



The State of New Hampshire
DEPARTMENT OF ENVIRONMENTAL SERVICES



Thomas S. Burack, Commissioner

AMENDED
WATER CONSERVATION PLAN APPROVAL

September 16, 2015

Old Town Homeowners Cooperative Inc.
c/o Dennis Fowler, President
7 Hillside Drive
Allentown, NH 03275

RE: Allentown – Olde Towne Mobile Home Park (EPAID: 0043020)
Water Conservation Plan, NHDES #999174

Dear Mr. Fowler:

On December 10, 2010, the Department of Environmental Services (“DES”) Drinking Water and Groundwater Bureau approved a Water Conservation Plan for Olde Town Mobile Home Park, located in Allentown, New Hampshire. On June 1, 2015, DES received an Amended Water Conservation Plan (the “Amended WCP”). The purpose of this letter is to approve the Amended WCP signed on April 20, 2015, per the following conditions:

1. By **October 1, 2015**, a night flow analysis shall be completed and submitted to DES for review. The analysis shall include a proposed baseline flow.
2. All meters shall be tested and maintained based on the schedule proposed in the WCP. All meters are due for testing by **December 31, 2015**. Verification that the meters were tested shall be provided in the next compliance report, as stated in Condition #3, below.
3. Ongoing three year compliance reports shall be submitted every three years from the date of the original Water Conservation Plan Approval, December 10, 2010. The next compliance report is due on **December 10, 2016**. The report shall include the following:
 - a. A leak log including the date a leak was discovered, the date a leak was repaired, the type of leak (ex. water main, service line, hydrant, valve), the approximate size of the leak (gpm), and the nearest address to the leak.
 - b. The title of water efficiency materials distributed and the date of distribution.
 - c. Date of installation and replacement of all meters, as well as testing and calibration records.
 - d. Data from annual night flow analysis and a brief summary of the analysis.

4. Source meters, distribution meters, and any other meters measuring water consuming process prior to distribution shall be read on a monthly basis - no sooner than 27 days and no later than 33 days from the last meter reading.
5. All meters shall be installed per the manufacturer's instructions or American Water Works Association standards.
6. The system shall continue reporting monthly data to the NHDES Water Use Registration and Reporting program on a quarterly basis.
7. A night flow analysis shall be conducted at a rate of twice a year, but no sooner than 173 days after and no later than 187 days after the prior analysis.
8. All leaks shall be repaired within 60 days of discovery.
9. All new non-metallic pipes installed in the system shall be outfitted with detectable tracer tape or detectable tracer wire, or be GPS located and maintained in a GIS system.
10. An outreach and education program shall be implemented as proposed in the WCP, more specifically water efficiency materials shall be provided to residents twice a year.
11. Revisions to the Amended WCP shall not be implemented without further approval from DES.

A copy of the Amended WCP and 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.

Please feel free to contact me with any questions at (603) 271-6685 or via e-mail at stacey.herbold@des.nh.gov .

Sincerely,

A handwritten signature in black ink, appearing to read "Stacey Herbold". The signature is fluid and cursive, with the first name "Stacey" written in a larger, more prominent script than the last name "Herbold".

Stacey Herbold
Water Conservation Program
Drinking Water and Groundwater Bureau

cc: Henry DeBoer, Epping Well and Pump

Herbold, Stacey

From: Herbold, Stacey
Sent: Tuesday, December 15, 2015 2:59 PM
To: 'OTHC'
Cc: 'Henry DeBoer'; Vaughn, Kelsey; 'Abby Fopiano'; Roy, Stephen
Subject: Allenstown_Olde Town_NightFlow

