



COMMONWEALTH OF MASSACHUSETTS  
EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
**Central Regional Office**, 627 Main Street, Worcester, MA 01608

DEVAL L. PATRICK  
Governor

TIMOTHY P. MURRAY  
Lieutenant Governor

IAN A. BOWLES  
Secretary

LAURIE BURT  
Commissioner

August 21, 2009

Town of Ashburnham  
Board of Selectmen  
32 Main Street  
Ashburnham, MA 01430  
Attention: Edward Vitone, Chairman  
and  
Ashburnham-Winchendon Joint Water Board  
194 Lake Road  
Ashburnham, MA 01430  
Attention: Leo Collette

RE: Town: **Ashburnham**  
Ashburnham Water Department  
PWS ID # 2011000  
WMA Permit #9P2-2-07-011.01  
Transmittal # W016464  
Final Permit

Dear Sirs:

Please find attached document:

- Final Water Management Act Permit for Ashburnham Water Department and the Ashburnham-Winchendon Joint Water Board for a withdrawal in the Millers River Basin.
- Findings of Fact in Support of the Final Permit Decision.

The signature on this cover letter indicates formal issuance of the attached document. If you have any questions on the permit, please contact me at (508) 767-2827 or Barbara Kickham at (508) 767-2724.

Sincerely,

Marielle Stone  
Section Chief  
Drinking Water Program

Cc: Duane LeVangie, WMA Program Coordinator, Boston  
MWWA, via email

This information is available in alternate format. Call Donald M. Gomes, ADA Coordinator at 617-556-1057.

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**Communication for Non-English Speaking Parties (310 CMR 1.03(5)(a))**

English

This document is important and should be translated immediately.

Spanish

*Este documento es importante y se debe traducir inmediatamente.*

Portuguese

*Este original é importante e deve ser traduzido imediatamente.*

Italian

*Questo documento è importante e dovrebbe essere tradotto immediatamente.*

Greek

Αυτό το έγγραφο είναι σημαντικό και πρέπει να μεταφραστεί αμέσως.

French

*Ce document est important et devrait être traduit immédiatement.*

Chinese (traditional)

這個文件重要和應該立刻被翻譯。  
这个文件重要和应该立刻被翻译。



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**Findings of Fact in Support of the Permit Decision  
Town of Ashburnham &  
Ashburnham-Winchendon Joint Water Board  
Water Management Permit # 9P2-2-07-011.01**

The Massachusetts Department of Environmental Protection ("MassDEP") has completed its review of the Town of Ashburnham's (Ashburnham's) Water Management Act (WMA) permit application to increase its authorized withdrawal from the existing registered surface water source in the Miller's River Basin; Upper Naukeag Lake. The Ashburnham-Winchendon Joint Water Board (AWJWB), which controls the only intake from Upper Naukeag Lake and operates the water treatment plant, has been added to the permit as a co-permittee. A draft WMA permit was issued July 17, 2009 and no comments were received from the Town of Ashburnham or the AWJWB. Some editorial changes have been made to Special Condition 8, but the requirements and the intent of the condition have not changed from the draft.

In response to your application for a new permit to withdraw water from the Miller's River Basin for the Ashburnham Water Department, and after reviewing the information that you have provided, MassDEP hereby approves the Water Management Act permit #9P2-2-07-011.01 in accordance with the Water Management Act (M.G.L. 21G). MassDEP makes the following Findings of Fact in support of the attached permit, and includes herewith its reasons for approving the permit and for conditions of approval imposed, as required by M.G.L. c.21G, s.11, 310 CMR 36.26 and 310 CMR 36.00.

**Ashburnham Water Department Withdrawal History**

Ashburnham is registered under the Water Management Act to withdraw 0.18 million gallons per day (MGD). Ashburnham has been operating above the authorized registration since at least 1998. Average day demand ranged between 0.21 MGD in 2000 to 0.29 MGD in 2002. In 2003, average day demand was 0.24 MGD. The 2002 withdrawal volume was in violation of the Water Management Act for exceeding the registration plus the 100,000 gallons per day threshold volume.

Ashburnham and Winchendon acting jointly through the Ashburnham-Winchendon Joint Water Board constructed a new filtration plant for compliance with the Surface Water Treatment Rule. Construction of the new filtration plant was completed in 2002. Water supplies for both towns

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are withdrawn from a single intake at the site of the former Winchendon water intake and pumping station. The Ashburnham intake is no longer in use.

Both Ashburnham Water Department and Winchendon Water Department experienced metering problems, which resulted in generally underestimating Ashburnham water use and overestimating Winchendon water use between 1998 and 2002. After start up of the filtration plant, water use for Ashburnham from December 2001 to February 2002 was almost double typical winter use. Unaccounted for water was 26% in 2001 and 28% in 2002, however after conducting a leak detection survey in 2003 unaccounted for water reduced to 3%. Consequently, 2003 was the first year that reliable water use data was available to prepare a permit. UAW has since started climbing again and was determined to be 31% in 2008. Ashburnham has improved documentation of Confidentially Estimated Municipal Use and conducted leak detection surveys in 2008 and therefore expects to reduce UAW for the current year. Additional work including preparation of an UAW Compliance Plan may be needed in the future to reduce UAW to 10% or less.

MassDEP issued a draft WMA permit in 2004 to the Ashburnham Water Department; however a final permit was never issued. This final permit is issued to the Town of Ashburnham and the Ashburnham-Winchendon Joint Water Board as co-permittees. The AWJWB controls the intake and meter from Upper Naukeag Lake, operates the treatment plant and records the volume of treated water that flows to both Ashburnham and Winchendon's distribution systems and is therefore included as a co-permittee.

### **The Water Management Act**

The Act requires that MassDEP issue permits that balance a variety of factors including:

- Reasonable protection of existing water uses, land values, investments and enterprises;
- Reasonable conservation consistent with efficient water use;
- Reasonable protection of public drinking water supplies, water quality, wastewater treatment capacity, waste assimilation capacity, groundwater recharge areas, navigation, hydropower resources, water-based recreation, wetland habitat, fish and wildlife, agriculture, flood plains; and
- Reasonable economic development and job creation.

MassDEP has determined that there is documented evidence that water withdrawals and an increase in development and impervious area, combined with the out-of-basin export of wastewater, substantially contribute to low flow in the Commonwealth. These low flows impact the ability of rivers and tributaries to adequately serve all of the competing uses described in the Act. To better achieve the balance of competing water uses mandated by the Act, the MassDEP refers to the Water Conservation Standards adopted by the Water Resources Commission.

Specific performance standards and conditions have been identified to be applied to new Water Management permits and to existing permits at the time they are amended, during 5-year permit review or permit renewal. The MassDEP has applied these performance standards and conditions in Ashburnham's permit.

