner to get the additional work completed.

Inability to gain access to a potential contamination source for conducting a management inspection shall be reported by the inspector to the Durham Town Administrator and to the NHDES. The Durham Town Administrator will also contact the Town of Lee. The Town of Lee will assist with gaining access to the property to complete the inspection process.

Following the inspection, a letter will be sent by the Durham Town Administrator or agent to the property owner confirming that the inspection occurred and briefly noting any steps to be taken to implement the BMPs at the site. The Durham Town Administrator will provide written notice of any violations of BMPs to the property owner of the PCS within 30 days of the date of the management inspection. The Town of Lee will assist with this notification if appropriate or legally necessary to complete the process.

#### *Management Capability*

The Town of Durham will fund the management program through any funding source legally available to the Town of Durham. The implementation will be facilitated and managed through the Durham Town Administrator's office. The administrative mechanisms to support, track and comply with the requirements of the ground water classification already exist within the government structures of the Towns of Durham and Lee.

# APPENDIX

## MAPS

Location Map – Lee Five Corners Well  
Reclassification Boundary Map - Lee Five Corners Well WHPA

## TABLES

Table 1 – Potential Contamination Source (PCS) Inventory  
Table 2 – PCS Land Use List per NH RSA 485-C:7  
Table 3 – Copy of NHDES Acronyms for PCS types



## **Appendix 3: Groundwater Reclassification Renewal Completion Form**



## GAA, GA1 Reclassification Program Management Activity Completion Form

RSA 485C requires a local entity provide best management practices (BMP) information to potential contamination source (PCS) operating within GAA and GA1 reclassified areas, update the PCS inventory and survey (inspect) PCSs at least every three years to maintain a GAA, GA1 reclassification status.

Please read the statements below, circle the appropriate answer and send this form to the address listed below. If you have any questions about this form, please call 271-0688.

1. I have mailed or delivered the educational material to all of the potential contamination sources (including both those identified by the State and by myself), listed within the most current PCS inventory within the reclassification area in compliance with the Groundwater Reclassification Rule, Env-Dw 901. (Note: Formerly this rule was identified as Env-Ws 420)

(circle one) Yes No

2. I have mailed or delivered DES approved educational materials to all residents of the reclassified areas? (Required for Chemical Wainers, recommended for GAA or GA1 Reclassified Areas)

(circle one) Yes No

3. I have updated the PCS inventory to include all new PCSs operating within reclassified areas within the last three years.

(circle one) Yes No

4. I have completed BMP surveys (inspections) of all potential contamination sources within the 3 year timeframe which ends \_\_\_\_\_ (date)

(circle one) Yes No

5. All PCSs inspected were in compliance with Env-Dw 901 or became compliant after the inspection within a reasonable period of time (30-90 days).

(circle one) Yes No

Signed: \_\_\_\_\_ [authorized official, owner or owner's representative, and title]

Printed Name: \_\_\_\_\_

Date of Signature: \_\_\_\_\_

Date educational mailing was completed: \_\_\_\_\_

Date PCS inventory update completed: \_\_\_\_\_

Date Last BMP Surveys (inspections) completed: \_\_\_\_\_

System EPA ID#(s): \_\_\_\_\_  
(if applicable)

System Name(s): \_\_\_\_\_  
(if applicable)

Town(s) in which reclassified area(s) is/are located: \_\_\_\_\_

Please send this completed form to:

Pierce Rigrod, Reclassification Program Manager  
NHDES Drinking Water Source Protection Program  
P.O. Box 95, 29 Hazen Drive, Concord, NH 03302-95 Fax: 603-271-0656

## **Appendix 4: DES Groundwater Reclassification Rules— Env-Dw 901**

### **Disclaimer:**

Most administrative rules are valid for eight years from their effective date, but may be revised and readopted at any time. In order to read any newly adopted language, you must go to the Proposed and Recently Adopted Administrative Rules page at <http://des.nh.gov/organization/commissioner/legal/rulemaking/index.htm>.

