



Commonwealth of Massachusetts  
Executive Office of Energy & Environmental Affairs

## Department of Environmental Protection

One Winter Street Boston, MA 02108 • 617-292-5500

Charles D. Baker  
Governor

Karyn E. Polito  
Lieutenant Governor

Matthew A. Beaton  
Secretary

Martin Suuberg  
Commissioner

Mr. James Kane  
ADM Agawam Development LLC  
158 Tihonet Road  
Wareham, MA 02571

December 13, 2018  
RE: ADM Agawam Development LLC  
PWS ID#: 4239060  
Water Management Act Permit 9P4-4-24-239.06  
Action: WMA Permit Amendment

Dear Mr. Kane:

Please find attached the following:

- Findings of Fact in Support of the Permit Amendment Decision, and
- FINAL Water Management Act Permit #9P4-4-24-239.06 for the ADM Agawam Development LLC, Wareham, Massachusetts.

If you have any questions regarding this permit, please contact Shi Chen at 617-292-5532 or via email at [shi.chen@state.ma.us](mailto:shi.chen@state.ma.us).

Very truly yours,

Duane LeVangie  
Water Management Program Chief

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Ecc: Jen Pederson, MWWA

Julia Blatt, Massachusetts Rivers Alliance  
Kathy Baskin, Weston & Sampson  
Jim McLaughlin, SERO

This information is available in alternate format. Contact Michelle Waters-Ekanem, Director of Diversity/Civil Rights at 617-292-5751.

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**Massachusetts Department of Environmental Protection**  
**One Winter Street, Boston MA 02108 • Phone: 617-292-5751**  
**Communication For Non-English Speaking Parties - 310 CMR 1.03(5)(a)**



**1 English:**

This document is important and should be translated immediately. If you need this document translated, please contact MassDEP's Diversity Director at the telephone numbers listed below.



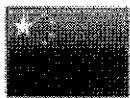
**2 Español (Spanish):**

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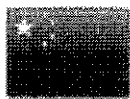
**3 Português (Portuguese):**

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**4(a) 中國 (傳統) (Chinese (Traditional)):**

本文件非常重要，應立即翻譯。如果您需要翻譯這份文件，請用下面列出的電話號碼與 MassDEP 的多樣性總監聯繫。



**4(b) 中国 (简体中文) (Chinese (Simplified)):**

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**5 Ayisyen (franse kreyòl) (Haitian) (French Creole):**

Dokiman sa-a se yon bagay enpòtan epi yo ta dwe tradui imedyatman. Si ou bezwen dokiman sa a tradui, tanpri kontakte Divèsite Direktè MassDEP a nan nimewo telefòn ki nan lis pi ba a.



**6 Việt (Vietnamese):**

Tài liệu này là rất quan trọng và cần được dịch ngay lập tức. Nếu bạn cần dịch tài liệu này, xin vui lòng liên hệ với Giám đốc MassDEP đã dạng tại các số điện thoại được liệt kê dưới đây.



**7 កម្ពុជា (Kmer (Cambodian)):**

ឯកសារនេះសំខាន់ណាស់សម្រាប់ការប្រកួតប្រជែង និងការងាររបស់យើង។ ប្រសិនបើអ្នកត្រូវបានបញ្ជូនឯកសារនេះសូមទំនាក់ទំនងជាមួយ ទីសេវាអភិវឌ្ឍន៍ MassDEP នៅលេខទូរស័ព្ទដូចខាងក្រោម។



**8 Kriolu Kabuverdianu (Cape Verdean):**

*Es documento é importante e deve ser traduzido imidiatamente. Se bo precisa des documento traduzido, por favor contacta Director de Diversidade na MassDEP's pa es numero indicode li d'boche.*



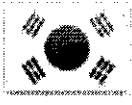
**9 Русский язык (Russian):**

Этот документ является важным и должно быть переведено сразу. Если вам нужен этот документ переведенный, пожалуйста, свяжитесь с директором разнообразия MassDEP по адресу телефонных номеров, указанных ниже.



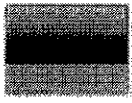
**10 العربية (Arabic):**

هذه الوثيقة الهامة وينبغي أن تترجم على الفور. إذا كنت بحاجة إلى هذه الوثيقة المترجمة، يرجى الاتصال مدير التنوع في MassDEP على أرقام الهواتف المدرجة أدناه.



**11 한국어 (Korean):**

이 문서는 중요하고 즉시 번역해야 합니다. 당신이 번역이 문서가 필요하다면 아래의 전화 번호로 MassDEP의 다양성 감독에 문의하시기 바랍니다.



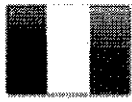
**12 հայերեն (Armenian):**

Այս փաստաթուղթը շատ կարևոր է եւ պետք է թարգմանել անմիջապես. Եթե Ձեզ անհրաժեշտ է այս փաստաթուղթը թարգմանվել դիմել MassDEP բազմազանությունը տնօրեն է հեռախոսահամարների թվարկված են ստորև.