### **Findings of Fact for the Performance Standards in Ashburnham and AWJWB's Water Management Permit**

As required by MGL c 21G, s 11 and 310 CMR 36.00, the MassDEP makes the following Findings of Fact in support of the Permit, and includes herewith its reasons for approving the Permit and for imposing the conditions of approval.

The performance standards of 65 gallons per day or less for residential per capita water use and 10% or less of unaccounted for water, summer limits on withdrawals, and efforts to offset the impacts of increasing withdrawal volumes are consistent with the Massachusetts *Water Conservation Standards* approved by the Water Resources Commission in July 2006. These standards can be found at:

[http://www.mass.gov/Eoeea/docs/eea/water/water\\_conservation\\_standards.pdf](http://www.mass.gov/Eoeea/docs/eea/water/water_conservation_standards.pdf)

MassDEP believes these standards are reasonable based on studies and data developed throughout the country, the 1996 AWWA Leak Detection and Water Accountability Committee report on water accountability (*AWWA Journal*; July 1996; pp. 108-111), and the fact that the average values in 2007 for Massachusetts were 67 RGPCD, and 14% UAW. While these performance standards represent the minimum standards required for compliance with the Permit, MassDEP believes that through the implementation of all the terms and conditions of Water Management permits, municipalities can meet the performance standards for RGPCD and UAW.

All WMA registrations were renewed as of January 1, 2008. Included in the registration renewal conditions is the requirement that all municipal public water systems be in compliance with performance standards of 65 RGPCD, and 10% UAW before December 31, 2017. The conditions of this permit have earlier deadlines.

Permittees will be required to meet the 65 residential gallons per capita day (RGPCD) and 10% unaccounted-for-water (UAW) performance standards within 5 years of receiving their renewed permit. MassDEP will consider any permittee that has been unable to meet the 65 RGPCD or 10% UAW performance standard within 5 years of receiving its permit, but who is complying with the Water Conservation requirements included in the permit, who has implemented the required limits on nonessential outdoor water use, and who is making reasonable efforts to finance, implement and enforce a MassDEP-approved compliance plan to be achieving functionally equivalent compliance with the performance standards. The permittee will not be subject to Civil Administrative penalties by MassDEP provided they continue to make reasonable efforts to implement and enforce the compliance plan.

Because permittee's circumstances vary, a permittee may present an analysis of the cost effectiveness of implementing certain conservation measures required by the MassDEP and offer alternative measures. Any analysis must explicitly consider environmental impacts and must produce environmental benefits. MassDEP will allow Permittees to:

- Document economic hardship and present an analysis demonstrating that implementation of specific measures will cause or exacerbate significant economic hardship;
- Present reasons why specific measures are not cost effective because the cost would exceed the costs of alternative methods of achieving the appropriate standard; and

- Propose specific conservation measures that would result in equal or greater system-wide water savings or equal or greater environmental benefits than the conservation measures included in the MassDEP Functional Equivalence Plan.

MassDEP will review permittees' detailed, written cost effectiveness analysis to determine whether unique circumstances make specific Best Management Practices (BMPs) less cost-effective than alternatives, or not feasible for a particular PWS when developing the compliance plan.

### **Findings of Fact for Special Permit Conditions**

In issuing permits, MassDEP looks primarily at site-specific impacts and other issues specific to the system, such as impacts to nearby streams, wetlands, or other water users, justification of long-term demand projections and the capacity of permitted withdrawal points. The conditions are intended to ensure the efficient use of water and to mitigate the potential impact of withdrawals.

**Special Condition 1, Maximum Authorized Annual Average Withdrawal Volume**, reflects the registered withdrawal volume of 0.18 MGD and a permitted increase of 0.15 MGD for a total authorized withdrawal of 0.33 MGD through February 28, 2013. The additional authorized withdrawal volume is based on water use projections prepared by the Department of Conservation and Recreation, Office of Water Resources.

Baseline withdrawal is the volume withdrawn in compliance with the Act during the calendar year 2005, the average volume withdrawn in compliance with the Act from 2003 to 2005, or the registered volume, whichever is highest. Ashburnham's Baseline is 0.29 MGD, the withdrawal volume reported on the Annual Statistical Report (ASR) for 2005 in compliance with the draft permit issued in 2004. Water use above the 0.29 MGD Baseline for Ashburnham will require offsets if feasible.

**Special Condition 2, Maximum Authorized Daily Withdrawal Volume**, is the capacity of the treatment plant, which is 2.0 MGD. The intake from Upper Naukeag Lake is metered and recorded by the Ashburnham-Winchendon Joint Water Authority (AWJWA) before it enters the treatment plant. Ashburnham and Winchendon maintain separate source meters after treatment and before entering the distribution system.

**Special Condition 3, Firm Yield of Surface Water Supply**, is an estimate of the maximum average daily withdrawal rate that can be sustained during a period of record that includes the 1960's drought-of-record. The U.S. Geological Survey is currently revising the methodology to estimate groundwater contributions to reservoir storage and its effect on estimates of reservoir firm yield. The reservoir firm yield of Upper Naukeag Lake is expected for publication by the fall of 2010. Ashburnham and Winchendon have an agreement to equally share the reservoir firm yield. Water withdrawals by either town shall not exceed 50% of the authorized firm yield capacity of Upper Naukeag Lake. Authorized withdrawal volumes for Ashburnham or Winchendon may experience reductions should there be a reduction in the existing firm yield under the new methodology and one or both town exceeds 50% of the firm yield.

**Special Condition 4, Surface Water Protection**, addresses the requirements to meet the Drinking Water Program regulations for surface water protection. The Town of Ashburnham must develop a MassDEP approved surface water protection plan and implement zoning or non-zoning controls that protect the Zone A of their drinking water reservoir within 3 years of the date of this permit.

**Special Condition 5, Performance Standard for Residential Gallons Per Capita Day Water Use**, discussed previously. As reported in the 2008 Annual Statistical Report, the RGPCD for Ashburnham was 49.6.

**Special Condition 6, Performance Standard for Unaccounted for Water**, discussed previously. As reported in the 2008 Annual Statistical Report, Ashburnham's unaccounted-for-water was over 31%.

**Special Condition 7, Seasonal Limits on Nonessential Outdoor Water Use**, are based upon Ashburnham's Residential Gallons per Capita Day (RGPCD) for the preceding year, and will be implemented according to either: 1) calendar triggered restrictions; or 2) streamflow triggered restrictions. Should Ashburnham meet the 65 RGPCD performance standard, the system will be allowed to continue its existing on-going water conservation efforts, with, at a minimum, restrictions on nonessential outdoor water use between the hours of 9:00 AM and 5:00 PM when streamflow at the Millers River Gage falls below the identified trigger.