The administrative rules on these pages are provided for the convenience of interested parties. While DES has taken care with the accuracy of these files, DES is not responsible for errors occurring during the electronic downloading of administrative rules or other files that may alter the meaning or context of those files.

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CHAPTER *Env-Dw* 900 PROTECTION OF WATER SOURCESPART *Env-Dw* 901 GROUNDWATER RECLASSIFICATION**REVISION NOTE:**

Document #8747, effective 10-28-06, readopted with amendments and renumbered former Part *Env-W*s 420, entitled *Groundwater Reclassification*, under a new subtitle as Part *Env-Dw* 901. The redesignation from subtitle *Env-W*s to subtitle *Env-Dw* was done pursuant to a rules reorganization plan for Department rules approved by the Director of the Office of Legislative Services on 9-7-05.

Document #8747 replaces all prior filings for rules formerly in *Env-W*s 420. The prior filings for rules in former *Env-W*s 420 include the following documents:

#5542, eff 12-24-92

#6921, eff 12-24-98

*Env-Dw* 901.01 Purpose. RSA 485-C establishes 4 classifications for groundwater, GAA, GA1, GA2, and GB. Since passage of the law, all groundwater in New Hampshire was classified as GB or GA2. The purpose of these rules is to establish criteria and procedures for groundwater reclassification and management of wellhead protection areas and other locally important groundwater.

Source. (See Revision Note at part heading for *Env-Dw* 901) #8747, eff 10-28-06

*Env-Dw* 901.02 Applicability. The rules in this part shall apply to any person seeking a reclassification of groundwater as allowed under RSA 485-C.

Source. (See Revision Note at part heading for *Env-Dw* 901) #8747, eff 10-28-06

*Env-Dw* 901.03 Definitions

(a) "Best management practice" means "best management practice" as defined in RSA 485-C:2, II, namely "schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the risk of contamination of groundwater," as listed in *Env-W*s 421 or successor rules in *Env-Wq* 401.

(b) "Boundary change" means the reclassification of some portion(s) of an area that has been reclassified pursuant to *Env-Dw* 901.05.

(c) "Class" means class of groundwater.

(d) "Contact person" means an individual who can be contacted on behalf of a local entity or other person who is submitting a request to the department regarding the request.

(e) "Contributing area" means "contributing area" as defined in RSA 485-C:2, IV, namely "the land above a class of groundwater, which is the vertical projection of the defined class on the land surface."

(f) "Department" means the New Hampshire department of environmental services.

(g) "Groundwater" means "groundwater" as defined in RSA 485-C:2, VIII, namely "subsurface water that occurs beneath the water table in soils and geologic formations."

(h) "Inventory inspection" means a field verification conducted by the department or a local entity to determine that an activity within a proposed groundwater classification that is identified as a potential

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contamination source actually uses, handles, or stores regulated substances subject to best management practices as listed in Env-Ws 421 or successor rules in Env-Wq 401.

(i) "Local entity" means "local entity" as defined in RSA 485-C:2, X, namely "a town or city, acting through a planning board, conservation commission, water department, health officer, or other duly constituted municipal unit; a village district established under RSA 52 or its predecessor statutes; an entity established by intergovernmental agreement under RSA 53-A; or a supplier of water for wellhead protection areas tributary to wells owned by the public water system."

(j) "Management inspection" means a periodic inspection conducted by a local entity to ensure that potential contamination source activities are in compliance with applicable best management practices.

(k) "New facility" means any facility established or activity commencing:

(1) After reclassification, in an area that was reclassified to GAA prior to the effective date of the 2006 rescission of this part; or

(2) After the department issues a notice pursuant to Env-Dw 901.10 that a complete reclassification application has been received, for an area that is proposed to be reclassified to GAA after the effective date of the 2006 rescission of this part, unless the department subsequently denies the reclassification request.