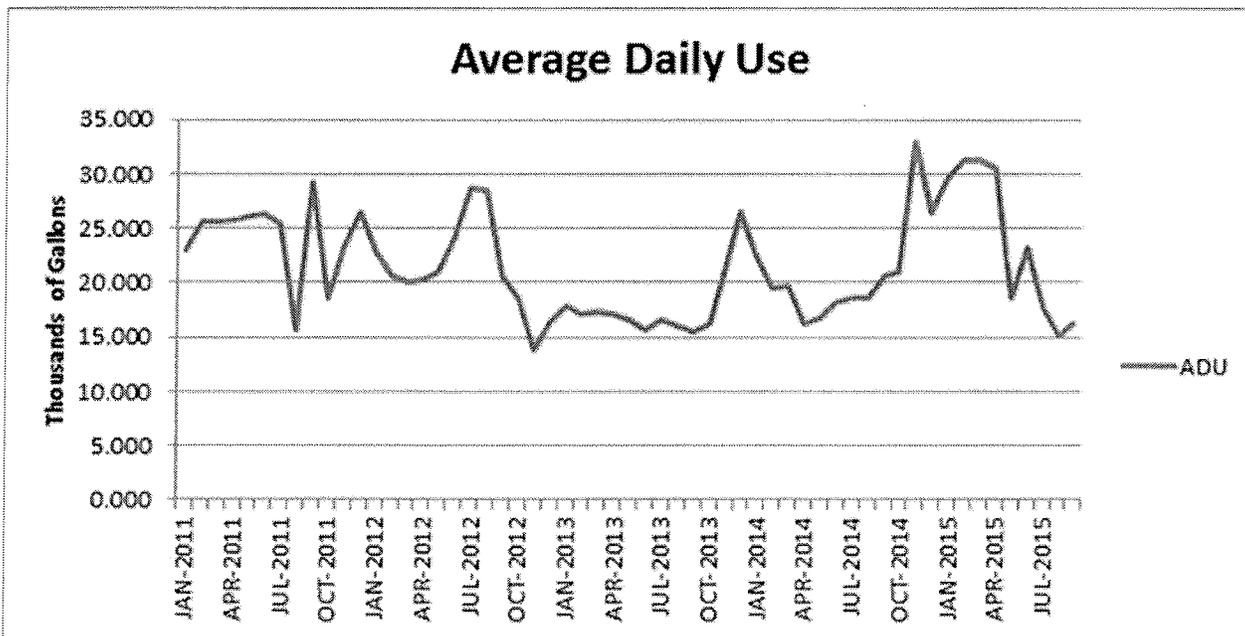
Hi Dennis,

Water usage in August was the lowest it has been since 2012 (see graph below), which is great. With a mild winter ahead and nobody running water to prevent pipe freezes, hopefully winter usage will be even lower. Based on the night flow analysis, it looks like a good baseline flow for the system is 2 gpm. This means that when conducting a night flow analysis, if flows are above 2 gpm, extra steps will be taken as outlined in the approved water conservation plan http://des.nh.gov/organization/divisions/water/dwgb/water_conservation/approved_plans.htm

As the system did exceed its permitted production volume last winter/spring, we would like to see the results of the next night flow analysis. Per the water conservation plan, night flow should be done at least twice a year, 6 months apart. The next night flow is due at the end of February. It may be a good idea to do one sooner than later to catch any issues pre-snow and frost. Q4 water use data is not due until September so I don't know what usage has looked like for October and November. **Let me know what the production volumes are and your thoughts on conducting another night flow before February.**

Also, our records indicate that there is not great record drawings available for the system. Leak detection will be much easier in the future if you know where the lines are. **Is this something you are thinking about pursuing?** DES is offering some funding to do record drawings: <http://des.nh.gov/organization/divisions/water/dwgb/categories/grants.htm>

Thank you.



Stacey Herbold
Water Conservation Program
Water Use Registration and Reporting Program

**Olde Towne Water System
Amended Water Conservation Plan**

I. Introduction

Pursuant to Env-Wq 2101, community water systems seeking approval for new sources must implement a water conservation plan. In 2010, Olde Towne received approval for BRW 3 and DES approved a water conservation plan for Olde Towne. This water conservation plan is an amendment to the original plan.

A. Contact Information

1. Name and location of system.

**Olde Towne
Allenstown, NH**

2. Owner of system and mailing address.

**Dennis Fowler
Old Towne Homeowners Cooperative
1 Woodlawn Dr
Allenstown, NH 03275**

B. System Overview

1. Name designation of each water source. **BRW 1, BRW3**
2. Number of connections proposed for each of the following classes:
 - a) Residential = **91 (247 people)**
 - b) Industrial/commercial/institutional = **0**
 - c) Municipal = **0**
3. Miles of Pipe:
 - a) Approx. 1 mile of 2" Main Line
 - b) Approx. 2 miles of ¾" Service Line

The system does not have an accurate as-built plan for the distribution system. Water lines are located through dowsing techniques and the use of an acoustic listening device which also helps us detect leaks underground. We have also located where we have done repairs to the lines so we can essentially connect-the-dots in many locations.