**1. Calendar triggered restrictions:** Restrictions shall be implemented from May 1<sup>st</sup> through September 30<sup>th</sup>. Many public water suppliers will find this option easier to implement and enforce than the streamflow triggered approach.

**2. Streamflow triggered restrictions:** Restrictions shall be implemented at those times when streamflow falls below designated flow triggers measured at an assigned, web-based, real-time U.S. Geologic Survey (USGS) stream gage from May 1<sup>st</sup> through September 30<sup>th</sup>. At a minimum, restrictions shall commence when streamflow falls below the trigger for three consecutive days. Once implemented, the restrictions shall remain in place until streamflow at the assigned USGS local stream gage meets or exceeds the trigger streamflow for seven consecutive days.

The baseline reference for designated streamflow triggers is near natural flows measured at USGS Index Gage sites which are the least-altered gages in southern New England<sup>1</sup>. Two-tiered streamflow triggers measured in cubic feet per second per square mile (cfs/mi) are derived from Aquatic Base Flow (ABF) values based on minimum flows that are protective of habitat for fish spawning during the spring bioperiod, and for fish rearing and growth during the summer bioperiod. ABF values for USGS index gages were calculated and presented in the index streamflow report by the Massachusetts Department of Conservation and Recreation.<sup>2</sup>

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<sup>1</sup> Armstrong, D.S., Parker, G.W., and Richards, T.A., 2008, Characteristics and classification of least altered streamflows in Massachusetts: U.S. Geological Survey Scientific Investigations Report 2007-5291, 113 p., plus CD-ROM.

<sup>2</sup> Massachusetts Department of Conservation and Recreation (DCR), 2008 Index Streamflows for Massachusetts, May 2008, Prepared by Office of Water Resources for the Massachusetts Water Resources Commission, 45 p., plus CD-ROM.

If the Town of Ashburnham selects the streamflow approach, it has been assigned the USGS local stream gage #01162000, Millers River near Winchendon. The USGS Index Gage associated with your local gage #01162500, Priest Brook near Winchendon, and has a June ABF stream value of 0.90 cfsm and an August ABF value of 0.24 cfsm. These index cfsm units translate to your local gage streamflow triggers as 74 cfs for May and June, and 20 cfs for July, August and September.

Should the reliability of flow measurement at the Miller's River gage be so impaired as to question its accuracy, Ashburnham may request the MassDEP's review and approval to transfer to another gage to trigger restrictions. MassDEP reserves the right to require use of a different gage.

**Drought triggered restrictions** are incorporated into the seasonal limits on outdoor water use as outlined in Special Condition 7. Times of low streamflow and drought do not always coincide, but both low streamflow and drought conditions can have adverse effects on water supplies, natural resources and aquatic life. **Please note that many communities impose drought-based outdoor water use restrictions before the Massachusetts Drought Management Task Force declares a Drought Advisory** because drought conditions can begin to impact local water supplies before a regional advisory is declared.

Nothing in this permit is intended to prevent communities from implementing water use restrictions that are more restrictive than those set forth in this permit.

**Special Condition 8, Water Withdrawals that Exceed Baseline Withdrawal Volumes,** Baseline withdrawal is the volume withdrawn in compliance with the Act during the calendar year 2005, the average volume withdrawn in compliance with the Act from 2003 to 2005, or the registered volume, whichever is highest. Ashburnham's Baseline is 0.29 MGD, the withdrawal volume reported on the Annual Statistical Report (ASR) for 2005 in compliance with the draft permit issued in 2004.

**Special Condition 9, Requirement to Report Raw and Finished Water Volumes,** ensures that the information necessary to evaluate compliance with the conditions included herein is accurately reported.

**Special Condition 10, Water Conservation Requirements,** incorporates the Water Conservation Standards for the Commonwealth of Massachusetts reviewed and approved by the Water Resources Commission in July 2006.

The summary of permit conditions above as part of MassDEP's findings of fact is not intended to, and should not be construed as, modifying any of the Permit conditions. In the event of any ambiguity between the summary and the actual permit conditions, the Permit language shall be controlling.

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**WATER WITHDRAWAL PERMIT  
 MGL c 21G**

This permit is approved pursuant to the Massachusetts Water Management Act for the sole purpose of authorizing the withdrawal of a volume of water as stated below and subject to the following special and general conditions. This permit conveys no right in or to any property beyond the right to withdraw the volume of water for which it is issued.

**PERMIT NUMBER:** 9P2-2-07-011.01                      **RIVER BASIN:** Millers

**PERMITTEES:**     Town of Ashburnham and  
                               Ashburnham-Winchendon Joint Water Board

**EFFECTIVE DATE:** August 21, 2009

**EXPIRATION DATE:** February 28, 2013

**NUMBER OF WITHDRAWAL POINTS:** 1  
     Surface Water: 1

**USE:** Public Water Supply

**DAYS OF OPERATION:** 365

**LOCATION:**

**Table 1: Withdrawal Point Identification**

Source Name	PWS Source ID Code
Upper Lake Naukeag	2011004-01S

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**SPECIAL CONDITIONS**

**1. Maximum Authorized Annual Average Withdrawal Volume**

This permit authorizes the Town of Ashburnham (Ashburnham) and the Ashburnham-Winchendon Joint Water Board (AWJWB) to withdraw water from the Millers River Basin at the rate described below in Table 2. The volume reflected by this rate is in addition to the 0.18 million gallons per day previously authorized to Ashburnham and the AWJWB under Water Management Act Registration #207011.01 for withdrawal from the Millers River Basin. The permitted volume is expressed both as an annual average daily withdrawal rate (million gallons per day or MGD), and as a total annual withdrawal volume (million gallons per year or MGY) for each five-year period of the permit term.

The Department of Environmental Protection (MassDEP) bases these withdrawal volumes on the raw water volume from the authorized withdrawal points, and will use the raw water amount to assess compliance with the registered and permitted withdrawal volumes. Ashburnham’s baseline withdrawal for the purpose of triggering “Special Condition 8, Water Withdrawals that Exceed Baseline Withdrawal Volumes” is 0.29 MGD, or 105.85 MGY.

**Table 2: Maximum Authorized Withdrawal Volumes**

5-Year Periods		Total Raw Water Withdrawal Volumes			
		Permit		Permit + Registration	
		Daily Average (MGD)	Total Annual (MGY)	Daily Average (MGD)	Total Annual (MGY)
Period One Years 1-5	3/1/1993 to 2/28/1998	No permit	No permit	0.18	65.7
Period Two Years 6-10	3/1/1998 to 2/28/2003	No permit	No permit	0.18	65.7
Period Three Years 11-15	3/1/2003 to 2/29/2008	0.12	43.8	0.30	109.5
Period Four Years 16-20	3/1/2008 to 2/28/2013	0.15	54.75	0.33	120.45

**2. Maximum Authorized Daily Withdrawals From Each Withdrawal Point**

Withdrawals from individual withdrawal points are not to exceed the approved maximum daily volumes listed below without specific advance written approval from MassDEP.