(l) "Person" means "person" as defined in RSA 485-C:2, XI, namely "any individual, partnership, company, public or private corporation, political subdivision or agency of the state, department, agency or instrumentality of the United States, or any other legal entity."

(m) "Potential contamination source" means, as specified in RSA 485-C:7, I, human activities or operations upon the land surface that pose a foreseeable risk of introducing regulated substances into the environment in such quantities as to degrade the natural groundwater quality. Examples of potential contamination sources are listed in RSA 485-C:7, II.

(n) "Public water system" means "public water system" as defined in RSA 485:1-a, XV.

(o) "Regulated contaminant" means "regulated contaminant" as defined in RSA 485-C:2, XIII.

(p) "Regulated substance" means any of the following, with the exclusion of ammonia, sodium hypochlorite, sodium, acetic acid, sulfuric acid, potassium hydroxide, and potassium permanganate:

(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, 7-1-05 edition.

(q) "Resource recovery facility" means any facility engaged in an activity beyond sorting or physical volume reduction methods, to treat or process solid waste into usable secondary materials or products, including but not limited to fuel, energy, or compost.

(r) "Supplier of water" means "supplier of water" as defined in RSA 485:1-a, XVI.

(s) "Transmissivity" means "transmissivity" as defined in RSA 485-C:2, XVI, namely "the rate at which water is transmitted through a unit width of a water-bearing formation under a unit hydraulic gradient. It is equal to the hydraulic conductivity times the thickness of the formation, and is given in units of distance squared per unit time."

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(i) "Wellhead protection area" means "wellhead protection area" as defined in RSA 485-C:2, XVIII, namely "the surface and subsurface area surrounding a water well or wellfield, supplying a public water system, through which contaminants are reasonably likely to move toward and reach such water well or wellfield."

Source. (See Revision Note at part heading for Env-Dw 901) #8747, eff 10-28-06

**Env-Dw 901.04 Classes of Groundwater.** As provided in RSA 485-C:5, I, groundwater shall be classified in one of the following 4 classes:

- (a) Groundwater within the wellhead protection area for wells that presently are used, or well sites that have been identified for future use, as drinking water supply for public water systems shall be GAA;
- (b) Groundwater in a defined zone of high value for present or future drinking water supply shall be GA1;
- (c) Groundwater within aquifers identified as highly productive for potential use as a public water supply by the U.S. Geological Survey regional groundwater studies or other regional studies shall be GA2; and
- (d) Groundwater not assigned to a higher class shall be GB.

Source. (See Revision Note at part heading for Env-Dw 901) #8747, eff 10-28-06

**Env-Dw 901.05 Requests for Reclassification of Groundwater to GAA or GA1.**

(a) A local entity requesting reclassification of groundwater to GAA or GA1 shall submit the following to the department on a form provided by the department:

- (1) The date of the request;
- (2) The name of the local entity that is submitting the request;
- (3) The name, mailing address, and daytime telephone number of a contact person and, if available, a fax number and e-mail address;
- (4) Whether the request is for reclassification to GAA or GA1;
- (5) The name(s) of the municipality(ies) in which the groundwater is located;
- (6) The name(s) of the U.S. Geological Survey (USGS) 7.5 minute series quadrangle map(s) showing the area in which the groundwater is located; and
- (7) The information specified in Env-Dw 901.06.

(b) The request shall be signed by a duly-authorized representative of the local entity.

(c) The signature shall constitute certification that the information provided on the form and with the request is true and complete to the best knowledge and belief of the signer.

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(d) If the local entity is a duly-constituted municipal unit, the requestor shall submit the written concurrence of the local governing body with the request, which may be in the form of certified minutes of the meeting at which the agreement occurred.

