The State of New Hampshire
Department of Environmental Services

Michael P. Nolin
Commissioner

October 25, 2006

Jon Warzocha
Horizons Engineering
34 School Street
Littleton, New Hampshire 03561

Subject: CWS LOUDON: Freedom Hill Coop; EPA ID: 1403030
Proposed BRW 5; NHDES #997154

Dear Mr. Warzocha:

The purpose of this letter is to approve the Preliminary Report and Water Conservation Plan for the subject water system. These materials were submitted to meet the requirements of New Hampshire Administrative Rules Env-Ws 378 and Env-Ws 390, *Site Selection of Small Production Wells for Community Water Systems,* and *Water Conservation.*

Water Conservation:

The August 31, 2006 Water Conservation Plan (WCP) for the subject water system is approved as proposed. The Plan shall be implemented when the new well is approved and connected to the water system. Every three years from the date of this letter the water system shall supply the New Hampshire Department of Environmental Services (NHDES) with documentation of compliance with the plan. This information shall be supplied on a form provided by NHDES and shall include contact information for the water system owner and the person responsible for carrying out the tasks of the plan, all data relating to leak detection, water use audits, and meter reading, if applicable, and the dates these tasks were performed.

Preliminary Well Siting Report Approval:

Within 60 days of receipt of final approval for the subject well the water system must submit an emergency plan, in accordance with New Hampshire Administrative Rule Env-Ws 360.15. This plan must continue to be updated and submitted to NHDES in March once every 6 years. This regulation also requires the plan be reviewed annually by the system and updated as needed. Additionally, the plan will be a checklist item during each sanitary survey and lack of one will be a survey deficiency. Guidance documents and other emergency planning information are available on our website at: http://www.des.state.nh.us/wseb/EmergencyPlanning/index.asp. You may contact Johnna McKenna at **603-271-7017** or jmckenna@des.state.nh.us for more information or assistance in completing emergency planning for your water system.

A groundwater discharge permit must be obtained from NHDES prior to conducting a pumping test. Contact Mitch Locker at **271-2858** or email him at mlocker@des.state.nh.us for more information. An application form may be found online at http://www.des.state.nh.us/orcb/doclist/temporary.pdf.

The Department is strongly encouraging applicants developing new sources of water for community water systems to collect a water quality sample for perchlorate from each proposed new source during the withdrawal test required by the new source approval process. New Hampshire is currently developing a health standard for this constituent. Although this is not required by law or regulations at this time, the State or USEPA may adopt standards in the future, and knowing if this chemical is present in a proposed water supply may affect your approach to developing a new source of water. Other states have recently adopted varying health standards for perchlorate in drinking water. Please note that many laboratories do not conduct perchlorate analysis. To assist you in identifying a laboratory that can complete this analysis, the New Hampshire Department of Environmental Services refers you to a list of laboratories certified by Massachusetts to complete perchlorate analyses at www.mass.gov/dep/brp/dws/files/perclab.doc.

Please notify NHDES at least one business week, and preferably two, before the start of the pumping test. If you have any questions about this letter or any other well siting issues feel free to call me at **271-2947** or email me at dmorgan@des.state.nh.us.

Sincerely,

Diana W. Morgan, Professional Geologist
Water Supply Engineering Bureau

Cc: Jim Gill, WSEB
Stan Chamberlain, Freedom Hill Coop

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

Report Form for Water Conservation Plans Small Community Water Systems February 2006

PROJECT NAME Freedom Hill Cooperative

TOWN/CITY Loudon **DATE** 08/31/2006

EPA ID # 1403030

PURPOSE This form provides the information needed for small community water systems to meet the reporting requirements of Env-Ws 390, *Water Conservation Rules*. Once completed, this form can fulfill the requirements of Env-Ws 390.10. You don't have to use this form. However, based on experience, the DES has found that use of a form speeds the application process. If you prefer to produce an original report, remember to provide **all the information** required under the rules and the DES recommends that you use this form as a checklist to help ensure your report is complete. Helpful information and reminders are provided throughout the form and are printed in (parenthesis). Copies of this form, the rules, a summary of the rules, educational materials for public distribution, and other useful publications may be found at http://www.des.nh.gov/h2o_conservation.htm.

INSTRUCTIONS

A. Obtain copies of the following materials from either the DES's Public Information Center (603) 271-2975 or from http://www.des.nh.gov/h2o_conservation.htm.