**Table 3: Maximum Daily Withdrawal Rate**

Name	PWS Source ID Code	Maximum Daily Rate (MGD)*
Upper Lake Naukeag	2011004-01S	2.0

\* The Maximum Daily Withdrawal Rate is based on a treatment plant capacity of 2 MGD; jointly operated with the Winchendon Water Department.

### 3. Firm Yield of Surface Water Supply

The reservoir firm yield is an estimate of the maximum average daily withdrawal rate that can be sustained during a period of record that includes the 1960's drought. The U.S. Geological Survey is currently revising the methodology to estimate groundwater contributions to reservoir storage and its effect on estimates of reservoir firm yield. The reservoir firm yield of Upper Naukeag Lake is expected for publication by the fall of 2010.

### 4. Surface Water Protection

Ashburnham must meet the requirements of 310 CMR 22.20 C(1)(d)(4) to develop a MassDEP approved surface water protection plan; and implement zoning or nonzoning controls that meet the requirements of 310 CMR 22.20C(2) to protect the Zone A which lies entirely within Ashburnham municipal limits.

MassDEP has a copy of the Surface Water Supply Protection Plan submitted by Ashburnham dated June 2003. Updates to the surface water protection plan are required every three years in accordance with the Drinking Water Regulations stated above. **If you have revised your Surface Water Protection Plan since June 2003 please provide a copy to MassDEP for compliance review.** The final text of the control measures must be submitted to the Drinking Water Program in Boston. If you have not revised your 2003 plan, you will be required to do so within two years of the date of the final WMA permit.

Ashburnham's Watershed Protection Bylaw requires revision to be in compliance with the Drinking Water Regulations, 310 CMR 22.20 C. Please contact Kathy Romero at (617) 292-5727 for assistance and more specific information on compliance with this regulation.

### 5. Performance Standard for Residential Gallons Per Capita Day Water Use

Ashburnham's performance standard for residential gallons per capita day (RGPCD) is 65 gallons. Ashburnham shall be in compliance with the performance standard by **December 31, 2011**. Ashburnham shall report its RGPCD water use annually in its Annual Statistical Report (ASR) and document compliance with this performance standard in its ASR for **2011** and each year thereafter. See Appendix A for additional information on the requirements if the performance standard for RGPCD is not met.

Ashburnham shall report the calculation used to derive the RGPCD as part of its ASR including, without limitation, the source of the data used to establish the service population and the year in which this data was developed.

### 6. Performance Standard for Unaccounted for Water

Ashburnham's performance standard for unaccounted for water (UAW) is 10% of overall water withdrawal. Ashburnham shall be in compliance with the performance standard by **December 31, 2011**. Ashburnham shall report its UAW and the calculation used to derive that figure, annually in its Annual Statistical Report (ASR). Ashburnham shall document compliance with this performance standard in its ASR for **2011** and each year thereafter. See Appendix B for additional information on requirements if the performance standard for UAW is not met.

## 7. Nonessential Outdoor Water Use

Ashburnham shall limit nonessential outdoor water use through mandatory restrictions from May 1<sup>st</sup> through September 30<sup>th</sup> as outlined in Table 4 below.

Ashburnham shall be responsible for tracking streamflows and drought advisories and recording when restrictions are implemented if streamflow triggered restrictions are implemented. See Accessing Streamflow and Drought Advisory Website Information in Table 3 for instructions.

Ashburnham shall document compliance with the summer limits on nonessential outdoor water use annually in its Annual Statistical Report (ASR), and indicate whether it anticipates implementing calendar triggered restrictions or streamflow triggered restrictions during the next year.

Nothing in this permit shall prevent Ashburnham from implementing water use restrictions that are more restrictive than those set forth in this permit.

### Water Uses Restrictions

**Nonessential outdoor water uses that are subject to mandatory restrictions** include:

- irrigation of lawns via sprinklers or automatic irrigation systems;
- washing of vehicles, except in a commercial car wash or as necessary for operator safety; and
- washing of exterior building surfaces, parking lots, driveways or sidewalks, except as necessary to apply surface treatments such as paint, preservatives, stucco, pavement or cement.

**The following uses may be allowed** when mandatory restrictions are in place:

- irrigation to establish a new lawn and new plantings during the months of May and September;
- irrigation of public parks and recreational fields by means of automatic sprinklers outside the hours of 9 am to 5 pm; and
- irrigation of lawns, gardens, flowers and ornamental plants by means of a hand-held hose.

**Water uses NOT subject to mandatory restrictions** are those required:

- for health or safety reasons;
- by regulation;
- for the production of food and fiber;
- for the maintenance of livestock; or
- to meet the core functions of a business (for example, irrigation by golf courses as necessary to maintain tees, greens, and limited fairway watering, or irrigation by plant nurseries as necessary to maintain stock).

**To the extent feasible, all summer outdoor water use should take place before 9 am and after 5 pm when evaporation and evapotranspiration rates are lower.**

**Table 4: Nonessential Outdoor Water Use**

<p><b>Permittees meeting the 65 RGPCD standard for the preceding year (as reported in the ASR and accepted by MassDEP) must implement either:</b></p>
<p><b>1. Calendar Triggered Restrictions from May 1<sup>st</sup> through September 30<sup>th</sup></b>  <b>No nonessential outdoor water use from 9 am - 5 pm</b></p>
<p><b>2. Streamflow Triggered Restrictions from May 1<sup>st</sup> through September 30<sup>th</sup></b>  <b>No nonessential outdoor water use from 9 am - 5 pm whenever:</b></p> <p>a) Streamflow at the assigned USGS local stream gage (gage #01162000, Millers River at Winchendon) falls below the following designated flow triggers for <b>three (3)</b> consecutive days:</p> <ul style="list-style-type: none"> <li>• May 1<sup>st</sup> through June 30<sup>th</sup>: <b>74 cfs</b> (based on minimum flows that are protective of habitat for fish spawning during the spring bioperiod), and</li> <li>• July 1<sup>st</sup> through September 30<sup>th</sup>: <b>20 cfs</b> (based on minimum flows that are protective of habitat for fish rearing and growth during the summer bioperiod).</li> </ul> <p>Once implemented, the restrictions shall remain in place until streamflow at the assigned USGS local stream gage meets or exceeds the trigger streamflow for <b>seven (7)</b> consecutive days; or</p> <p>b) A Drought Advisory or higher is declared by the Massachusetts Drought Management Task Force.</p>
<p><b>Permittees NOT meeting the 65 RGPCD standard for the preceding year (as reported in the ASR and accepted by MassDEP) must implement either:</b></p>
<p><b>1. Calendar Triggered Restrictions from May 1<sup>st</sup> through September 30<sup>th</sup></b></p> <p>a) <b>Nonessential outdoor water use is allowed TWO DAYS per week</b> before 9 am and after 5 pm; and</p> <p>b) <b>Nonessential outdoor water use is allowed ONE DAY per week whenever</b> A Drought Advisory or higher is declared by the Massachusetts Drought Management Task Force.</p>
<p><b>2. Streamflow Triggered Restrictions from May 1<sup>st</sup> through September 30<sup>th</sup></b>  <b>Nonessential outdoor water use is allowed ONE DAY per week before 9 a.m. and after 5 p.m. whenever:</b></p> <p>a) Streamflow at the assigned USGS local stream gage (gage #01162000, Millers River at Winchendon) falls below the following designated flow triggers for <b>three (3)</b> consecutive days:</p> <ul style="list-style-type: none"> <li>• May 1<sup>st</sup> through June 30<sup>th</sup>: <b>74 cfs</b> (based on minimum flows that are protective of habitat for fish spawning during the spring bioperiod), and</li> <li>• July 1<sup>st</sup> through September 30<sup>th</sup>: <b>20 cfs</b> (based on minimum flows that are protective of habitat for fish rearing and growth during the summer bioperiod).</li> </ul> <p>Once implemented, the restrictions shall remain in place until streamflow at the assigned USGS local stream gage meets or exceeds the trigger streamflow for <b>seven (7)</b> consecutive days; or</p> <p>b) A Drought Advisory or higher is declared by the Massachusetts Drought Management Task Force.</p>

