

***DRAFT***

**WATER CONSERVATION PLAN**

prepared pursuant to

Env-Wq 2101, *Water Conservation Rules*

as required for a proposed

**1.0 MGD Municipal Water Supply Well**

**for the**

**Town of Bow, New Hampshire**

August, 2009

## **Project Description:**

The Town of Bow is planning to construct a new water system for the businesses and residents located in the south east area of the community. The system will consist of a gravel packed well, pumping and treatment building, distribution piping and storage. The project is currently in the final stages of design, and is anticipated to be advertised for general bids in the fall of 2009. The Town is currently developing ordinances, rules and regulations, fee structures and other policy and requirements to operate the system. The Town is considering contract operations through a certified water system operator to oversee, operate and maintain the water system in accordance with the requirements of the NHDES. The plan outlined below addresses the requirements of the NHDES Conservation Plan.

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In accordance to NHDES Administrative Rule Env-Wq 2101.04, *Water Conservation Rules*, the Town of Bow, New Hampshire and/or its representatives will conduct the following water conservation measures subsequent to approval of the proposed well.

1. In accordance to Env-Wq 2101.04 (b and c) water meters will be installed for all water uses including raw and finished water pumping and individual customers. Raw and finished water will be metered within a pump station prior to being conveyed to the distribution system. The source meters will consist of electro magnetic type meters sized and located based on the expected range of flows and the recommendations of the manufacturer. Feedback from the meters will be collected and trended on a new SCADA system. All customers connected to the proposed water system will be 100% metered. Service meters will be sized based on manufacturer specifications while considering the type of water use and anticipated flow rates of each connection. Master meters (raw and finished water) will be calibrated at least yearly and perhaps more often. The exact maintenance schedule has yet to be determined.
2. The water 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 (Env-Wq 2101.04 (d)).
3. Meters for water service customers will be read at least once ever 90 days (Env-Wq 2101.04 (e)), if not more often. The exact frequency and method of reading customer

meters is currently being developed by the Town. Meters on water supply sources shall be read continuously through SCADA as required by (Env-Wq 2101.04 (f)).

4. The Town will conduct an on-going water audit and leak detection program. The water audit and leak detection program will be conducted as described in "Manual of Water Supply Practices, Water Audits and Leak Detection", document identification number AWWA M36, 1999 as required by (Env-Wq 2101.04 (g)). The proposed system will consist of less than 3 miles of pipe. At this time, the Town has not determined the methods of leak detection to be employed, yet they recognize that it will need to be conducted on at least a yearly basis. Continuous monitoring methods may also be considered. The final plan will be submitted to NHDES upon completion.
5. The Town will repair all leaks found during the water audit and leak detection program within 60 days of their discovery unless a waiver is obtained as required by (Env-Wq 2101.04 (h)).
6. The Town will estimate the volume and percentage of unaccounted-for water in the water system once every year using methods and procedures as described in AWWA manual M36, 1999, as required by (Env-Wq 2101.04 (i)). If the percent of unaccounted-for water exceeds 15% of the water introduced into the water system, then the Town will prepare and submit a response plan to NHDES within 60 days of the completion of the estimate. This response plan will describe activities that the Town will conduct to reduce the percentage of unaccounted-for water to below 15% within 2 years.
7. Upon receipt of NHDES approval of the response plan, the Town will conduct the activities outlined in the response plan following the approval schedule as required by (Env-Wq 2101.04 (m)).
8. The proposed system has been 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 (Env-Wq 2101.04 (n)). Pressures are expected to range from 35 psi to a slightly greater than 100 psi. In areas having pressures greater than 80 psi, the Town is expected to increase its leak detection surveillance.
9. The Town is currently evaluating alternative rate structures. At a minimum, the new rates will be based upon a flat or constant rate structure based on a unit price for water consumed to promote conservation. Other water conservation measures being considered include a requirement for the installation of low flow devices on all water fixtures installed such as shower heads, sink faucets, appliances and toilets. A copy of the final rate structure will be forwarded to NHDES upon completion.
10. The Town intends to conduct water conservation educational programs for its customers once the new system has been commissioned. At this time, we expect that a majority of the customers will be of the "non-residential" type. None-the-less, the Town will issue/conduct conservation education of its customers specific to the customer type using information and materials available from NHDES as required by (Env-Wq 2101.05 (p)).

The Town will conduct public notification activities and outreach activities as required by Env-Wq 2101.11 which will include posting of literature regarding water conservation practices. The Town will also conduct a water conservation educational outreach initiative for its customers upon obtaining approval for the new source through mailers with customer's bills and will consider conducting water audits for its customers as a service.

Materials used for conservation outreach will be obtained from a variety of sources including:

- NHDES water conservation fact sheet database located at:  
<http://des.nh.gov/organization/commissioner/pip/factsheets/dwgb/index.htm#efficiency>
- USEPA *WaterSense* database located at:  
<http://www.epa.gov/watersense/>

11. Activities outlined in this conservation plan will be completed under the direction of a certified water system operator pursuant to Env-Ws 367 as required by (Env-Wq 2101.05 (q)).