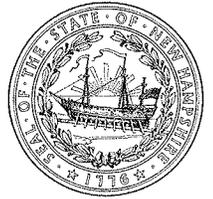


The State of New Hampshire
Department of Environmental Services

Thomas S. Burack, Commissioner

*Celebrating 25 Years of Protecting
New Hampshire's Environment*



WATER CONSERVATION PLAN APPROVAL

October 2, 2013

Stephen Doherty
Hillcrest Estates, LLC
10 George St., Suite 20
Lowell, MA 01852

RE: Plaistow –Reserve at Snow's Brook
Water Conservation Plan, August 23, 2013 NHDES # 999006

Dear Mr. Doherty:

On August 23, 2013, the New Hampshire Department of Environmental Services ("DES") Drinking Water and Groundwater Bureau received a Water Conservation Plan, dated August 23, 2013, for the Reserve at Snow's Brook, located in Plaistow, New Hampshire (the "Plan"). Pursuant to RSA 485:61 and Env-Wq 2101, community water systems seeking permits from DES for new sources of groundwater shall submit a water conservation plan to DES. Based on review of the Plan, DES has determined the Plan complies with Env-Wq 2101.04, *Requirements for New Community Water Systems*.

Pursuant to Env-Wq 2101.11, the Town of Plaistow and the Rockingham Planning Commission were provided the opportunity to comment on the Plan from August 26, 2013, the date of public notification, through September 16, 2013. DES received no comments.

On **October 2, 2016**, and every three years thereafter, the water system shall submit a detailed and completed compliance report form to DES documenting compliance with the Plan. Required information includes contact information for the water-system owner and for the individual responsible for carrying out plan tasks; dates tasks were performed; and data relating to meter reading, water audits, leak detection, and public outreach. A copy of the *Water Conservation Plan Ongoing Compliance Form* may be located by going to the DES website, www.des.nh.gov, clicking on the "A-Z List" in the top right corner of the page, and scrolling down to Water Conservation.

Upon system activation, DES will issue Snow's Brook a Water Use ID # for reporting to the DES Water Use Registration and Reporting Program. The total monthly volume withdrawn from the new sources shall be reported to the DES Water Use Registration and

www.des.nh.gov

29 Hazen Drive • PO Box 95 • Concord, NH 03302-0095

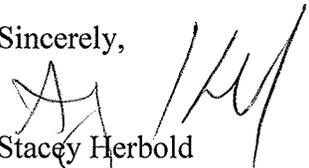
Telephone: (603) 271-2513 • Fax: (603) 271-5171 • TDD Access: Relay NH 1-800-735-2964

Reporting Program on a quarterly basis. If you have any questions about Water Use Registration and Reporting Program contact Derek Bennett at 271-6685 or derek.bennett@des.nh.gov.

Revisions to the Plan shall not be implemented without further approval from DES.

Please feel free to contact me with any questions at (603) 271-0659 or via e-mail at stacey.herbold@des.nh.gov .

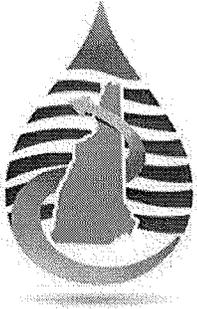
Sincerely,



Stacey Herbold
Water Conservation Program
Drinking Water and Groundwater Bureau

cc: Diana Morgan, NHDES
Town of Plaistow
Rockingham Planning Commission
Charlie Lanza, Hampstead Area Water Services, Co.