**13 فارسی (Farsi (Persian)):**

این سند مهم است و باید فوراً ترجمه شده است.  
اگر شما نیاز به این سند ترجمه شده، لطفاً با ما تماس تنوع مدیر MassDEP در شماره تلفن های ذکر شده در زیر.



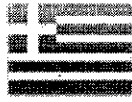
**14 Français (French):**

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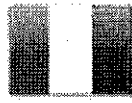
**15 Deutsch (German):**

Dieses Dokument ist wichtig und sollte sofort übersetzt werden. Wenn Sie dieses Dokument übersetzt benötigen, wenden Sie sich bitte Diversity Director MassDEP die in den unten aufgeführten Telefonnummern.



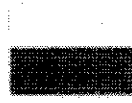
**16 Ελληνική (Greek):**

Το έγγραφο αυτό είναι σημαντικό και θα πρέπει να μεταφραστούν αμέσως. Αν χρειάζεστε αυτό το έγγραφο μεταφράζεται, παρακαλούμε επικοινωνήστε Diversity Director MassDEP κατά τους αριθμούς τηλεφώνου που αναγράφεται πιο κάτω.



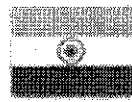
**17 Italiano (Italian):**

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**18 Język Polski (Polish):**

Dokument ten jest ważny i powinien być natychmiast przetłumaczone. Jeśli potrzebujesz tego dokumentu tłumaczone, prosimy o kontakt z Dyrektorem MassDEP w różnorodności na numery telefonów wymienionych ponizej.



**19 हिन्दी (Hindi):**

यह दस्तावेज महत्वपूर्ण है और तुरंत अनुवाद किया जाना चाहिए. आप अनुवाद इस दस्तावेज की जरूरत है, नीचे सूचीबद्ध फोन नंबरों पर MassDEP की विविधता निदेशक से संपर्क करें.



# Department of Environmental Protection

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**Findings of Fact in Support of  
Water Management Act (WMA) Permit # 9P4-4-24-239.06  
ADM Agawam Development LLC**

The Department of Environmental Protection (MassDEP) makes the following Findings of Fact in support of the attached FINAL amendment to WMA Permit #9P4-4-24-239.06, and includes herewith its reasons for issuing the FINAL permit and for conditions of approval imposed, as required by M.G.L.c.21G, §11. This permit increases the authorized maximum daily withdrawal rate for the Wareham Road Well from 0.1 MGD to 0.2 MGD. It is issued in response to a water withdrawal permit amendment application filed on July 24, 2018 by Weston & Sampson on behalf of the ADM Agawam Development LLC (ADM Agawam). ADM Agawam did not request an increase in its authorized daily withdrawal volume; therefore the system-wide authorized withdrawal volume will remain at 0.26 MGD.

For the reasons outlined below, all WMA permits in the Buzzards Bay Basin, including ADM Agawam's have been extended and will be renewed as a whole beginning in 2019. MassDEP has retained the ADM Agawam's permit renewal application filed on May 29, 2015. The ADM Agawam's permit renewal application will be reviewed in accordance with the revised WMA regulations, promulgated on November 7, 2014, which are outlined below. Pursuant to M.G.L.c.30A, §13, and 310 CMR 36.18 (7), the amended permit will continue in force and effect until MassDEP issues a final decision on the ADM Agawam's renewal application. Note that MassDEP expects to include the Wareham Road Well, which is being added to the permit through this amendment to their permit renewal application file review.

### **The Permit Extensions**

In 2010, the expiration dates for all Water Management Act permits were extended for two years by Chapter 240 of the Acts of 2010. This permit extension was subsequently extended for an additional two years by Chapter 238 of the Acts of 2012. These Acts are collectively known as the Permit Extension Act (PEA).

In the Buzzards Bay Basin, the 2010 PEA's provisions extended the term of Water Management Act permits from May 31, 2011 to May 31, 2013, and the 2012 amendment further extended the term of all

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permits for an additional two years until May 31, 2015. Permit renewal applications were to be filed by May 31, 2015. ADM Agawam filed a timely permit renewal application on May 29, 2015. Therefore, pursuant to M.G.L.c.30A, section 13, and 310 CMR 36.18 (7), the ADM Agawam's current permit will continue in force and effect until the MassDEP issues a decision on the renewal application.

### **The Water Management Act (M.G.L. c. 21G)**

The Water Management Act (Act) requires the Department to issue permits on a 20-year permitting cycle in each of the 27 major watersheds in Massachusetts. Water Management Act permits must balance a variety of factors including without limitation:

- Impact of the withdrawal on other water sources;
- Water available within the safe yield of the water source;
- Reasonable protection of existing water uses, land values, investments and enterprises;
- Proposed use of the water and other existing or projected uses of water from the water source;
- Municipal and Massachusetts Water Resources Commission (WRC) water resource management plans;
- 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.