Source: (See Revision Note at part heading for Env-Dw 901)  
#8747, eff 10-28-06

**Env-Dw 901.06 Additional Information for Requests to Reclassify to GAA or GA1.** A request for reclassification submitted under Env-Dw 901.05 shall include:

(a) If the request is for reclassification to GAA, a wellhead protection area delineation performed in accordance with Env-Dw 901.11;

(b) If the request is for reclassification to GA1, a definition of the contributing area of high value groundwater for present or future drinking water supply prepared in accordance with Env-Dw 901.12;

(c) A potential contamination source inventory report prepared in accordance with Env-Dw 901.15;

(d) A potential contamination source management program prepared in accordance with Env-Dw 901.16; and

(e) A description of the informational meeting held in accordance with Env-Dw 901.13 if the local entity chooses to hold one, including the following information:

- (1) The date of meeting;
- (2) The location of meeting;
- (3) The number of people attending; and
- (4) The location where meeting notice was posted and newspaper in which it was published.

Source: (See Revision Note at part heading for Env-Dw 901)  
#8747, eff 10-28-06

**Env-Dw 901.07 Requests for Review of Groundwater Classified as GAA or GA1.**

(a) A person requesting that the department review a contributing area classified as GAA or GA1 to determine if the requirements for inventory and management of potential contamination sources are being met shall submit a report to the department that details non-compliance with the criteria for the present classification.

(b) The department shall respond to a request for review under this section in accordance with the procedures outlined in RSA 485-C:9, V(a), and shall notify in writing the person requesting the review and the local entity of its actions.

(c) The department shall recommend reclassification of the contributing area to:

- (1) GA2 if the area is within a highly productive aquifer identified by the USGS, per RSA 485-C:9, IV; or
- (2) GB if the following criteria are met, per RSA 485-C:9, V:
  - a. The department finds a deficiency in the inventory and management program under review, and finds that the deficiency has not been corrected in accordance with RSA 485-C:9, V(a); and

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b. The department further finds that it has inadequate resources to take over the inspection and management program.

(d) Prior to reclassification to GB or GA2, a public hearing shall be held in accordance with RSA 485-C:9, VI and Env-Dw 901.10(b).

Source. (See Revision Note at part heading for Env-Dw 901) #8747, eff 10-28-06

**Env-Dw 901.08 Requests for Reclassification of Groundwater to GA2.**

(a) As specified in RSA 485-C:9, IV, upon receipt of a report or study which identifies areas of bedrock or stratified drift aquifers which are highly productive for public water supply, the department shall recommend to the commissioner that a reclassification to GA2 should occur if the areas:

- (1) Meet the criteria for the class; and
- (2) Are not already classified as GAA or GA1.

(b) A request to reclassify an area to GA2 shall include:

- (1) The name, mailing address, and daytime telephone number of the requester and, if the requester is other than an individual, the name and daytime telephone number of a contact person;
- (2) The date, title, and author of the report or study;
- (3) The names of the municipalities in which the groundwater is located;
- (4) A copy of the report or study; and
- (5) A narrative explaining the reasons for the request.

Source. (See Revision Note at part heading for Env-Dw 901) #8747, eff 10-28-06

**Env-Dw 901.09 Requests for Boundary Changes.**

(a) A person making a request for a boundary change shall make such request in writing to the department.

(b) A request for a boundary change shall include the following information:

- (1) The date of the request;
- (2) The name, mailing address, and daytime telephone number of the requester and, if the requester is other than an individual, the name and daytime telephone number of a contact person;
- (3) The name(s) of the municipality(ies) in which the boundaries lie;
- (4) The classification and location of groundwater under review;
- (5) The USGS 7.5 minute series quadrangle map(s) showing the existing and proposed boundaries of the groundwater classification; and
- (6) A narrative explaining the reasons for the request.

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(c) If the department determines that the request is based on information not presented at the time of the initial classification of the groundwater, then the department shall take action on the request in accordance with Env-Dw 901.10.

