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

PROJECT NAME McIver Well for Chalk Pond Water Company

TOWN/CITY Newbury, NH **DATE** September 22, 2006

EPA ID # 1652020

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.

Section 1.0 GENERAL INFORMATION

WELL SITING

Has a Preliminary Well Siting report been submitted to the DES?
YES_X_ NO___

1.1 Project Contacts / System Ownership

1.1a Project Contact

Name James K McDonough
Address 26 Squirrel Hill Road, Acton, MA 01720
Company Chalk Pond Water Company
Phone Number 978-263-1208

1.1b Project Owner

Name Sunapee Hills Association dba Chalk Pond Water Company
Address C/O J. McDonough, 26 Squirrel Hill Road, Acton, MA 01720
Company Chalk Pond Water Company
Phone Number 978-263-1208

1.1c Person responsible for completing the activities outlined in this plan

Name James K McDonough
Address 26 Squirrel Hill Road, Acton, MA 01720
Company Chalk Pond Water Company
Phone Number 978-263-1208

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_X_ Already a Homeowners' Association.

Section 2.0 METERING AND LEAK DETECTION

2.1 Water System

2.1a Is this a new source for an **existing** community water system?
YES_X_ 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 _X_ (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_X_ (If **YES**, you must complete **Sections 2.2, and 3.0 through 6.0**)

2.2 New Small Community Water Systems

2.2a Describe below the size of both the source and service connection meters to be utilized by the water system.

2.2b Describe below the frequency in which each type of meter will be read.

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.

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

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_X_ NO___

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.

Source Metering

Well #3 Seametrics EX81 1" insertion flowmeter & FT420 flow monitor
Well #4 Seametrics EX81 1" insertion flowmeter & FT420 flow monitor
BRW Seametrics EX81 1" insertion flowmeter & FT420 flow monitor

In addition, all raw water entering the upper pump station from these three wells is metered again with a Badger M-70 1.5" meter which, like all the other meters, is connected to the EOS Research ProControl SCADA system.

An appropriately-sized meter will be installed for the new well and be in accordance with AWWA specs.

Service Connection Metering

No service connection meters are currently installed or planned because they are not cost effective in a system this small.

2.3c Describe below the frequency in which each type of meter will be read.

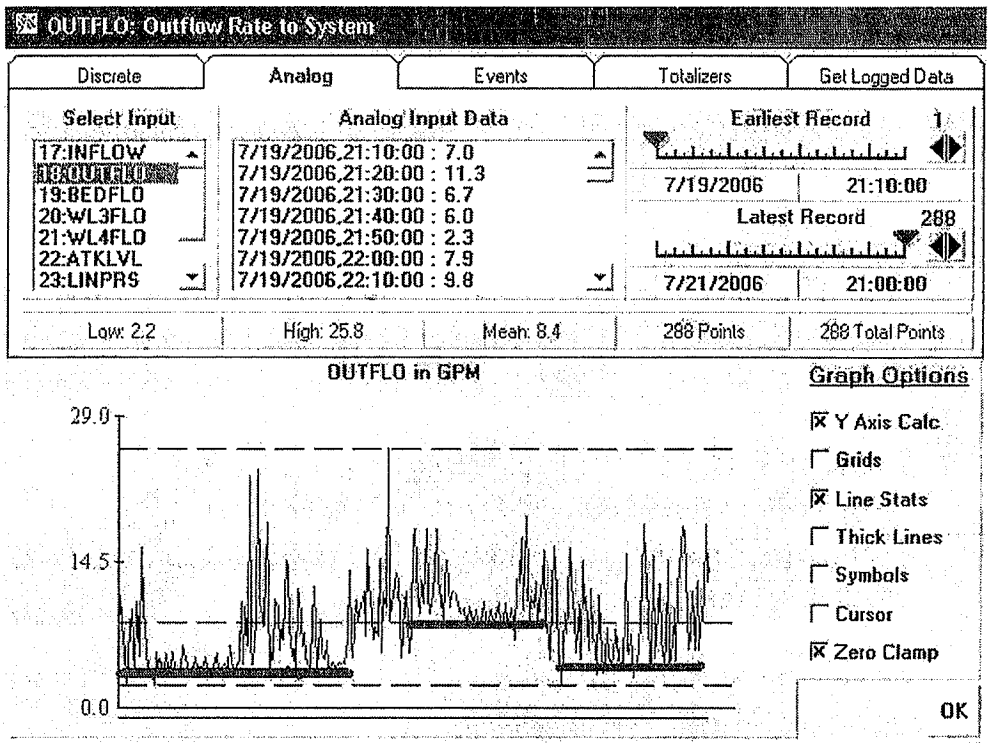
Source meters are read and recorded every 10 minutes via the SCADA system. Approximately two weeks' data is stored at all times. Data is normally downloaded for review twice a day. Meters are manually read at least twice per week. The Water Director is responsible to assure

that the SCADA system is kept in operational condition.