The first 20-year permitting cycle in the Buzzards Bay Basin began in 1991 with all permits originally scheduled to expire on May 31, 2011.

### **Revisions to the Water Management Program Regulations at 310 CMR 36.00**

Beginning in 2010, MassDEP participated in a stakeholder process known as the Sustainable Water Management initiative (SWMI). SWMI was started by the Executive Office of Energy and Environmental Affairs (EEA) for the purpose of incorporating the best available science into the management of the Commonwealth's water resources. When the SWMI process was completed, MassDEP has adopted revised Water Management Program Regulations at 310 CMR 36.00, effective November 7, 2014 that incorporate important elements of the SWMI framework. The regulations can be found at <https://www.mass.gov/lists/massdep-water-management-act-laws-regulations-and-policies>. All renewal applications will be reviewed in accordance with the amended Water Management Program Regulations.

The regulations reflect a carefully developed balance to protect the health of our water bodies while meeting the needs of businesses and communities for water. The amended regulations also clarify WMA permitting requirements and processes. The amended WMA regulations incorporate:

- A new methodology for calculating "safe yield" of the 27 major river basins in Massachusetts;
- "streamflow criteria" and "coldwater fish resources" that will be used to identify environmental conditions within river subbasins;
- 2003-2005 "baseline" water withdrawals;
- "permit tiers" determined according to the size of each permittee's withdrawal relative to their baseline and potential impact on streamflow criteria and coldwater fish resources;

- “mitigation to offset increasing withdrawals by improving streamflow or aquatic habitat; and
- “minimization” to protect streamflows in subbasins that are net groundwater depleted during August.

Since adopting the revised regulations, MassDEP has been working closely with each permittee as they proceed through the permit renewal process to fully consider all aspects of their individual situations and ensure thoughtful and implementable permits. This has required taking additional time in order to ensure that all permit renewal applicants fully understand the new regulations, and to give proper consideration to all permit renewal applications within each basin.

Accordingly, the Water Management Permit Renewal Schedule has been revised. MassDEP now anticipates beginning the permit renewal process in the Buzzards Bay Basin in 2019. The Water Management Permit Renewal Schedule can be found at <https://www.mass.gov/lists/water-management-act-permit-renewal-schedule-outreach>.

### **The Water Management Act**

#### Permit Factors

Section 7 of 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, water 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

#### Safe Yield Permit Factor

Among the minimum permit factors Section 7 of the WMA requires is a determination by MassDEP that permitted water withdrawals are within the safe yield of the water source from which they are made. Section 2 of the Act defines “safe yield” as: “the maximum dependable withdrawal that can be made continuously from a water source including ground or surface water during a period of years in which the probably driest period or period of greatest water deficiency is likely to occur; provided however, that such dependability is relative and is a function of storage and drought probability”. The calculation of safe yield is further described in Section 36.13 of the WMA regulations promulgated on November 7, 2014. The calculation takes into account all existing allocated registered and permitted volume. This permit amendment does not request an increase in the withdrawal volume already allocated through ADM Agawam’s permit in the Buzzards Bay Basin. No additional water has been allocated in this permit; therefore there are no changes to the safe yield of the Buzzards Bay Basin.

For the purposes of the Water Management Program, MassDEP considers a water source to be the river basins delineated by the Water Resources Commission at 31 CMR 4.03. A map of the major river basins

delineated by the Commission can be viewed in the Department of Conservation and Recreation guidance document "A Guide to the Interbasin Transfer Act and Regulations".

**Findings of Fact for 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. As noted above ADM Agawam's permit will undergo a 20-Year Permit Renewal that is expected to begin in 2019. The renewal process will include a review and updated of the Special Conditions of this permit.

The summary of permit conditions, 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.

**Special Condition 1, Maximum Authorized Annual Average Withdrawal Volume** reflects the total authorized annual average withdrawal volume of up to 0.26 million gallons per day (MGD).

**Special Condition 2, Maximum Authorized Daily Withdrawals From Each Withdrawal Point**, specifies the maximum authorized daily withdrawal rate for the withdrawal points authorized by this permit. The Wareham Road Well was not included in the previous permit as an authorized source as it was approved for less than 70 gallons per minute. A pumping test had been conducted and approved by MassDEP on May 15, 2018 to increase the maximum withdrawal rate for the Wareham Road Well from 69 gallons per minute (gpm) to 141 gpm. A DEP Source ID has been established for the Wareham Road Well. As noted previously, the Wareham Road Well will be included in MassDEP's review of ADM Agawam's Buzzards Bay Permit Renewal Process.

According to the 2017 Annual Report Form (ARF), the Agawam Well and the Agawam Backup Well were still not in use. The authorized maximum pumping withdrawal volumes remain the same in this permit for these two wells. No DEP Source ID numbers have been assigned to these two wells.