Source: (See Revision Note at part heading for Env-Dw 901)  
#2747, eff 10-28-06

**Env-Dw 901.10 Department Action on Requests for Reclassification or Boundary Changes**

(a) Upon receipt of a request for reclassification of groundwater to GAA or GA1, for a boundary change, or for reclassification to GA2, the department shall determine whether all of the requisite information for the application has been received, as specified in:

- (1) Env-Dw 901.05 and Env-Dw 901.06 for reclassification of groundwater to GAA or GA1;
- (2) Env-Dw 901.09 for a boundary change; or
- (3) Env-Dw 901.08 for reclassification to GA2.

(b) If the department determines that the request is complete, the department shall:

- (1) Acknowledge receipt of the request in writing to the local entity or other person making the request and the municipality(ies) in which the groundwater is located; and
- (2) Schedule and issue notice of a public hearing on the request in accordance with RSA 485-C:9, VI.

(c) If the department determines that the request is not complete, the department shall notify the local entity or other person filing the request in writing of the information that is needed to complete the request.

(d) The department shall conduct the public hearing held pursuant to (b)(2), above, pursuant to the provisions of Env-C 200 applicable to non-adjudicative hearings.

(e) Following the public hearing, the department shall notify in writing the local entity or other person requesting the reclassification or boundary change and the municipality(ies) in which the groundwater is located of the department's decision on the request. If the request is denied, the written decision shall specify the reason(s) for the denial.

Source: (See Revision Note at part heading for Env-Dw 901)  
#2747, eff 10-28-06

**Env-Dw 901.11 Wellhead Protection Area Delineation**

(a) A local entity requesting reclassification to GAA shall prepare, or request the department to prepare, a wellhead protection area delineation that covers each well included in the area that is the subject of the request.

(b) If the local entity requests the department to prepare the delineation, the request shall:

- (1) Be submitted on official letterhead; and
- (2) Include the following:
  - a. The date of the request;
  - b. The name of the local entity;

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- e. The name, mailing address, and daytime telephone number of a contact person and, if available, a fax number and e-mail address;
- d. The municipality in which the well is located;
- e. The name and EPA identification number of the well;
- f. The well type;
- g. The population and municipalities served by the well;
- h. The name, mailing address, and daytime telephone number of the well owner;
- i. The street address and locus map of well location;
- j. Hydrogeological or engineering reports, if available; and
- k. Any site specific information available for the well site, that is available, such as well siting report(s), boring logs, and pumping test report(s).

(c) If the local entity is performing the delineation for department review, the request to review the delineation shall include all information considered in preparing the delineation.

(d) Wellhead protection area delineations shall be based on the information specified in (b)(2), above.

(e) Upon reclassification to GAA, any challenge to the delineated boundaries shall be made in accordance with Env-Dw 901.09.

Source (See Revision Note at part heading for Env-Dw 901)  
#8747, eff 10-28-06

Env-Dw 901.12 Delineations of Groundwater and Well Sites for Present or Future Drinking Water Supply.

(a) A local entity requesting reclassification to GAA shall identify areas that are currently used or will be used for future drinking water supply on USGS 7.5 minute series topographic maps.

(b) The requestor under (a), above, shall provide a map, accompanied by a report, that includes the following information:

- (1) The relationship of the proposed area to existing or planned drinking water supplies, including any hydrogeologic information which supports the definition of the area drawn on the map; and
- (2) A description of the extent to which the groundwater is or will be used for drinking water purposes.

(c) A local entity requesting reclassification to GAA of a wellhead protection area for a well site that has been identified for future use shall submit the information specified in (a) and (b), above, and the following:

- (1) An estimate of the projected production volume of the well expressed in gallons per day;
- (2) For wells with projected production volumes under 57,600 gallons per day, a delineation of the surface area contributing to the recharge of the well or a map with a circle using a radius

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drawn from the well to a linear distance based upon the projected volume in accordance with Env-Ws 378.07(b)(2), Table 378-2; and

(3) For wells with projected production volumes of 57,600 gallons per day or greater, a delineation of the surface area contributing to the recharge of the well or a map with a circle of the wellhead protection area using a radius drawn from the well to a linear distance of 4,000 feet.