- Administrative Rule, Env-Ws 390, *Water Conservation Rules*.
- Fact sheet, *Summary of the Water Conservation Rule*.
- Any pertinent water efficiency fact sheet.
- Extra copies of this form.

B. Review the water conservation rules and guidance materials obtained above. You should

use these materials to prepare your water conservation plan. It is suggested that you submit a draft plan for review prior to meeting your public notification requirements in case substantive changes to the plan are necessary. Resubmittal of the report to the public entities can be avoided if initial review is performed by the DES.

C. Complete the form by answering all questions and providing the appropriate attachments. Answer the questions from top to bottom, unless instructed to skip to another section. Helpful information and reminders are provided throughout the form and are printed in (parenthesis).

D. Before submitting, review the form to ensure all questions are answered and all attachments are included. When complete submit to:

Water Conservation Plans
Small Community Well Siting Program
DES, Water Supply Engineering Bureau
Post Office Box 95
Concord, NH 03302-0095

For help with this form or other water conservation planning concerns call Diana Morgan at (603) 271-2947.

Information contained in this form is current as of February 2006. Statutory or regulatory changes that may occur after October 2005 may cause part or all of the information to be invalid. If there are any questions concerning the status of the information please contact DES at (603) 271-2947.

Section 1.0 GENERAL INFORMATION

WELL SITING

Has a Preliminary Well Siting report been submitted to the DES? *(If your answer is NO, please contact the DES at (603) 271-2947 before you proceed further.)*
YES ___ NO ___

(The section below asks you to identify the people and companies responsible for the water conservation plan application. This information will help ensure clear communication during the application process.)

1.1 Project Contacts / System Ownership

1.1a Project Contact (Person completing this form?)

Name Jon L. Warzocha or Sylvia A. Clark
Address 34 School Street, Littleton, NH 03561
Company Horizons Engineering, PLLC
Phone Number (603) 444-4111

1.1b Project Owner (Who is responsible for compliance with the water conservation plan, as approved by the DES?)

Name Freedom Hill Cooperative
Address 2 Magnolia Drive, Loudon, NH 03370
Company
Phone Number (603) 228-3244

1.1c Person responsible for completing the activities outlined in this plan (Please note that the person completing water conservation plan activities must be a certified water system operator or water system personnel supervised by the certified operator.)

Name Stan Chamberlain, Maintenance Supervisor
Address 2 Magnolia Drive, Loudon, NH 03307
Company Freedom Hill Cooperative
Phone Number (603) 228-3244

1.1d Will ownership of the water system be transferred at a future date from the person listed in 1.1b to a homeowner's association or other entity?
YES ___ NO XX

If YES, indicate below the contact information for the new owner of the water system.

Name
Address
Company
Phone Number

Section 2.0 METERING AND LEAK DETECTION

(This information is needed to help ensure the water conservation plan will meet the intended purpose and that the plan is designed appropriately.)

2.1 Water System

2.1a Is this a new source for an **existing** community water system?
YES xx NO___ (If **YES**, you must complete **Sections 2.3, 3.0, 5.0** and **6.0**)

2.1b Is this a new source for a new or existing community water system owned by a landlord who supplies water to tenants and includes water service in rental fee, or a new or existing community water system for apartment-style housing that includes water service in a housing fee?
YES ____ NO ____ (If **YES**, you must complete **Sections 2.3, 3.0, 5.0** and **6.0**)

2.1c Is this a new source for a **new** community water system that **does not** meet the description in (a) or (b) above?
YES___ NO___ (If **YES**, you must complete **Sections 2.2, and 3.0 through 6.0**)

2.2 New Small Community Water Systems

(Meters must be installed on all sources of water and at each service connection on new small community water systems that do not meet the definition of 2.1a or 2.1b above.)

2.2a Describe below the size of both the source and service connection meters to be utilized by the water system. (In selecting, installing, and maintaining water meters, the water system must comply with procedures and protocols described in "Manual of Water Supply Practices, Water Meters", document AWWA M6, available from the American Water Works Association. www.awwa.org/bookstore)

2.2b Describe below the frequency in which each type of meter will be read. (Source meters must be read at least every 30 days and service meters must be read at least every 90 days.)

2.2c Water Audit and Leak Detection Program and Estimating Unaccounted-For Water

Describe below the system's water audit and leak detection program and how the water system will estimate the volume and percentage of unaccounted-for water. Also note how often the water system proposes estimating unaccounted-for water. (All new small community water systems or existing small community systems that are adding new connections, must meet this requirement. Estimates of unaccounted-for water must be performed at least once a year. If unaccounted-for water exceeds 15 percent, the system shall develop a response plan in accordance with Env-Ws 390.05(j) and (k), and submit it to the DES within 60 days.)