**Special Condition 3, Zone II Delineations**, requires DEP-approved Zone II delineations for all permitted PWS groundwater sources. In a pumping test report approval letter dated May 15, 2018, MassDEP approved a Zone II delineation submitted by Weston & Sampson on behalf of the ADM Agawam. Therefore, this permit requirement has been met and no further delineations are required as a condition of this permit at this time.

**Special Condition 4, Wellhead Protection**, requires PWS Permittees to implement appropriate wellhead protection zoning and non-zoning controls in accordance with Wellhead Protection Regulations at 310 CMR 22.21 (1). Within three months of the issuance of this amended permit, ADM Agawam should request the Town of Plymouth to incorporate the updated Zone II into its Aquifer Protection District.

**Special Condition 5, Performance Standard for Residential Gallons Per Capita Day Water Use (RGPCD).** ADM Agawam's standard for RGPCD is 65 or less. ADM Agawam is required to be in compliance with the Performance Standard the first year in which its withdrawals exceed an annual average daily withdrawal of 0.1 MGD.

**Special Condition 6, Performance Standard for Unaccounted for Water (UAW).** ADM Agawam's standard for UAW is 10% or less. ADM Agawam is required to be in compliance with the Performance Standard the first year in which its withdrawals exceed an average daily withdrawal of 0.1 MGD.

**Special Condition 7, Seasonal Limits on Nonessential Outdoor Water Use** reflects the restrictions on nonessential outdoor water use from May 1<sup>st</sup> through September 30<sup>th</sup>. ADM Agawam was previously required to implement outdoor water use restrictions according to either the calendar triggered or streamflow triggered. It was assigned with the USGS stream gage #01105870 – Jones River at Kingston MA as its restriction trigger. MassDEP determined that the Jones River stream gage is no longer suitable for triggering outdoor water use restrictions as the unaffected monthly flows at this gage cannot be accurately simulated with the Massachusetts Sustainable Yield Estimator (SYE). The SYE cannot properly simulate streamflow of rivers with high proportions of baseflow from aquifer discharge such as the Jones River.

ADM Agawam is located in the Plymouth-Carver aquifer, a groundwater dominated hydrologic system similar to the Cape Cod and the Islands where groundwater triggers are used for outdoor water use restrictions. ADM Agawam can choose to implement the restrictions based on the calendar (all summer) or when groundwater levels in a U.S. Geological Survey (USGS) monitoring well fall below certain defined levels for at least 60 consecutive days or when a drought advisory is declared for the region.

If ADM Agawam selects the USGS monitoring well approach, it has been assigned the USGS monitoring well 415453070434901(MA-PWW 22) at Plymouth, MA.

**Special Condition 8, Water Conservation Requirements,** incorporates the Water Conservation Standards for the Commonwealth of Massachusetts reviewed and approved by the Water Resources Commission in July 2018 (<https://www.mass.gov/files/documents/2018/09/11/ma-water-conservation-standards-2018.pdf>).

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





# Department of Environmental Protection

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Commissioner

## FINAL WATER WITHDRAWAL PERMIT

#9P442423906

### ADM Agawam Development LLC

This FINAL permit is issued pursuant to the Massachusetts Water Management Act (WMA) 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:** 9P4-4-24-239.06

**RIVER BASIN:** Buzzards Bay

**PERMITTEE:** ADM Agawam Development LLC

158 Tihonet Road

Wareham, MA 02571

**ISSUANCE DATE:** JUNE 25, 2010

**AMENDMENT DATE:** DECEMBER 13, 2018

**EXPIRATION DATE:** MAY 31, 2011

The expiration date of this permit has been extended by 4 years beyond the original expiration date by Chapter 240 of the Acts of 2010, as amended by Chapter 238 of the Acts of 2012, collectively known as the Permit Extension Act, and further extended pursuant to M.G.L.c.30A § 13, and 310 CMR 36.18 (7) to allow sufficient time for permit renewal review.

**NUMBER OF WITHDRAWAL POINTS:** Groundwater: 3      Surface Water: 0

**USE:** Public Water Supply

**DAYS OF OPERATION:** 365

**Authorized Withdrawal Points:**

Table 1: Authorized Withdrawal Points	
Source Name	PWS Source ID
Wareham Road Well	4239060-01G
Agawam Well	TBD
Agawam Backup Well	TBD

This information is available in alternate format. Contact Michelle Waters-Ekanem, Director of Diversity/Civil Rights at 617-292-5751.

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**SPECIAL CONDITIONS**

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

This permit authorizes the ADM Agawam Development LLC (ADM Agawam) to withdraw water from the Buzzards Bay Basin at the rate described in Table 2 below. The permitted volume is expressed in millions of gallons, both as an average daily withdrawal rate and as a total annual withdrawal volume.