**Table 4 Continued: Nonessential Outdoor Water Use**

**Instructions for Accessing Streamflow and Drought Advisory Website Information**

**Streamflow information** is available at the USGS National Water Information System (NWIS): Web Interface. The USGS NWIS default shows Massachusetts streamflows in real time, i.e., the most recent, usually quarterly hourly, reading made at each USGS stream gage.

Seasonal Limits on Nonessential Outdoor Water Use are implemented when the mean daily streamflow falls below the designated trigger. The mean daily flow is not calculated until after midnight each day when the USGS computes the hourly data into a mean daily streamflow. As a result, permittees must use the mean daily streamflow from the preceding day when tracking streamflows.

**Mean daily streamflow gage** readings are available at the USGS NWIS Web Interface at <http://waterdata.usgs.gov/ma/nwis/current/?type=flow>.

- Scroll down to gage #01162000, Millers River at Winchendon.
- Click on the gage number.
- Scroll down to “Provisional Date Subject to Revision – Available data for this site” and click on the drop down menu.
- Click on “Time-series: Daily data” and hit GO.
- Scroll down to the “Available Parameters” box. Within the box, be sure “Discharge (mean)” is checked, then, under “Output Format” click “Table” and hit GO.
- Scroll down to “Daily Mean Discharge, cubic feet per second” table and find the current date on the table.
- Compare the cubic feet per second (cfs) measurement shown on the table to the cfs shown under Streamflow Triggered Restrictions above.

**Drought Advisory** information is available at the Massachusetts Department of Conservation and Recreation (DCR) Drought Status Website at <http://www.mass.gov/dcr/waterSupply/rainfall/drought.htm>.

- Under “Drought Status Reports”, click on “drought map” on the right-hand side of the page. The color coded map displays the six drought regions in Massachusetts. Restrictions are implemented when a Drought Advisory, Watch, Warning or Emergency is announced through the DCR website.

**Public Notice of Water Use Restrictions**

Ashburnham shall notify its customers of the restrictions and the consequences of failing to adhere to the restrictions.

- For calendar-triggered restrictions, customers shall be notified by April 15<sup>th</sup> each year.
- For streamflow-triggered restrictions, when streamflow at the assigned USGS local stream gage falls below a streamflow trigger for three consecutive days, customers shall be notified as soon as possible, but within three days of implementing the restrictions.

Notice to customers shall include the following:

- A detailed description of the restrictions and penalties for violating the restrictions;
- The need to limit water use, especially nonessential outdoor water use, to ensure a sustainable drinking water supply and to protect natural resources and streamflow for aquatic life; and

- Ways individual homeowners can limit water use, especially nonessential outdoor water use.

Notice that restrictions have been put in place shall be filed each year with MassDEP within 14 days of the restriction's effective date. Filing shall be in writing on the Water Use Restrictions Form at <http://www.mass.gov/dep/water/approvals/wmgforms.htm#conserve>.

Notice to customers and MassDEP need not be provided if Ashburnham has already implemented water use restrictions that conform to the applicable restrictions and those restrictions are still in force.

## **8. Water Withdrawals that Exceed Baseline Withdrawal Volumes**

Ashburnham's baseline withdrawal volume (Baseline) is 0.29 MGD or 105.85 MGY, the withdrawal volume reported on the Annual Statistical Report (ASR) for 2005.

Ashburnham shall perform an Offset Feasibility Study the first time its water withdrawals for a calendar year exceed its Baseline, beginning with calendar year 2011. Ashburnham shall report its water withdrawal volumes annually in its ASR.

If Ashburnham is required to perform an Offset Feasibility Study (Study), Ashburnham shall:

- Within 60 days of the filing of an ASR indicating that a Study is required, submit a Study Scope of Work to MassDEP for approval;
- Within 6 months of MassDEP's approval of the Study Scope of Work, submit the completed Study to MassDEP for approval;
- MassDEP's approval of the Study Scope of Work and the completed Study will be presumed if MassDEP does not issue a written approval or denial of such submission within 60 days of the date submitted to MassDEP for approval.

If Ashburnham files a subsequent ASR indicating that withdrawals for a calendar year again have exceeded its Baseline, then Ashburnham shall:

- Implement the results of the Study;
- Document such implementation annually at the time it files its ASR; and
- Continue to implement the results of the Study as long as withdrawals exceed Baseline.

## **9. Requirement to Report Raw and Finished Water Volumes**

Ashburnham currently operates a surface water filtration treatment system through the Ashburnham-Winchendon Joint Water Board. The AWJWB shall report annually on its ASR the total raw water volumes from the intake and finished water volumes distributed separately to the Ashburnham and Winchendon systems. AWJWB shall provide the estimate (and the method used to estimate) the volume of water returned to Upper Naukeag Lake. The volume of water returned to the reservoir may be considered in determining the total withdrawal volume for compliance with the permit.

**10. Water Conservation Requirements**

At a minimum, Ashburnham shall implement the following conservation measures forthwith and shall be in compliance with these measures on or before February 28, 2013, the permit renewal date. MassDEP recognizes that Ashburnham is currently implementing a number of these requirements. Compliance with the water conservation requirements shall be reported to MassDEP upon request or by February 28, 2013, the date of the next Review/Renewal of the permit, unless otherwise noted below.