(d) For reclassifications using a delineation completed per (c)(2) or (c)(3), above, when a final wellhead protection area delineation is completed under Env-Ws 378 or Env-Ws 379, or if a more accurate delineation has been completed, the local entity shall submit the subsequent delineation to the department with a request to change the reclassification boundaries in accordance with Env-Dw 901.09.

(e) Upon reclassification to GAA or GA1, any challenge to the delineation shall be made in accordance with Env-Dw 901.09.

Source: (See Revision Note at part heading for Env-Dw 901) #8747, eff 10-28-06

Env-Dw 901.13 Informational Meeting.

(a) An informational meeting may be held by the local entity seeking reclassification prior to performing an inventory inspection or developing a management program in order to explain to interested parties that it is seeking reclassification of groundwater.

(b) If the local entity is not a private supplier of water, the estimated cost of seeking and maintaining reclassification shall be presented at the meeting held pursuant to (a), above.

(c) The notice of the informational meeting shall be:

(1) Published by the local entity in a newspaper of general circulation in the municipality involved; and

(2) Posted in at least 2 public places.

Source: (See Revision Note at part heading for Env-Dw 901) #8747, eff 10-28-06

Env-Dw 901.14 Performing an Inventory of Potential Contamination Sources.

(a) A local entity requesting reclassification to GAA or to GA1 shall perform an inventory of potential contamination sources, consisting of a review of human activities and operations to determine whether potential contamination sources such as those listed in RSA 485-C:7, II are located within the area proposed to be reclassified.

(b) The local entity requesting reclassification shall submit an inventory report in accordance with Env-Dw 901.15.

Source: (See Revision Note at part heading for Env-Dw 901) #8747, eff 10-28-06

Env-Dw 901.15 Inventory Report.

(a) The inventory report submitted pursuant to Env-Dw 901.14(b) shall include:

(1) The information required by RSA 485-C:8, II; and

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- (2) A description of how the inventory was performed and what sources were used to ensure its completeness.
- (b) The local entity shall provide a copy of an updated inventory report to the department every 3 years.
- (c) The local entity shall submit all inventory reports as a paper report and in a computer database format.

Source: (See Revision Note at part heading for Env-Dw 901) #8747, eff 10-28-06

Env-Dw 901.16 Management Program

(a) A local entity requesting reclassification to GAA or to GAI shall include in its request a plan for a potential contamination source management program that will comply with RSA 485-C:8, III.

(b) The potential contamination source management program plan provided pursuant to (a), above, shall include the following:

(1) A description of the process for updating the inventory at intervals no greater than 3 years, as required by RSA 485-C:8, III(a);

(2) A description of the process for written notification to the owner of each potential contamination source listed in the inventory at intervals no greater than 3 years, as required by RSA 485-C:8, III(b);

(3) A list of the name of the owner and the site address and tax map and lot number of each property within the area proposed to be reclassified, submitted in paper format and in a computer database format suitable for the department to use in preparing mailing labels so as to meet the notification requirements of RSA 485-C:9, VI(b);

(4) A list of all facilities requiring or having release detection permits issued in accordance with Env-Wm 1403 or successor rules in subtitle Env-Or within the area proposed to be reclassified;

(5) The process for performing a management inspection in accordance with Env-Dw 901.17 of all potential contamination sources located within the area proposed to be reclassified at least once every 3 years to ascertain compliance with best management practices for preventing groundwater contamination, provided, however, that pesticides regulated under RSA 430:2B-48 and agricultural operations which are operated in compliance with all applicable chapters of RSA title XI and best management practices developed, administered and enforced by the New Hampshire department of agriculture, markets, and food shall not be subject to inspection under these rules, pursuant to RSA 485-C:8, III, (c) (1) and (2); and

(6) An assessment of the ability of the local entity to implement and maintain the potential contamination source management program.