MassDEP bases these withdrawal volumes on the raw water withdrawn from the authorized withdrawal points, and will use the raw water amount to assess compliance with the registered and permitted withdrawal volumes.

<b>Table 2: Maximum Authorized Withdrawal Volumes</b>		
<b>Total Raw Water Withdrawal Volumes</b>		
<b>Permit Periods</b>	<b>Daily Average (MGD)</b>	<b>Total Annual (MGY)</b>
6/25/2010-5/31/2011*	0.26	94.9

\*Permit will continue in force and effect pursuant to M.G.L.c.30A § 13, and 310 CMR 36.18 (7) until MassDEP issues a decision on ADM Agawam's permit renewal application.

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

Withdrawals from individual withdrawal points are not to exceed the approved maximum daily volumes listed in Table 3 without specific advance written approval from MassDEP. The authorized maximum daily volume is the approved rate of each source. In no event shall the combined withdrawals from the individual withdrawal points exceed the withdrawal volumes authorized above in Special Condition 1.

<b>Table 3: Maximum Authorized Withdrawal Volumes</b>		
<b>Well Name</b>	<b>PWS Source ID Code</b>	<b>Maximum Daily Rate (MGD)</b>
Wareham Road Well	4239060-01G	0.20
Agawam Well	TBD	0.78*
Agawam Backup Well	TBD	TBD*

\*The combined volumes from the Agawam Wells shall not exceed a maximum daily volume of 0.78 mgd.

**3. Zone II Delineation**

MassDEP records show that the Wareham Road Well, the Agawam Well and the Agawam Backup Well all have MassDEP approved Zone II delineations. No further Zone II work is required as a condition of this permit for these sources.

**4. Wellhead Protection**

ADM Agawam must implement appropriate wellhead protection zoning or non-zoning controls within the approved Zone II as stipulated in 310 CMR 22.21(1) prior to increasing the current permitted withdrawal rate of the Wareham Road Well. Contact Catherine Sarafinas-Hamilton at 617-556-1070 for further information on demonstrating compliance with the Best Effort Requirement, 310 CMR 22.21(1).

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

ADM Agawam's Performance Standard for Residential Gallons Per Capita Day (RGPCD) is 65 gallons or less. ADM Agawam shall be in compliance with this performance standard the first year in which its withdrawals exceed an annual average daily withdrawal of 0.1 MGD. ADM Agawam shall report its RGPCD water use annually in its Annual Statistical Report (ASR) and document compliance with this Performance Standard in its ASR for the first year withdrawals exceed 0.1 MGD, and for each year thereafter. If ADM Agawam does not meet the standard, it shall implement and comply with the functional equivalence requirements outlined in Appendix A.

**6. Performance Standard for Unaccounted for Water**

ADM Agawam's performance standard for Unaccounted for Water (UAW) is 10% or less of overall water withdrawal for 2 of the most recent 3 years throughout the permit period. ADM Agawam shall be in compliance with this Performance Standard the first year in which its withdrawals exceed an average daily withdrawal of 0.1 MGD. ADM Agawam shall report its UAW annually in its Annual Statistical Report (ASR) and document compliance with this Performance Standard in its ASR for the first year in which withdrawals exceed 0.1 MGD, and each year thereafter. If ADM Agawam does not meet the standard, it shall implement and comply with the functional equivalence requirements outlined in Appendix B.

Nothing in the permit shall prevent a permittee who meets the 10% performance standard from developing and implementing a water loss control program following the *AWWA M36 Water Audits and Loss Control Programs*. Permittees implementing of a water loss control program based on AWWA M36 annual water audits and guidance shall continue to report UAW annually as required in the ASR for public water suppliers.

**7. Seasonal Limits on Nonessential Outdoor Water Use**

ADM Agawam 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. ADM Agawam shall start implementing the seasonal limits on nonessential outdoor water use on May 1, 2019.

ADM Agawam shall be responsible for tracking groundwater levels and drought advisories and recording and reporting when restrictions are implemented if groundwater level triggered restrictions are implemented. See Table *Instructions for Accessing U.S. Geologic Survey Groundwater Level and Massachusetts Drought Advisory Website Information*.

ADM Agawam shall also document compliance with the seasonal limits on nonessential outdoor water use annually in its Annual Statistical Report (ASR), and indicate whether it anticipates implementing calendar triggered restrictions or USGS monitoring well triggered restrictions during the next year.

**Restricted Nonessential Outdoor Water Uses**

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

- irrigation of lawns via sprinklers or automatic irrigation systems;
- filling swimming pools;
- washing of vehicles, except in a commercial car wash or as necessary for operator safety; and
- washing 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, before 9 am and after 5 pm, 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;
- irrigation of gardens, flowers and ornamental plants by means of a hand-held hose or drip irrigation systems; and
- irrigation of lawns 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).