**Table 5: Minimum Water Conservation Requirements**

<b>System Water Audits and Leak Detection</b>
1. At a minimum, conduct a full leak detection survey every three years. The first full leak detection survey shall be completed no later than 3 yrs from the date of the last documented leak detection survey.
2. Perform a leak detection survey of the entire distribution system within one year whenever the percentage of unaccounted for water increases by 5% or more (for example an increase from 3% to 8%) over the percentage reported on the ASR for the prior calendar year. Within 60 days of completing the leak detection survey, Ashburnham shall submit to MassDEP for its review a report detailing the leak detection survey, any leaks uncovered as a result of the survey or otherwise, dates of repair and the estimated water savings as a result of the repairs.
3. Conduct field surveys for leaks and repair programs in accordance with the <u>AWWA Manual 36</u> .
4. Ashburnham shall have repair reports available for inspection by MassDEP. Ashburnham shall establish a schedule for repairing leaks that is at least as stringent as the following: <ul style="list-style-type: none"> <li>- Leaks of 3 gallons per minute or more shall be repaired within 3 months of detection.</li> <li>- Leaks of less than 3 gallons per minute at hydrants and appurtenances shall be repaired as soon as possible.</li> <li>- Leaks of less than 3 gallons per minute shall be repaired in a timely manner, but in no event more than 6 months from detection, except that leaks in freeway, arterial or collector roadways shall be repaired when other roadwork is being performed on the roadway.</li> </ul> Leaks shall be repaired in accordance with Ashburnham’s priority schedule including leaks up to the property line, curb stop or service meter, as applicable. Ashburnham shall have water use regulations in place that require property owners to expeditiously repair leaks on their property.
<b>Metering</b>
1. Calibrate all source and finished water meters at least annually and report date of calibration on the ASR.
2. Ashburnham reports its system is not 100% metered. Provide a schedule to meter 100% of your system within 1 year of the date of this permit. All water distribution system users shall have properly sized service lines and meters that meet AWWA calibration and accuracy performance standards as set forth in <u>AWWA Manual M6 – Water Meters</u> , by the permit renewal date (February 28, 2013).
3. Ashburnham shall have an ongoing program to inspect individual service meters to ensure that all service meters accurately measure the volume of water used by your customers. The metering program shall include regular meter maintenance, including testing, calibration, repair, replacement and checks for tampering to identify and correct illegal connections. The plan shall continue to include placement of sufficient funds in Ashburnham’s annual water budget to calibrate, repair, or replace meters as necessary.

<b>Table 5 Continued: Minimum Water Conservation Requirements</b>	
<b>Pricing</b>	
1.	Establish a water pricing structure that includes the full cost of operating the water supply system by the permit renewal date (February 28, 2013). Evaluate rates every three to five years and adjust costs as needed. Full cost pricing factors all costs - operations, maintenance, capital, and indirect costs (environmental impacts, watershed protection) - into prices.
2.	Ashburnham shall not use decreasing block rates. Decreasing block rates which charge lower prices as water use increases during the billing period, are not allowed by M.G.L. Chapter 40 Section 39L.
<b>Residential and Public Sector Conservation</b>	
1.	Ashburnham shall meet the standards set forth in the Federal Energy Policy Act, 1992 and the Massachusetts Plumbing Code.
2.	Meter or estimate water used by contractors using fire hydrants for pipe flushing and construction.
3.	<p>Municipal buildings</p> <ul style="list-style-type: none"> <li>• By January 1, 2011, submit to MassDEP a status report detailing which municipally owned public buildings in the Ashburnham's service area have been retrofitted with water saving devices (faucet aerators, low flow shower heads and low flow toilets) and which of those buildings have yet to be retrofitted, along with a schedule to complete the retrofitting by January 1, 2015.</li> <li>• On or before January 1, 2015, Ashburnham shall ensure that all municipally owned public buildings in the service area are retrofitted.</li> </ul> <p>Note municipally owned public buildings that may be scheduled for rehab or demolition after the January 1, 2015 deadline for completing the retrofits, may with MassDEP's approval, be exempted from this condition based on the schedule of work. Status report required above should identify those buildings and schedule for repairs/demolition.</p>
<b>Industrial and Commercial Water Conservation</b>	
1.	Ashburnham shall review the use records for its industrial, commercial and institutional water users and develop an inventory of the largest water users. Ashburnham shall develop and implement an outreach program designed to inform and (where appropriate) work with its largest industrial, commercial and institutional water users on ways to reduce their water use by the permit renewal date (February 28, 2013). Such outreach plans can include, but are not limited to: information on water audits, meter sizing, water reuse, low-flow plumbing fixtures, mandatory outdoor water use restrictions, suggestions for contacting trade associations for process specific information on water use reductions, and information on contacting the Executive Office of Environmental Affairs Office of Technical Assistance for Toxics Use Reduction (OTA) which offers a range of assistance and information to help facilities improve water use efficiency and reduce wastewater discharge. OTA can be contacted at (617) 626-1060 or at <a href="http://www.mass.gov/envir/ota">www.mass.gov/envir/ota</a> .
2.	Upon request by MassDEP, Ashburnham shall report on industrial, commercial and institutional water conservation including the results of its review of water use records for industrial, commercial and institutional water users, the inventory of the largest water users, copies of any outreach materials distributed to industrial, commercial and institutional water users, and to the extent practical, a summary of water use reductions or savings that have resulted. Upon receipt of this report, MassDEP will take whatever action it deems appropriate to promote the interests of the Water Management Act, including without limitation requiring Ashburnham to take additional actions to reduce industrial, commercial and institutional water use.

<b>Table 5 Continued: Minimum Water Conservation Requirements</b>
<b>Lawn and Landscape</b>
1. Adopt a water use restriction bylaw, ordinance or regulation by <b>May 1, 2011</b> , to provide authority to implement and enforce water use restrictions required by Special Condition #7.
<b>Public Education and Outreach</b>
1. Develop and implement a Water Conservation Education Plan. Ashburnham's Water Conservation Education Plan shall be designed to educate Ashburnham's water customers of ways to conserve water. Without limitation, Ashburnham's plan may include the following actions: <ul style="list-style-type: none"><li>• Include in bill stuffers and/or bills, a work sheet to enable customers to track water use and conservation efforts and estimate the dollar savings;</li><li>• Public space advertising/media stories on successes (and failures);</li><li>• Conservation information centers perhaps run jointly with electric or gas company;</li><li>• Speakers for community organizations;</li><li>• Public service announcements; radio/T.V./audio-visual presentations;</li><li>• Joint advertising with hardware stores to promote conservation devices;</li><li>• Use of civic and professional organization resources;</li><li>• Special events such as Conservation Fairs;</li><li>• Develop materials that are targeted to schools with media that appeals to children, including materials on water resource projects and field trips; and</li><li>• Make multilingual materials available as needed.</li></ul>
2. Upon request of MassDEP, Ashburnham shall report on its public education and outreach effort, including a summary of activities developed for specific target audiences, any events or activities sponsored to promote water conservation and copies of written materials.