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.

Unaccounted for water is estimated on a daily basis by the Water Director or the primary operator via analysis of the data from the SCADA system. The trend of overnight minimum readings is a very good estimator of leakage. Leaks can be detected early and the amount of leakage can be accurately estimated.



The figure above, from mid-July 2006, indicates the ability of the SCADA system to easily show the impact of a stuck toilet by noting the dramatic shift of the minimum readings over the two day period from 9PM on 7/19/06 through 9PM on 7/21/06. This type of information is regularly passed back to the water customers so that they understand the impacts of their water usage and water conservation practices.

In a very small system (~80 service connections) leakage can very easily exceed 15% and still be too small to "chase" economically. For example,

if normal domestic usage is 3gpm average, leakage can easily equal or exceed the bonafide usage and still be uneconomical to search for or, in fact, impossible to find by normal leak detection procedures and equipment. Leakage of 15% of 3gpm would be 0.45gpm. That amount is virtually impossible to locate economically.

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.

When onsite leak detection and location is warranted by the circumstances, the first efforts are made by personnel associated with Chalk Pond Water Company. If outside assistance is needed, we turn to Granite State Rural Water Association or to our maintenance and repair contractor Water System Operators, Inc. of Henniker, NH. The choice depends on the urgency of the situation and the schedule availability of the assisting organization.

Once a leak has been located or at least localized, repairs are made as soon as feasible considering a number of factors such as size of the leak, status of the wells, time of year (a lot of our usage is seasonal), day of the week (we don't want to undertake a repair on a Friday unless its unavoidable), inconvenience to customer, etc. This is a judgment call and is made by the Director of Chalk Pond Water Company with professional advice as needed.

Section 3.0 PRESSURE REDUCTION

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_X_

There are large elevation differences that make it impractical to lower the pressures beyond what has already been done in the past two years. Our system pressures are not extreme.

We have basically two pressure zones in the system with pressure regulating valves (PRV) in between. Pressure in the upper portion of the

system is controlled by the hydropneumatic tank in the upper pump station, gravity, and the elevation of the customer's service. Pressure in the lower portion has already been reduced by replacing a malfunctioning PRV and adjusting both PRVs. For example, this reduced the pressure along Gerald Drive (waterfront property) from over 80psi down to the mid-50s. Due to the elevation difference between the waterfront side of Gerald Drive and the uphill side of the road, further reductions are not possible while still providing adequate pressure to upper floors of all houses.

Section 4.0 CONSERVATION RATE STRUCTURE

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.

This section is not applicable to the current application. However, by way of information, customers of Chalk Pond Water Company all pay a fixed rate of $200 per calendar quarter. Because of the mix of full time residents, part time residents, seasonal residents, etc. and because approximately 95% of our costs are fixed costs, the adoption of a variable rate structure has been deemed impractical by the Sunapee Hills Association Board of Directors.

Section 5.0 PUBLIC NOTIFICATION

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.

1) Town of Newbury, PO Box 296, Newbury, NH 03255
2) Upper Valley Lake Sunapee Regional Planning Commission, 30 Bank Street, Lebanon, NH 03766

Materials provided:

1) Fact sheet, Summary of the Water Conservation Rule.
2) Water Conservation Plan for Chalk Pond Water Company

Section 6.0 EDUCATIONAL OUTREACH INITIATIVE

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.

Conservation notices are sent via e-mail and US postal mail to customers on a periodic basis. Conservation reminders are posted on the signboard at the intersection of Gerald Drive and Chalk Pond Road as required. CPWC will post selected DES water conservation fact sheets such as

1) Water Efficiency Practices for Domestic Indoor Water Use, WD-WSEB-26-2, 2001
2) Water Efficiency Practices for Outdoor Water Use, WD-WSEB-26-3, 2001
3) Water Conservation at Home, WD-WSEB-26-17, 2001

on the community bulletin boards at the Association beach and at the clubhouse.

The CPWC Water Director, James K McDonough or his successor as Water Director, is responsible for administering the distribution of water conservation materials.

Preparer's Signature James K. McDonough
James K McDonough, Director

Date 9/22/2006