4. Type of Pipe:
 - a) Mostly black plastic pipe.
 - b) Some 2" blue CTS, and a little 3" CPVC

C. Water Use Trends / Population Trends:

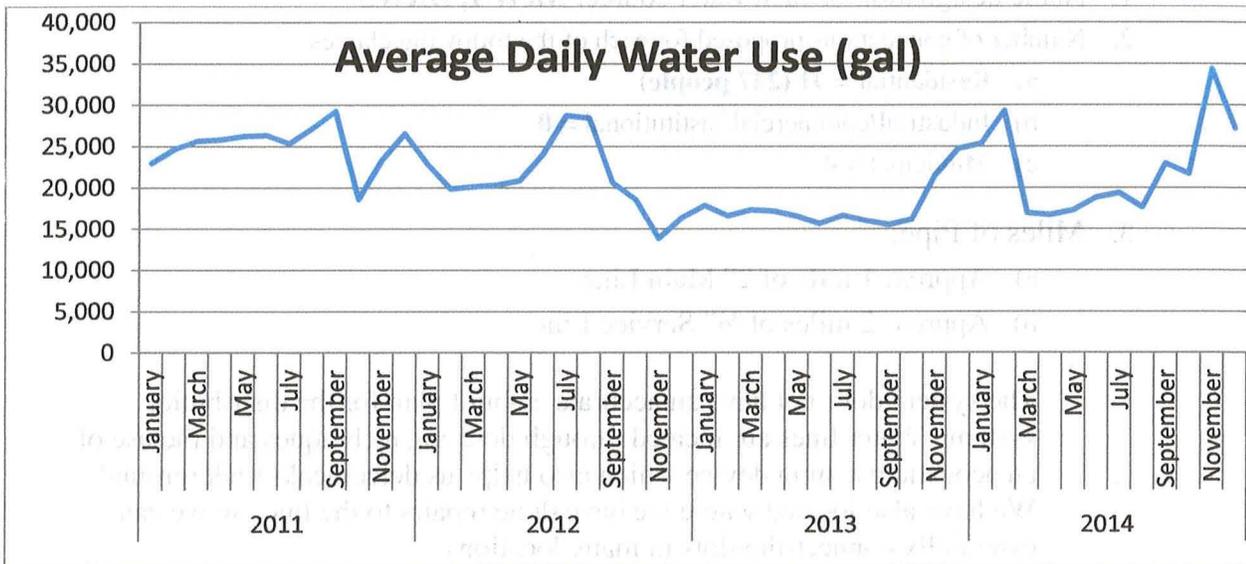
Olde Town
 Water Conservation Plan
 2015

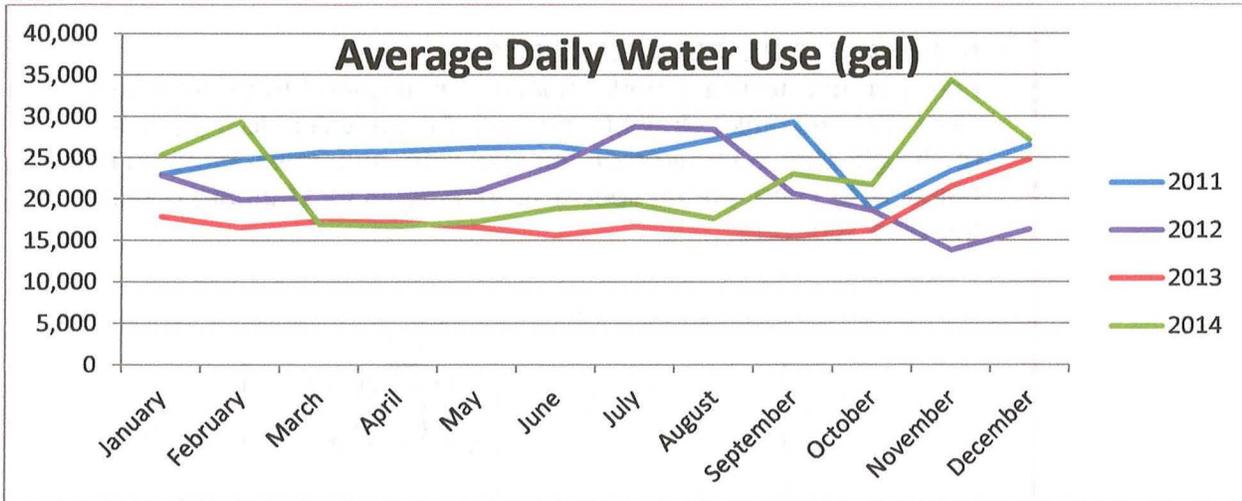
- a) Not a lot of seasonal usage changes. Water used in summer by residents to water lawns, wash vehicles, etc. is offset by water left running slowly in winter to prevent freezing on very cold nights. Not a lot of lawn irrigation in the park.
- b) Population trends also don't change much. Park is built out to capacity and vacancies do not stay vacant for more than a couple of months.
- c) There is no seasonal change in population and no expected growth in population.