**GENERAL PERMIT CONDITIONS (applicable to all Permittees)**

No withdrawal in excess of 100,000 gallons per day over the registered volume (if any) shall be made following the expiration of this permit, unless before that MassDEP has received a renewal permit application pursuant to 310 CMR 36.00.

1. **Duty to Comply** The permittee shall comply at all times with the terms and conditions of this permit, the Act and all applicable State and Federal statutes and regulations.
2. **Operation and Maintenance** The permittee shall at all times properly operate and maintain all facilities and equipment installed or used to withdraw water so as not to impair the purposes and interests of the Act.
3. **Entry and Inspections** The permittee or the permittee's agent shall allow personnel or authorized agents or employees of MassDEP to enter and examine any property for the purpose of determining compliance with this permit, the Act or the regulations published pursuant thereto, upon presentation of proper identification and an oral statement of purpose.
4. **Water Emergency** Withdrawal volumes authorized by this permit are subject to restriction in any water emergency declared by MassDEP pursuant to MGL c 21G ss 15-17, MGL c 150 ss 111, or any other enabling authority.
5. **Transfer of Permits** This permit shall not be transferred in whole or in part unless and until MassDEP approves such transfer in writing, pursuant to a transfer application on forms provided by MassDEP requesting such approval and received by MassDEP at least thirty (30) days before the effective date of the proposed transfer. No transfer application shall be deemed filed unless it is accompanied by the applicable transfer fee established by 310 CMR 36.37.
6. **Duty to Report** The permittee shall complete and submit annually, on a form provided by MassDEP, all of the information required by said form including, without limitation, a certified statement of the withdrawal. Such report shall be received by MassDEP by the date specified on the form each year. Such report must be mailed or hand delivered to:

Department of Environmental Protection  
Drinking Water Program  
Water Management Program  
One Winter Street, 5th Floor  
Boston, MA 02108

7. **Duty to Maintain Records** The permittee shall maintain withdrawal records and other information in sufficient detail to demonstrate compliance with this permit.
8. **Metering** All withdrawal points included within the permit shall be metered within one year of the date of issuance of the permit. Meters shall be maintained and replaced as necessary to ensure the accuracy of the withdrawal records.

### **APPEAL RIGHTS AND TIME LIMITS**

This permit is a decision of MassDEP. Any person aggrieved by this decision may request an adjudicatory hearing under the provisions of MGL c 30A. Any such request must be made in writing, by certified mail and received by MassDEP within twenty-one (21) days of the date of receipt of this permit. No request for an appeal of this permit shall be validly filed unless a copy of the request is sent by certified mail or delivered by hand to the local water resources management official in the city or town in which the withdrawal point(s) is located; and for any person appealing this decision, who is not the applicant, unless such person notifies the permit applicant of the appeal in writing by certified mail or by hand within five (5) days of mailing the appeal to MassDEP.

### **CONTENTS OF HEARING REQUEST**

310 CMR 1.01(6)(b) requires the request to include a clear and concise statement of the facts which are the grounds for the request and the relief sought. In addition, the request must include a statement of the reasons why the decision of MassDEP is not consistent with applicable rules and regulations, and for any person appealing this decision who is not the applicant, a clear and concise statement of how that person is aggrieved by the issuance of this permit.

### **FILING FEE AND ADDRESS**

The hearing request, together with a valid check, payable to the Commonwealth of Massachusetts in the amount of \$100 must be mailed to:

Commonwealth of Massachusetts  
Department of Environmental Protection  
P.O. Box 4062  
Boston, MA 02211

The request shall be dismissed if the filing fee is not paid, unless the appellant is exempt or granted a waiver as described below.

### **EXEMPTIONS**

The filing fee is not required if the appellant is a city or town (or municipal agency), county, district of the Commonwealth of Massachusetts, or a municipal housing authority.

### **WAIVER**

MassDEP may waive the adjudicatory hearing filing fee for any person who demonstrates to the satisfaction of MassDEP that the fee will create an undue financial hardship. A person, seeking a waiver must file, together with the hearing request, an affidavit setting forth the facts, which support the claim of undue hardship.

## **Appendix A – Residential Gallons Per Capita Day**

### **I. Compliance Plan Requirement**

If Ashburnham fails to document compliance with the RGPCD performance standard in its **2011** ASR, or in any ASR thereafter, then Ashburnham must file with that ASR a Residential Gallons Per Capita Day Compliance Plan (RGPCD Plan) which shall:

- a. meet the requirement set forth below in Section II;
- b. include measures to be implemented to meet the performance standard; and
- c. include the schedule for implementing such measures.

The filing of an RGPCD Plan shall not constitute a return to compliance, nor shall it affect MassDEP's authority to take action in response to Ashburnham's failure to meet the performance standard.

If an RGPCD Plan is required, Ashburnham must:

- a. submit information and supporting documentation sufficient to demonstrate compliance with its RGPCD Plan annually at the time it files its ASR; and
- b. continue to implement the RGPCD Plan until it complies with the performance standard and such compliance is documented in Ashburnham's ASR for the calendar year in which the standard is met.

### **II. Contents of a Residential Gallons Per Capita Day Compliance Plan**

At a minimum, all RGPCD Compliance Plans must include a detailed:

- a. description of the actions taken during the prior calendar year to meet the performance standard;
- b. analysis of the cause of the failure to meet the performance standard;
- c. description and schedule of the actions that will be taken to meet the performance standard; and
- d. analysis of how the actions described in c. will address the specific circumstances that resulted in the failure to meet the performance standard.

RGPCD Plans may be amended to revise the actions that will be taken to meet the performance standard. Amended RGPCD Plans must include the information set forth in paragraph above.

At a minimum, all RGPCD Plans for failure to meet the RGPCD performance standard must include implementation of at least one of the following residential conservation programs:

- a. a program that provides water saving devices such as faucet aerators and low flow shower heads at cost;
- b. a program that provides rebates or other incentives for the purchase of low water use appliances (washing machines, dishwashers, and toilets); or
- c. the adoption and enforcement of an ordinance, bylaw or regulation to require the installation of moisture sensors or similar climate related control technology on all automatic irrigation systems.

If Ashburnham is already implementing one or more of these programs, it must include in its RGPCD Plan the continued implementation of such program(s), as well as implementation of at least one additional program. All programs must include a public information component designed to inform customers of the program and to encourage participation in the program.