**Public Notice of Seasonal Nonessential Outdoor Water Use Restrictions**

ADM Agawam shall notify its customers of the restrictions, including a detailed description of the restrictions and penalties for violating the restrictions.

Notice that restrictions have been put in place shall be filed each year with the Department within 14 days of the restriction's effective date. Filing shall be in writing on the form "Notification of Water Use Restrictions" available on MassDEP website.

**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.**

**Nothing in the permit shall prevent ADM Agawam from implementing water use restrictions that are more stringent than those set forth in this permit.**

**Table 4: Seasonal Limits on Nonessential Outdoor Water Use**

**Permittee must at a minimum implement the following outdoor water use restrictions:**

**Groundwater level Triggered Restrictions from May 1<sup>st</sup> through September 30<sup>th</sup>**

**Nonessential outdoor water use is allowed no more than TWO DAYS per week before 9 am and after 5 pm whenever:**

- a) Groundwater levels at USGS Monitoring Well 415453070434901 (MA-PWW 22) Plymouth, MA decline to or below the groundwater trigger for 60 consecutive days. The monthly trigger levels are listed below and are the period of record monthly 25<sup>th</sup> percentile depth to water level values, as determined and published by the USGS. Restrictions could start on May 1, so monitoring of A1W 306 begins on March 1 of each year.

Trigger Values for Outdoor Water Use Restrictions (feet below land surface)\*

March	April	May	June	July	Aug	Sept
24.51	24.12	24.01	24.00	24.49	25.00	25.29

\*As of 12/7/2018

Once implemented, the restrictions shall remain in place until the daily value of the groundwater levels at the assigned USGS monitoring well have recovered to less than the trigger for 30 consecutive days (when the water table elevation has risen above the trigger level).

OR;

- b) A Drought Advisory or higher is declared by the Massachusetts Drought Management Task Force for Southeastern MA.

**Instructions for Accessing U.S. Geologic Survey Groundwater Level and Massachusetts Drought Advisory Website Information**

**Groundwater level information** is available at the USGS National Water Information System (NWIS): Web Interface. The USGS NWIS default shows Massachusetts groundwater levels in real time, i.e., the most recent, usually hourly, water level measured and recorded at each USGS monitoring well.

Seasonal Limits on Nonessential Outdoor Water Use are implemented when the daily mean depth to water level exceeds the designated trigger for 60 consecutive days (*i.e.*, when the depth to water becomes larger than the trigger value as the water table elevation declines). The daily water level is compared to the trigger for that month. To determine if restrictions must be implemented on May 1 it is necessary to monitor the daily water level in March and April.

**Mean daily groundwater level** readings are available at the USGS NWIS Web Interface at

<http://waterdata.usgs.gov/ma/nwis/current/?type=gw&group key=county cd>

- Scroll down to 415453070434901 MA-PWW 22, Plymouth, MA.
- Click on the station number.
- On the pull-down menu "Available data for this site" choose "Daily data".
- Under "Available Parameters" click on "WaterLevel, BelowLSD (Mean)".
- Under "Output Format" click on "Table" and enter the number of days of records (the default is 7 days; entering 60 will give you 60 days of data) and hit "GO".
- The table provides the "Daily Mean Depth to water level, feet below land surface" for the most recent number of days chosen.
- Compare each day's value to its month's trigger value (25<sup>th</sup> percentile) in your permit. Outdoor water use restrictions must be implemented when the daily depth to water level is at or below the trigger for 60 consecutive days.

**Drought Advisory** information is available at <https://www.mass.gov/drought-management>.

### 8. Water Conservation Requirements

At a minimum, ADM Agawam shall implement the following conservation measures forthwith. Compliance with the water conservation requirements shall be reported to MassDEP upon request, during all interim permit reviews, and at the time of permit renewal, unless otherwise noted below.

<b>Table 5: Minimum Water Conservation Requirements</b>	
<b>System Water Audits and Leak Detection</b>	
1.	At a minimum, conduct a full leak detection survey every three years.
2.	Conduct leak detection of the entire distribution system within one year whenever the percentage of UAW 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, submit to the Department a report detailing the 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 AWWA Manual 36.
4.	ADM Agawam shall have repair reports available for inspection by MassDEP. ADM Agawam 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> <p>Leaks shall be repaired in accordance with ADM Agawam's priority schedule including leaks up to the property line, curb stop or service meter, as applicable. ADM Agawam shall have water use regulations in place that require property owners to expeditiously repair leaks on their property.</p>