When we purchased the park as a cooperative in 2007, there were a lot of water leaks that had not been located. Over time we located and repaired several leaks. At the time we did not reliability log water system repairs, but do a much better job now, and can verify repairs through repair invoices, etc.

In 2012 we finally located a large leak that surfaced under a home and was able to repair it which brought our daily to about 15,000 gallons per day.

On April 9, 2015, Old Towne was able to locate an ongoing leak of 15-18 gpm, which once repaired should further decrease flows.





II. System Side Management

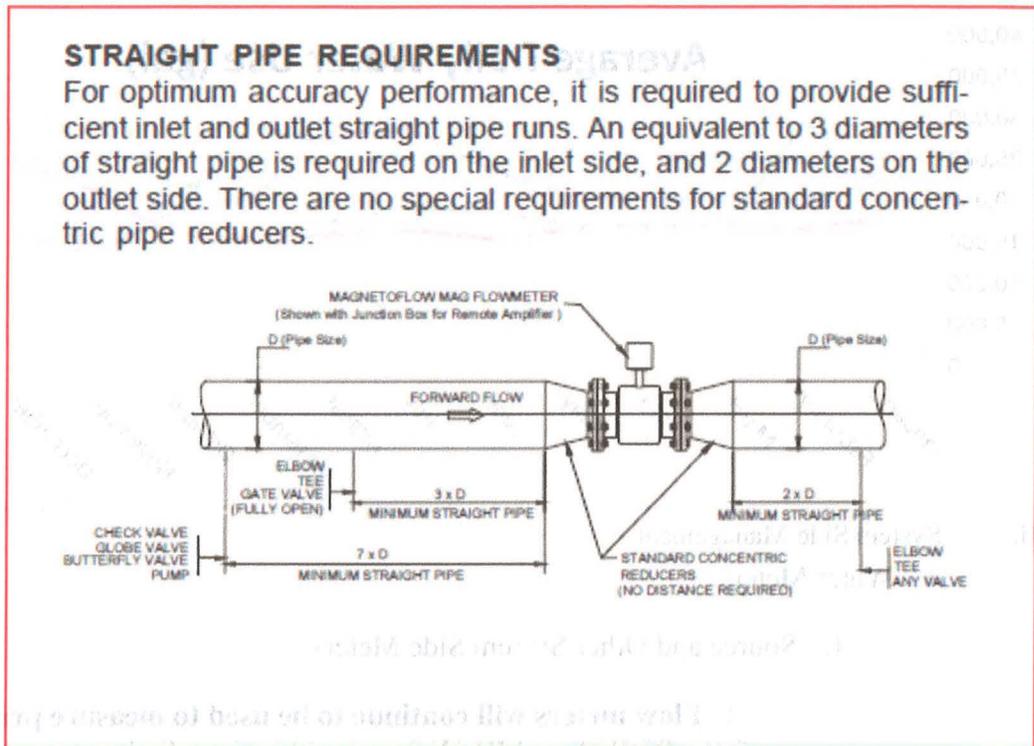
A. Water Meters

1. Source and Other System Side Meters

a) **Flow meters will continue to be used to measure production volumes from BRW 1 and BRW 3 and will be installed on any future sources of water.**

b) **A distribution meter will continue to be used to measure the volume of the water distributed into the system after treatment.** The meter is placed so that meeting minimum upstream and downstream length of pipe requirements is very close. During any re-plumbing in the future the meter will be relocated to better meet distances from the VFD, elbows, tee, and other appurtenances in the below diagram.





Meter make, model, and size may be found in Appendix I. The meter was installed per manufacturer’s specifications.

c) The source meters will continue to be read at least every 30 days and monthly production volumes will continue to be submitted online to the DES Water Use Registration and Reporting Program on a quarterly basis..

All meters used have been or 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).

d) Meters will be tested and calibrated/repared or changed out based on the following testing and calibration schedule

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

The meters will next be tested and calibrated in 2015.