2.3 Existing Small Community Water Systems, New or Existing Water Systems Owned by a Landlord Who Supplies Water to Tenants and Includes Water Service in a Rental Fee, and New or Existing Water Systems for Apartment-Style Housing

(If no further expansion of an existing small community water system is planned, or this is a new system that meets the definition in Section 2.1 (b), the water system has the choice to either:

1. Install meters on all service connections within three years of approval of the plan and estimate unaccounted-for water [see section 2.3d], or
2. Conduct a comprehensive leak detection survey every two years [See section 2.3e].

If further expansion of an existing system is proposed, meters must be installed on all new services, regardless of whether the system opts to conduct a leak detection audit rather than metering.)

2.3a Is your system choosing to install meters on your existing or new system to track unaccounted-for water **or** is your system adding new service connections to your existing system?

YES___ NO XX

If **YES,** your system must estimate unaccounted-for water annually, complete sections 2.3b, 2.3c and 2.3d. If you answered **NO,** your system must perform a leak detection survey every two years, go to section 2.3e.

2.3b Describe below the size of both the source and service connection meters to be utilized by the water system. (In selecting, installing, and maintaining water meters, the water system must comply with procedures and protocols described in "Manual of Water Supply Practices, Water Meters", document AWWA M6, available from the American Water Works Association. www.awwa.org/bookstore)

Individual source meters will be utilized for measuring flow from the wells. If additional units are added, they will be equipped with individual meters. Installation and maintenance of the meter(s) will comply with procedures described in "Manual of Water Supply Practices, Water Meters" from the American Water Works Association. Three flow meters (one for each source; Well #3, Well #4, and Well #5) will be placed inside the pump house. Flow meters and run-time meters will be placed at each source.

2.3c Describe below the frequency in which each type of meter will be read. (Source meters must be read at least every 30 days and service meters must be read at least every 90 days.)

The source meters at Freedom Hill Cooperative will be read at at minimum, every ninety (90) days.

2.3d Estimating Unaccounted-For Water

Describe below the system's water audit program and how the water system will estimate the volume and percentage of unaccounted-for water. Also note how often the water system proposes estimating unaccounted-for water. (Existing small community water systems opting for metering and water accounting, or existing small community systems that are adding new connections, must meet this requirement. Estimates of unaccounted-for water must be performed at least once a year. If unaccounted-for water exceeds 15 percent, the system shall develop a response plan in accordance with Env-Ws 390.05(j) and (k), and submit it to the DES within 60 days.)

Estimates for unaccounted for water will be performed at Freedom Hill Cooperative at least once a year using protocols and procedures described in "Manual of Water Supply Practices, Water Audits and Leak Detection". The water system Operator will be responsible for estimating the unaccounted for water. If percentage of unaccounted for water exceeds 15% of the total water introduces to the water system, Freedom Hill will submit a response plan to the Department within 60 days. The water system Operator will be responsible for preparing and submitting the response plan.

2.3e Water Audit and Leak Detection Program

Describe below who will be responsible for conducting a leak detection survey, the frequency of the surveys and a brief text description of how those surveys will be conducted. (Surveys for existing systems that are opting out of metering service connections shall be performed at least every two years. Leaks identified by the survey must be repaired within at least 60 days unless a waiver is obtained from the DES. The requirements of this section of the rule must follow the standards set forth in AWWA M36, *Manual of Water Supply Practices, Water Audits and Leak Detection*, available from the American Water Works Association. www.awwa.org/bookstore)

Since individual connections will not be metered, a leak detection survey will be conducted by the Freedom Hill Water System Operator at least once every two years. The leak detection survey will comply with the standards set forth in AWWA M36, Manual of Water Supply Practices, Water Audits and Leak Detection.

Section 3.0 PRESSURE REDUCTION

(Pressure reduction shall be implemented upon obtaining approval of a new source of water when it is technically feasible, consistent with industry standards, and consistent with public health and safety considerations. Existing small community water systems have one year after approval of the conservation plan to implement this requirement, if feasible. All pressure reduction measures must meet the requirements of Env-Ws 372, Design Standards for Small Community Public Water Systems.)

Is pressure reduction technically feasible for this system? If **YES**, explain below how it will be accomplished for the system. If **NO**, explain why below.