R/CUD 8/23/13



HAWSCO
HAMPSTEAD AREA WATER SERVICES, CO.
Serving the Water Community for over 40 years

**PROPOSED WATER CONSERVATION PLAN
FOR THE RESERVE AT SNOW'S BROOK**

**Hampstead Area Water Services, Co.
The Reserve at Snow's Brook
Town of Plaistow, New Hampshire**

Prepared for:

**STEPHEN DOHERTY
HILLCREST ESTATES, LLC
10 GEORGE STREET SUITE 20
LOWELL, MA 01852**

Prepared by:

**CHARLES LANZA, PROJECT MANAGER
HAMPSTEAD AREA WATER SERVICES, CO.
54 SAWYER AVENUE
ATKINSON, NH 03811**

WATER CONSERVATION PLAN

THE RESERVE AT SNOW'S BROOK COMMUNITY

WATER SYSTEM

EPA ID: TBD

Plaistow, New Hampshire

Project Description: The Reserve at Snow's Brook is a proposed 34 unit 55+ community with one 1,400 sq ft. community center. There is no proposed irrigation and also no proposed fire protection off of the water system.

Project Contacts:

Project Contact

Name: Charlie Lanza
Address: 54 Sawyer Avenue Atkinson, NH 03811
Company: Hampstead Area Water Services, Co.
Phone Number: 603-362-5333
License/Certification Type & Number: Licensed Water Operator Grade II 2861

Project Owner.

Name: Stephen Doherty
Address: 10 George St, Suite 20 Lowell, MA 01852
Company: Hillcrest Estates, LLC
Phone Number: 978-479-5814

Certified Operator.

Name: Richard Bibeau
Address: 54 Sawyer Avenue Atkinson, NH 03811
Company: Hampstead Area Water Company, Inc.
Phone Number: 603-362-4299
License/Certification Type & Number: Licensed Water Operator Grade II 2601

Water Meters

Source meters are proposed to be installed on both of the wells. Sizes and models will be determined after the receiving final well siting approval.

There will also be a "house" meter on the outgoing line of the station. The size and model of this will also be determined after the receiving final well siting approval.

- Meters will be installed on all new sources prior to connection to the water system.
- All water meters will be tested or replaced per AWWA standards as shown below unless prior test results indicate that meters may be replaced less frequently. DES approval will be obtained should prior test results indicate this.

Meter Size (inches)	Testing Rate (yr)
<1"	10 yrs
1" - 2"	4 yrs
3"	2 yrs
>3"	1 yr

- Meters will be selected, installed and maintained as described in "Manual of Water Supply Practices, Water Meters Selection, Installation, Testing and Maintenance", document identification number AWWA M6, 1999 as required by EnvWq 2101.04 (d)).
- There are 34 proposed 55+ 2 bedroom homes. Each home is proposed to have one 5/8" Neptune T-10 water meter. The current HAWC water rate is \$5.02 per 100 cubic feet plus a base charge of \$10.00 per month. The water rates are typically adjusted every 3-4 years and are only adjusted upon on the NH Public Utilities Commision's approval to adjust the rates. Customers are billed monthly and bills include the previous 12 months of usage for comparison purposes.
- Meters will be read monthly and it takes one business day to read all of HAWC's satellite system meters. All customer meters are read via a radio read system.

Leak detection Program

Leak detection will be performed in accordance with the NHDES "Night Flow Leak Detection Methodology" as noted below.

Night Flow Leak Detection Methodology

1. Distribution Meter

- a. An Meter to be specified capable of measuring low flows will be installed on the distribution line and located after treatment and storage. The meter make, model, and size will be forwarded to DES prior to purchase/installation for review and approval.
- b. Unless otherwise specified by formal documentation from the manufacturer, the meter will be tested/calibrated based on the following rate schedule:

Meter Size (inches)	Testing Rate (yr)
<1"	10 yrs
1" - 2"	4 yrs
3"	2 yrs
>3"	1 yr

The testing rate may be adjusted based on results of prior tests, but less frequent testing will be approved by DES.

- c. The distribution meter will be selected, installed, and maintained in compliance with "Manual of Water Supply Practices M6, Water Meters-Selection, Installation, Testing, and Maintenance," (American Water Works Association, 1999).

2. Determining Baseline Flow

- a. For new systems, when the system is approved for operation and pressure tested to ensure for no leaks, the night time flow analysis will be conducted as described in 3.b., below.
- b. The baseline flow will be the lowest flow recorded. The results of the analysis and the proposed baseline flow will be submitted to DES for review.