B. Leak Detection: Night Flow Methodology

1. Establishing a Baseline Flow

- a) **A baseline flow will be established by conducting a night flow analysis as described in 2.a. On January 25, 2015, a night flow analysis was conducted from 1am to 2am. Flows were recorded each minute. The lowest flow recorded was 14.7 gpm, indicating a leak.**

To locate the leak, valves were closed to isolate sections of the water system and acoustic leak detection equipment was used to pinpoint the leak. Once all leaks are discovered and repaired, 2.a. will again be carried out to determine baseline flows.

2. Conducting Night Flow Analysis and Leak Repair

- a) **Night flow analysis will be conducted at least twice a year and no earlier than 167 days apart and no later than 184 days apart. Although, the system plans to at least once a month continue to check the overnight water usage using the recording flow graph on the digital display.**

- 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 in the first hour, flows are no more than 2 gpm above the baseline, then flows will continue to be recorded for an additional hour to see if flows reduce to baseline.**
- d) If flows are above baseline, a leak will be suspected. All residents will be asked to check their homes for leaks including running toilets. The previous steps will then be repeated again in 3 days.**
- e) If again flows are above the baseline, a leak on the distribution side of the system will be assumed.**
- f) 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.**
- g) 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.**
- h) 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).**
- i) Leaks will be repaired within 60 days of discovery unless a waiver is obtained in accordance with Env-Wq 2101.09.**

III.

A. Pressure Management

1. What are the design pressures of the system?

The water system is designed to be 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 (EnvW q 2101.04 (n)). Pressure in the system is controlled by variable speed booster pumps that are set to maintain a contact pressure of 45 psi.

2. How is pressure monitored?

The pressure within the system are monitored by pressure transducers in the pressure tank which communicate with the variable speed constant pressure booster pumps that are set to maintain a pressure within the system of 45 psi.

IV. Consumption Side Management

A. Educational Outreach Initiative

1. **Water efficiency tips and other information materials will be issued to residents twice a year.** (See DES Water Efficiency Fact Sheets at <http://des.nh.gov/organization/commissioner/pip/factsheets/dwgb/index.htm> and EPA WaterSense materials at <http://www.epa.gov/watersense/>)

2. Rate of dissemination. **At least twice a year.**

3. Does the water system intend on becoming a WaterSense partner?
<http://www.epa.gov/watersense/>

Yes. Olde Towne will become a WaterSense partner and use their materials to promote products that conserve water and to promote different initiatives throughout the year such as identifying (through the use of blue dye tablets) and fixing leaks.

4. Other outreach plans? **NO**

V. Zoning Ordinance / Bylaws

A. Are connections to the water system subject to any of the following water efficiency ordinances or bylaws?

1. Indoor

a) Water efficient fixtures beyond the existing plumbing code. **NO**

2. Landscaping

a) Minimum topsoil requirements. **NO**

b) Use of native/drought tolerant plants and grasses. **NO**

c) Area and slope restrictions for turf grass. **NO**

3. Irrigation System

a) Prohibition or restrictions to irrigation systems. **NO**

b) Require soil moisture sensors. **NO**

c) Require rain sensors. **NO**

4. Other water efficiency ordinances? **NO**

VI. Water Use Restrictions

A. What is the water system's plan relative to implementing water restrictions?

Olde Towne will implement the water conservation measures as necessary in the event of a water system emergency. Residents will be notified of such conservation measures by mailings, postings, and/or telephone tree. The water conservation measures implemented may include the following:

- 1. Watering lawns and other landscaped areas will, at a minimum, be restricted or banned entirely.**
- 2. Outdoor washing (cars, trucks, RV's, boats, sideways, driveways, decks, etc.) will, at a minimum, be restricted or banned entirely; and/or**
- 3. Laundry may be limited to fewer loads per day.**

B. Who is responsible for enforcing restrictions??

The OTHC Board of Directors and the Rules Committee.

VII. Documentation, Reporting and Implementation

- 1. A log will be kept of water efficiency educational materials distributed including date of distribution and title of the material.**
- 2. Records will be maintained of the biannual night flow analysis and if any leaks were suspected.**
- 3. A leak log will be maintained. The log will include the date a leak was discovered, the date the leak was repaired, the type of leak (ex. main, service, valve), and the estimated size of the leak.**
- 4. A log will be kept of the meter replacement, test, and calibration dates.**
- 5. A form supplied by DES will be filled out with the information maintained in the above logs and submitted to DES once every three years documenting how compliance with the requirements of Env-Wq 2101 is being achieved.**

6. Activities outlined in the water conservation plan will be completed by water system personnel under the supervision of a certified water system operator.

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.

Owner Name (print): Dennis R. Fowler

Owner Signature: Dennis R. Fowler Date: 04/20/2015