(c) The written notification to each potential contamination source described in (b)(2), above, shall include:

(1) The name and address of the contact person for the local entity requesting reclassification, and, for GAA areas, the location(s) of the well(s) for which the wellhead protection area was delineated;

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- (2) A statement that the potential contamination source is in a wellhead protection area, an area likely to have groundwater below it that is drawn to a community water supply well, or an area of potential use for future public water supply, as applicable;
- (3) A statement of what the present use of the property is and a statement that it is considered to have potential for groundwater contamination;
- (4) A copy of Env-Ws 421, "Best Management Practices for Preventing Groundwater Contamination" or successor rules in Env-Wq 401;
- (5) A statement that any unpermitted discharge to groundwater, or contamination of groundwater, is illegal under RSA 485-A:13 and Env-Wm 1403 or successor rules in subtitle Env-Or and Env-Ws 1500 or successor rules in subtitle Env-Wq; and
- (6) The name and phone number of a contact person and affiliated agency to call at the local level and at the state level to answer any questions about the program.

Source. (See Revision Note at part heading for Env-Dw 901)  
#2747, eff 10-28-06

Env-Dw 901.17 Performance of Management Inspections.

(a) As required by RSA 485-C:8, III(c), the local entity shall conduct management inspections of potential contamination sources in groundwater classified as GAA or GA1 at least once every 3 years, provided, however, that pesticides regulated under RSA 430:28-48 and agricultural operations which are operated in compliance with all applicable chapters of RSA title XL and best management practices developed, administered, and enforced by the New Hampshire department of agriculture, markets, and food shall not be subject to inspection under these rules.

(b) The local entity shall provide written notice of any violations of best management practices to the owner of the potential contamination source within 30 days of the date of the management inspection.

(c) Inability to gain access to a potential contamination source for the purpose of conducting a management inspection shall be reported by the local entity to the local health officer and to the department.

Source. (See Revision Note at part heading for Env-Dw 901)  
#2747, eff 10-28-06

Env-Dw 901.18 Waivers.

(a) A local entity requesting reclassification of groundwater or a person requesting that the department review a contributing area classified as GAA or GA1 or reclassify an area to GA2 or GB or change one or more of the boundaries of an existing groundwater reclassification or a person responsible for implementing a management program under this part may request a waiver to any information requirement under this part, provided that the information requirement is not mandated by RSA 485-C.

(b) The department shall grant said request for a waiver to an information requirement upon finding that:

- (1) The information requirement is not mandated by RSA 485-C; and

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(2) Denial of the waiver request would place a financial burden on the requester that is disproportionate to the value of the information required.

**Source:** (See Revision Note at part heading for Env-Dwr 901)  
#8747, eff 10-28-06

## APPENDIX

<b>Rule Section(s)</b>	<b>State Statute(s) Implemented</b>
Env-Dwr 901.01-.04	RSA 485-C:1
Env-Dwr 901.05	RSA 485-C:1-2
Env-Dwr 901.06	RSA 485-C:5
Env-Dwr 901.07	RSA 485-C:9, II & III
Env-Dwr 901.08-.09	RSA 485-C:9, V(a)
Env-Dwr 901.10	RSA 485-C:9, IV
Env-Dwr 901.11	RSA 485-C:9
Env-Dwr 901.12	RSA 485-C:9, VI
Env-Dwr 901.13	RSA 485-C:9, II(a)
Env-Dwr 901.14	RSA 485-C:9, III(a)
Env-Dwr 901.15	RSA 485-C:1
Env-Dwr 901.16-.17	RSA 485-C:8, II
Env-Dwr 901.18	RSA 541-A:22, IV



## **Appendix 5: DES Groundwater Fact Sheets**