3. Night Flow Analysis

- a. Night flow analysis will be conducted yearly.
- b. Water usage will be recorded every minute for one hour between 1 am and 3 am using a distribution meter. Users of the system will be requested prior to the night flow analysis to refrain from using water between 1 am and 3 am on this date. Nighttime flow analysis will be conducted prior to sprinkler season if possible.
- c. If flows are above the baseline, then flows will continue to be recorded for an additional hour.
- d. If flows are more than 8 gpm above the baseline, a leak will be suspected.
- e. If flows are still above the baseline, but no more than 8 gpm above baseline, all residents will be asked to check their homes for leaks including running toilets. The previous step will then be repeated again in 3 days.
- f. If again flows are above the threshold, a leak on the service side of the system will be assumed.
- g. If a leak is suspected, valves will be closed to isolate select portions of the system and to evaluate the change in flow as measured by the distribution meter to isolate the leak. For example, when one valve is closed, one person in the field (operating the valves) will then communicate with a second person observing the distribution meter to monitor for a change in the background flow.
- h. No later than two weeks from isolating the leak to a certain branch of a system, a sub-contractor skilled in acoustic leak detection will be retained and assist with pinpointing the leak.

- i. Leak detection will be conducted in accordance with “Manual of Water Supply Practices M36, Water Audits and Loss Control Programs” (American Water Works Association, 2009).
- j. Leaks will be repaired within 60 days of discovery unless a waiver is obtained in accordance with Env-Wq 2101.09.

Unaccounted for water

Water System Flushing is estimated by reading the house meter prior to flushing and after flushing. The difference is the approximate volume “flushed”

There are no proposed fire flows off of this distribution system.

Water during construction is metered during construction work.

Water Audit

A water audit will be conducted at least once annually and will be calculated in accordance with “Manual of Water Supply Practices M36, Water Audits and Loss Control Programs” (American Water Works Association, 2009).

The water system shall prepare and submit a response plan to the department within 60 days if the percentage of non-revenue water exceeds 15 percent of the total water introduced to the water system. The response plan shall identify how the water system intends to reduce the percentage of non-revenue water to below 15 percent within two years.

Consumption Management

Water consumption is proposed to be metered by Hampstead Area Water Company, Inc. (HAWC) Readings will be performed monthly via mobile radio read / drive by method.

The educational materials “Water Efficiency Practices for Domestic Indoor Water Use”, “Water Efficiency Practices for Outdoor Water Use” and “An Introduction to Water Use Management and Water Efficiency Practices” located at:

<http://des.nh.gov/organization/commissioner/pip/factsheets/dwgb/documents/dwgb-26-1.pdf>

<http://des.nh.gov/organization/commissioner/pip/factsheets/dwgb/documents/dwgb-26-2.pdf>

<http://des.nh.gov/organization/commissioner/pip/factsheets/dwgb/documents/dwgb-26-3.pdf>

These materials will be distributed to members of The Reserve at Snow’s Brook community at least twice per year.

Pressure Management

The water system will be designed consistent with water system industry standards and regulation and consistent with other public health and safety considerations in regards to minimum and maximum operating pressures as required by (EnvWq 2101.04 (n)). Pressures in the system are expected to range from 50 to 70 psi.

Water Use Restrictions/Actions

The HAWC implements water restrictions as needed. For example if there is a leak or over consumption, HAWC will restrict water as needed.

NH DES Water Conservation Report

The water system will submit a form supplied by DES once every three years documenting how compliance with the requirements of Env-Wq 2101 is being achieved.

Activities outlined in this water conservation plan will be completed by the contracted water operator at the time of completion.