<b>Metering</b>
1. Calibrate all source and finished water meters at least annually and report date of calibration on the ASR.
2. ADM Agawam should ensure that the system is 100% metered. 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> .
3. ADM Agawam shall have an ongoing program to inspect individual service meters to ensure that all service meters accurately measure the volume of water used by its 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 include placement of sufficient funds in ADM Agawam’s annual water budget to calibrate, repair, or replace meters as necessary.
<b>Pricing</b>
1. ADM Agawam shall establish a water pricing structure that includes the full cost of operating, maintaining and protecting the water supply system. ADM Agawam shall perform annual rate evaluations and adjust costs as needed. Full cost pricing factors all costs - operations, maintenance, capital, and indirect costs (environmental impacts, watershed protection) - into prices.
2. ADM Agawam reports using an increasing block rate structure and shall continue to do so.
<b>Public Sector Conservation</b>
1. ADM Agawam shall meet the standards set forth in the Federal Energy Policy Act, 1992 and the Massachusetts Plumbing Code.
2. ADM Agawam should meter or estimate water used by contractors using fire hydrants for pipe flushing and construction.
3. ADM Agawam shall ensure that water savings devices are installed in all municipal buildings as they are renovated, and shall ensure water conserving fixtures and landscaping practices are incorporating into the design of new municipal capital projects.
<b>Industrial and Commercial Water Conservation</b>
1. ADM Agawam should ensure that the best available technologies for water conservation are being used within the new and renovated buildings to the extent possible while complying with the plumbing codes.
<b>Public Education and Outreach</b>
1. ADM Agawam shall develop and implement a water conservation and education plan that designed to educate its water customers on ways to conserve water. Without limitation, ADM Agawam’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,</li></ul>

including materials on water resource projects and field trips; and
• Provide multilingual materials as needed.
2. Upon request of MassDEP, ADM Agawam 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.

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

ADM Agawam shall report annually as required by completing the electronic Annual Statistical Report (eASR) for public water systems.

**General Permit Conditions (applicable to all Permittees)**

- 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 up to the authorized volume 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, inspect and monitor the withdrawal, and inspect and copy any relevant records, 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 M.G.L. c. 21G, §§ 15-17, M.G.L. c. 111, § 160, 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 submit annually, on a form provided by MassDEP, a certified statement of the withdrawal. Such report is to be received by MassDEP by the date specified by MassDEP. Such report must be mailed or hand delivered to the address specified on the report form.
- 7. Duty to Maintain Records** The Permittee shall be responsible for maintaining withdrawal records as specified by this permit.
- 8. Metering** Withdrawal points shall be metered. Meters shall be calibrated annually. Meter shall be maintained and replaced as necessary to ensure the accuracy of the withdrawal records.
- 9. Amendment, Suspension or Termination** The Department may amend, suspend or terminate this permit in accordance with M.G.L. c. 21G or 310 CMR 36.29.



**APPEAL RIGHTS AND TIME LIMITS**

This permit is a decision of MassDEP. Any person aggrieved by this decision may request an adjudicatory hearing. 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 community in which the withdrawal point 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 his 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**

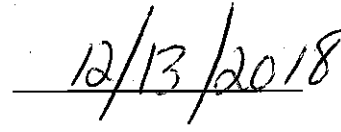
The filing fee is not required if the appellant is a municipality (or municipal agency), county, district of the Commonwealth of Massachusetts, or a municipal housing authority.

**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.

A handwritten signature in cursive script, reading "Duane LeVangie", written over a horizontal line.

Duane LeVangie  
Water Management Program Chief  
Bureau of Water Resources

A handwritten date "12/13/2018" written in cursive script over a horizontal line.

Date

**Appendix A – Functional Equivalence with the 65 Residential Gallons Per Capita Day Performance Standard**

MassDEP will consider PWS permittees who cannot meet the 65 RGPCD performance standard to be functionally equivalent, and in compliance with their permit, if they have an on-going program in place that ensures “best practices” for controlling residential water use as described below.

If the permittee fails to document compliance with the RGPCD performance standard in its Annual Statistical Report (ASR), or in any ASR thereafter, then the permittee must file with that ASR a Residential Gallons Per Capita Day Compliance Plan (RGPCD Plan) which shall include, at a minimum:

1. A description of the actions taken during the prior calendar year to meet the performance standard;
2. An analysis of the cause of the failure to meet the performance standard;
3. A description of the actions that will be taken to meet the performance standard which must include, at a minimum, at least one of the following:
  - 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, by-law or regulation to require the installation of moisture sensors or similar climate related control technology on all automatic irrigation systems;and may include, without limitation, the following:
  - d) the use of an increasing block water rate or a seasonal water rate structure as a tool to encourage water conservation;
  - e) a program that provides rebates or other incentives for the installation of moisture sensors or similar climate related control technology on automatic irrigation systems;
  - f) the adoption and enforcement of an ordinance, by-law or regulation to require that all new construction include water saving devices and low water use appliances;
  - g) the adoption and enforcement of an ordinance, by-law 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;
  - h) the implementation of a program to encourage the use of cisterns or rain barrels for outside watering;
  - i) the implementation of monthly or quarterly billing.
4. A schedule for implementation; and
5. An analysis of how the planned actions will address the specific circumstances that resulted in the failure to meet the performance standard.