YES___ NO xx

Pressure reduction is not feasible for this system due to relatively low elevation differential, no elevated atmospheric storage, and the presence of one pressure zone.

Section 4.0 CONSERVATION RATE STRUCTURE

(All new small community water systems and existing small community water systems that are adding new service connections must adopt a rate structure as described in Env-Ws 390.04.)

Describe below the conservation rate structure the water system proposes adopting, or if not practical or feasible for the system, describe below how the water system will manage water service fees to meet the intent of the rule and promote water conservation. (You will need to fill out a waiver application form found at the end of this document.)

The existing system has master meters that are monitored regularly. The new well is part of the existing Small Community Water System that charges users based on a flat usage fee. It is not feasible for the Cooperative to alter the rate structure at this time as it would require 148 individual meters for the existing service connections.

Section 5.0 PUBLIC NOTIFICATION

(Within seven days of submitting the final water conservation plan for review by the DES a small community water system must provide a copy of this report via certified mail to the governing board of the municipality in which a proposed source is located, to all wholesale customers [if any], and to the regional planning commission for the location of the proposed source. The water system shall supply the governing boards with a copy of a summary of the requirements of Env-Ws 390. This document can be found at http://www.des.nh.gov/h2o_conservation.htm. You must also note in your correspondence to the above-mentioned governing boards that a copy of the Well Siting Application is available for their review at the DES and provide them with DES contact information. The water system shall request that the governing boards amend any site plan submitted to them for review so that it reflects the requirements of Env-Ws 390 and promotes water conservation landscaping principals.)

List the names and addresses of the governing boards receiving public notification. Attach a copy of the cover letter sent to the governing boards and a copy of the certified mail receipts when available. List the educational/outreach materials that the system is providing to the municipalities for review.

PLEASE SEE ATTACHED

Section 6.0 EDUCATIONAL OUTREACH INITIATIVE

(Such an initiative may be achieved in many ways, but must be implemented immediately upon approval of the conservation plan and should include the pertinent water efficiency fact sheets that can be found at the website listed at the beginning of this report. These educational mailings can be included with wellhead protection program educational mailings as required by Env-Ws 378.18 or with the water system service bills. Other acceptable outreach initiatives include water system or homeowner's association newsletters, posting of water conservation fact sheets in public areas used by water system customers, or any other initiative that meets the intent of the rules.)

Provide a brief description of your educational outreach initiative. Include implementation procedures, the person responsible for the initiative, the content of educational mailings proposed (if any), and the wording of any newsletter insertions or public postings. (There is no need to provide copies of educational outreach materials that you are acquiring from DES. Only provide copies of educational outreach materials generated by the water system.)

DES FACT SHEETS WILL BE POSTED AT THE POST OFFICE BOXES LOCATED AT THE BASE OF PINE RIDGE ROAD. FREEDOM HILL COOPERATIVE MAINTENANCE WILL BE RESPONSIBLE FOR POSTING THE MATERIAL. THE INFORMATION WILL BE POSTED ON A BI-ANNUAL BASIS.

Before submitting, thoroughly check this form to be sure all applicable questions are answered, all information is provided, and all necessary attachments are included. Incomplete submittals will significantly slow the approval process.

If strict compliance with any of the requirements of Env-Ws 390 is not feasible, the small community water system may apply for a waiver to a specific portion of the rule. A waiver application form is provided at the end of this document for your convenience.

Preparer's Signature _____

Date _____

As a reminder, have you included the following?

- Educational outreach initiative documentation and materials created by the water system.
- Public notification documentation (certified mail receipts).
- Public notification cover letters and pertinent documents.
- Other pertinent or supportive materials.

Waiver Application

Project Name Freedom Hill Cooperative Town/City Loudon

Date 08/31/2006

Which section of the **rule** are you requesting be waived? Env-Ws 390. 0 .
Specifically, the requirement that states:
" The water system shall adopt a rate structure that promotes water conservation, as follows:"

Explain why this requirement needs to be waived. Also describe what hardship would be caused if the rule were adhered to. Provide diagrams where helpful.
It is not feasible for the Cooperative to alter the rate structure at this time as it would require 148 individual service meters for the existing service connections. The existing Small Community Water System charges the users based on a flat usage fee.

Explain an alternative solution in detail. Provide diagrams where helpful.

Explain how the alternative would adequately address water conservation measures as required by the rule.

The water system plans to conduct estimates of unaccounted for water at least once a year. In addition, educational outreach material will be provided to users.