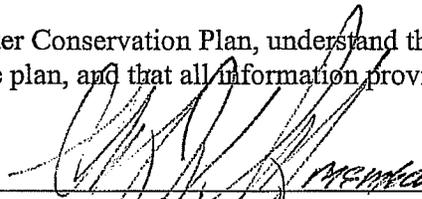
Public Notification

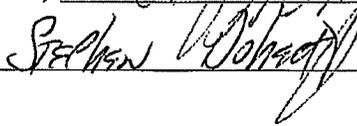
Within seven days of submitting the conservation plan to DES, the applicant shall provide a copy of the application and report via certified mail to the Town of Plaistow Selectmen, and the Rockingham Planning Commission located in exeter. The Town of Plaistow and the Rockingham Regional Planning Commission may provide the NHDES with written comments regarding the application within 21 days of receipt.

The information provided to the Town of Plaistow will include a summary of the requirements of Env-Wq 2101 and will request that the Town of Plaistow amend local site planning requirements to reflect the requirements of Env-Wq 2101 or to promote water efficiency.

Signed copies of the Certified Mail Return Receipts (the green card) will be forwarded to NHDES.

I certify that I have read this Water Conservation Plan, understand the responsibilities of the water system as referenced in the plan, and that all information provided is complete, accurate, and not misleading.

Signature Owner Name (print):  member

System Owner Signature:  Date: 8-23-13

-Water Conservation Rules-
Env-Wq 2101 (formerly Env-Ws 390)

Applicants applying for permits to develop new sources of water need to be aware that they are subject to new water conservation requirements required by RSA 485.61 which became law in July 2002. The law requires that the Department of Environmental Services (Department) adopt and administer water conservation rules for applicants developing the following type of new water sources:

1. New sources of groundwater for community water systems subject to RSA 485:3;
2. New sources of groundwater for bottled and bulk water operations subject to RSA 485:3;
3. New sources of groundwater that exceed 57,600 gallons over any 24-hour period subject to RSA 485-C; and
4. New sources of surface water associated with projects that require a water quality certification pursuant to Section 401 of the Federal Clean Water Act.

The Department met with an advisory committee consisting of representatives of municipalities, community water systems, environmental organizations, and business and industry to develop the water conservation rules. The rules were formally adopted by the Department in May 2005.

A general summary of the requirements of the water conservation rules is provided below.

**Requirements for All Large Community Water Systems and All New Small
Community Water Systems Developing New Sources of Water**

1. Install and maintain meters for all water withdrawals and service connections.
2. Implement a water audit, leak detection and leak repair program in accordance with the "Manual of Water Supply Practices, Water Audits and Leak Detection", document identification number AWWA M36; American Water Works Association, 1999.
3. When applicable, development and implementation of response plans to reduce unaccounted for water to less than 15%.
4. Implement a rate structure that encourages efficient water use.
5. Implement a water conservation educational outreach initiative.

**Requirements for Existing Small Community Water Systems
Developing New Sources of Water**

1. Either: a) Install source and service connection meters and implement a water audit, leak detection and leak repair program in accordance with the “Manual of Water Supply Practices, Water Audits and Leak Detection”, document identification number AWWA M36, American Water Works Association, 1999; or b) Complete a system-wide leak detection once every two years.
2. Repair all leaks within 60 days of identification.
3. Implement a water conservation educational outreach initiative.

**Requirements for Applicants Developing New Sources of Water for
Industrial, Commercial, or Institutional Water Uses**

1. Install water meters for all water sources.
2. Retrofit or replace single pass water-cooling systems when feasible based upon an economic analysis that includes a four-year payback period.
3. Install controls to stop the overflow or discharge of water to waste when feasible based upon an economic analysis that includes a four-year payback period.
4. Identify water conservation best management practices or best available technologies that may be applicable to the types of water-using processes at the subject facility, and implement these measures when feasible based upon an economic analysis that includes a four-year payback period.
5. For all new lawn areas, install six (6) inches of loam and devices to shut-off automatic irrigation systems when not needed.

For more information about the water conservation rules, contact Derek Bennett at 271-6685 or derek.bennett@des.nh.gov.