If the permittee 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.

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 above.

If a RGPCD plan is required, the permittee must:

1. submit information and supporting documentation sufficient to demonstrate compliance with its RGPCD plan annually at the time it files its ASR, and
2. continue to implement the RGPCD plan until it complies with the performance standard and such compliance is documented in the permittee's ASR for the calendar year in which the standard is met.

### **Appendix B – Functional Equivalence with the 10% Unaccounted for Water Performance Standard**

MassDEP will consider PWS permittees who cannot meet the 10% UAW performance standard to be functionally equivalent, and in compliance with their permit, if they have an on-going program in place that ensures “best practices” for controlling water loss. The water loss control program will be based on annual water audits and guidance as described in the *AWWA/IWA Manual of Water Supply Practices – M36, Water Audits and Loss Control Programs* (AWWA M36).

If the permittee fails to document compliance with the Unaccounted for Water performance standard (UAW of 10% or less for 2 of the 3 most recent years throughout the permit period), then the permittee shall develop and implement a water loss control program following the *AWWA M36 Water Audits and Loss Control Programs* within 5 full calendar years.

1. Conduct an annual “top down” water audit, calculate the data validity level/score using AWWA Water Loss Control Committee’s Free Water Audit Software, and submit the AWWA WLCC Free Water Audit Software: Reporting Worksheet and data validity score annually with its Annual Statistical Report (ASR).
  - If a PWS’s data validity level/score is less than Level III (51-70), steps recommended through the audit(s) shall be taken to improve the reliability of the data prior to developing a long-term program to reduce real and apparent water losses.
  - Data with a validity score of 50 or less are considered too weak to be used to develop a component analysis or for infrastructure planning and maintenance.
  - Developing data with an acceptably strong validity score can be a multi-year process.
2. When the data validity score meets the Level III (51-70) requirement, the permittee shall conduct a component analysis to identify causes of real and apparent water loss and develop a program to control losses based on the results of the component analysis. The Permittee shall submit the component analysis and water loss control program with a proposed implementation schedule to the Department.
3. Continued implementation will be a condition of the permit in place of meeting the 10% UAW performance standard.
4. Upon request of the Department, the permittee shall report on its implementation of the water loss control program.

A PWS permittee may choose to discontinue the water loss program implementation if UAW, as reported on the ASR and approved by DEP, is below 10% for four consecutive years, and the water audit data validity scores are at least Level III (51-70) for the same four years.

**NOTE FOR SMALL SYSTEMS:** For small systems with less than 3,000 service connections or a service connection density of less than 16 connections per mile of pipeline, the Unavoidable Annual Real Loss (UARL) calculation and the Infrastructure Leak Index (ILI) developed as the final steps of the top down water audit may not result in valid performance indicators, and may not be comparable to the UARL and ILI calculations for larger systems.

However, these small systems can benefit from developing reliable data and conducting an annual top down water audit. Small systems can rely on the real losses (gallons per mile of main per day) performance indicator developed in the water audit as a measure of real water loss when

developing a water loss control program. The M36 Manual discusses the audit process for small systems, and includes a chapter to guide small systems in understanding the results of their audits and in developing a water loss control program (*Manual of Water Supply Practices – M36, Fourth Edition, Chapter 9: Considerations for Small Systems*, pp. 293-305).

**MassDEP UAW Water Loss Control Measures:** Permittees who do not have MassDEP approved Water Loss Control Programs in place by 6<sup>th</sup> calendar year after the year that the permittee is required to be in compliance with the UAW performance standard will be required to implement the MassDEP UAW Water Loss Control Measures outlined below:

- An annual water audit and leak detection survey, as described in the AWWA M36 Manual, of the entire system.
  - Within one year, repair 75% (by water volume) of all leaks detected in the survey that are under the control of the public water system;
  - Thereafter, repair leaks as necessary to reduce permittee's UAW to 10% or the minimum level possible.
- Meter inspection and, as appropriate, repair, replace and calibrate water meters:
  - Large Meters (2" or greater) – within one year
  - Medium Meters (1" or greater and less than 2") – within 2 years
  - Small Meters (less than 1") - within three years
  - Thereafter, calibrate and or replace all meters according to type and specification.
- Bill at least quarterly within three years.
- Water pricing structure sufficient to pay the full cost of operating the system.

Hardship - A permittee may present an analysis of the cost effectiveness of implementing certain conservation measures included in the MassDEP UAW Water Loss Control Measures and offer alternative measures. Any analysis must explicitly consider environmental impacts and must produce equal or greater environmental benefits. Suppliers will be able to present:

- Reasons why specific measures are not cost effective because the cost would exceed the costs of alternative methods of achieving the appropriate standard;
- Alternative 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 UAW Functional Equivalence Plan; and
- When applicable, an analysis demonstrating that implementation of specific measures will cause or exacerbate significant economic hardship.