Without limitation, RGPCD Plans for failure to meet the RGPCD performance standard may include the following actions in addition to those outlined in the paragraph above:

- a. the use of an increasing block water rate or a seasonal water rate structure as a tool to encourage water conservation;
- b. a program that provides rebates or other incentives for the installation of moisture sensors or similar climate related control technology on automatic irrigation systems;
- c. the adoption and enforcement of an ordinance, bylaw or regulation to require that all new construction include water saving devices and low water use appliances;
- d. the adoption and enforcement of an ordinance, bylaw or regulation to require that all new construction minimize lawn area and/or irrigated lawn area, maximize the use of drought resistant landscaping, and maximize the use of top soil with a high water retention rate;
- e. the implementation of a program to encourage the use of cisterns or rain barrels for outside watering; and
- f. the implementation of monthly or quarterly billing.

## **Appendix B – Unaccounted for Water**

UAW is defined as the residual resulting from the total amount of water supplied to a distribution system as measured by master meters, minus the sum of all amounts of water measured by consumption meters in the distribution systems, and minus confidently estimated and documented amounts used for certain necessary purposes.

Examples of UAW include, but are not limited to: leakage, meter inaccuracies (unless they fall under the category of adjustment per results of source meter calibration described in the ASR), errors in estimation of stopped meters, unauthorized hydrant openings, illegal connections, data processing errors, and undocumented fire fighting uses.

Examples of uses that can be confidently estimated and documented in writing include storage tank overflow and drainage; water main flushing and flow testing; fire fighting; bleeding or blow-offs; sewer and stormwater system flushing; and cleaning and street cleaning. Generally, leakage is considered to be UAW, however, individual water main breaks can be discounted on a case-by-case basis. Any adjustment in the calculation of UAW made as a result of confidently estimated uses shall be documented as required in the ASR.

### **I. Compliance Plan Requirement**

If Ashburnham fails to document compliance with the UAW performance standard in its **2011** ASR, or in any ASR thereafter, then Ashburnham must file with that ASR an Unaccounted for Water Compliance Plan (UAW Plan) which shall:

- a. meet the requirements set forth below in Section II;
- b. include measures to be implemented to meet the performance standard; and
- c. include the schedule for implementing such measures.

The filing of a UAW Plan shall not constitute a return to compliance, nor shall it affect MassDEP's authority to take action in response to Ashburnham's failure to meet the performance standard.

If a UAW Plan is required, Ashburnham must:

- a. submit information and supporting documentation sufficient to demonstrate compliance with its UAW Plan annually at the time it files its ASR; and
- b. continue to implement the UAW Plan until it complies with the performance standard and such compliance is documented in Ashburnham's ASR for the calendar year in which the standard is met.

### **II. Contents of an Unaccounted for Water Compliance Plan**

Ashburnham has the choice to file a UAW Plan with measures tailored to the specific needs of its water supply system (Individualized UAW Plan) or a UAW Plan that includes Best Management Practices (BMP UAW Plan).

At a minimum, all UAW Plans must include a detailed:

- a. description of the actions taken during the prior calendar year to meet the applicable performance standard;
- b. analysis of the cause of the failure to meet the performance standard;
- c. description and schedule of the actions that will be taken to meet the performance standard; and
- d. analysis of how the actions described in c. will address the specific circumstances that resulted in the failure to meet the performance standard.

UAW Plans may be amended to revise the actions that will be taken to meet the performance standard. Amended UAW Plans must include the information set forth in the paragraph above.

#### Individualized UAW Compliance Plan

Without limitation, Individualized UAW Compliance Plans for failure to meet the UAW performance standard may include any of the actions set forth in the BMP UAW Compliance Plan below.

#### BMP UAW Compliance Plan

At a minimum, all BMP UAW Plans for failure to meet the UAW performance standard must include all of the following actions:

- a. within one year of filing the UAW Plan, complete a water audit and leak detection survey of the entire system and submit completed audit and survey to MassDEP;
- b. within one year of completing the audit and leak detection survey, conduct sufficient repairs to reduce by 75% (by water volume) all leaks detected in the survey; and
- c. within one year of completing such repairs, conduct additional repairs of leaks detected in the survey as may be necessary to reduce permittee's UAW to 10% or less;
- d. implementation of a program that ensures the inspection and evaluation of all water meters and, as appropriate, the repair, replacement and calibration of water meters in accordance with the following schedule:
  - Large Meters (2" or greater) - within one year of filing the BMP UAW Plan
  - Medium Meters (1" or greater and less than 2") - within two years of filing the BMP UAW Plan
  - Small Meters (less than 1") - within three years of filing the BMP UAW Plan
- e. implementation of monthly or quarterly billing within three years of filing the BMP UAW Plan; and
- f. within one year of filing the UAW Plan, implementation of a water pricing structure that achieves sufficient revenues to pay the full cost of operating the system including, without limitation, the costs of repairs under paragraph a., the costs of meter repairs, replacements and calibrations under paragraph b., the costs of employees and equipment, and ongoing maintenance and capital costs.

## **Appendix C – Nonessential Outside Water Use**

### **I. Nonessential Outdoor Water Use**

As stated in Special Condition 7, in Water Management Act permits, “nonessential outdoor water use” includes uses that are not required:

- a. for health or safety reasons;
- b. by regulation;
- c. for the production of food and fiber;
- d. for the maintenance of livestock; or
- e. to meet the core functions of a business.

Examples of **nonessential** outdoor water uses include:

- irrigation of lawns via sprinklers or automatic irrigation systems,
- washing of vehicles other than by means of a commercial car wash except as necessary for operator safety,
- washing of exterior building surfaces, parking lots, driveways or sidewalks, except as necessary to apply paint, preservatives, stucco, pavement or cement.

Examples of **acceptable** outdoor water uses include:

- irrigation to establish a new lawn during the months of May and September;
- irrigation of lawns, gardens, flowers, and ornamental plants via hand held hoses only; and
- irrigation of public parks and recreational fields before 9 am and after 5 pm.

### **II. Accessing Mean Daily Streamflows for the Millers River Gage Via the USGS Website**

The USGS Steamflow website default shows Massachusetts streamflows in real time, i.e., the most recent periodic, usually quarterly hourly, reading made at each USGS stream gage. This real-time data can vary widely over the course of a day and is not used to trigger the Water Management Permit Summer Limits on Withdrawals.

To trigger the Summer Limits on Withdrawals, MassDEP relies on the mean daily streamflows. The mean daily cannot be calculated until after midnight each day when USGS computes the hourly data into a mean daily streamflow.

Go to <http://waterdata.usgs.gov/ma/nwis/current/?type=flow> for daily mean streamflow data at the Millers River near Winchendon (Gage # 01162000). If you need assistance navigating the USGS web site to find the mean daily streamflow, contact Water Management Program staff at the MassDEP Boston Office at (617) 292-5532, or Water Management Act Program staff at the Central Regional Office at (508) 767-2701.