



Commonwealth of Massachusetts
Executive Office of Energy and Environmental Affairs

Department of Environmental Protection

Address: 100 Cambridge Street, Suite 900, Boston MA 02114 | **Phone:** 617-292-5500

Maura T. Healey
Governor

Kim Driscoll
Lieutenant Governor

Rebecca Tepper
Secretary

Bonnie Heiple
Commissioner

September 16, 2026

Mr. Paul Bockelman
Amherst Town Manager
4 Boltwood Avenue
Amherst, MA 01002

Re: Permittee: Town of Amherst
Public Water Supply (PWS) ID: 1008000
Program: Water Management Act (WMA)
Action: WMA Permit #9P-1-06-008.01

Dear Mr. Bockelman:

Please find the attached:

- Findings of Fact in Support of the renewed WMA Permit #9P-1-06-008.01; and,
- Renewed WMA Permit #9P-1-06-008.01 for withdrawals by the Town of Amherst in the Connecticut River Basin.

Notice of the Draft Renewal Permit and its accessibility for review was posted in the Public Notice section of the July 22, 2026 edition of the Massachusetts Environmental Policy Act (MEPA) Environmental Monitor. Notice of the Draft Renewal Permit was also sent to all WMA Registrants and Permittees in the Connecticut River Basin and to other interested parties offering a 30-day comment period.

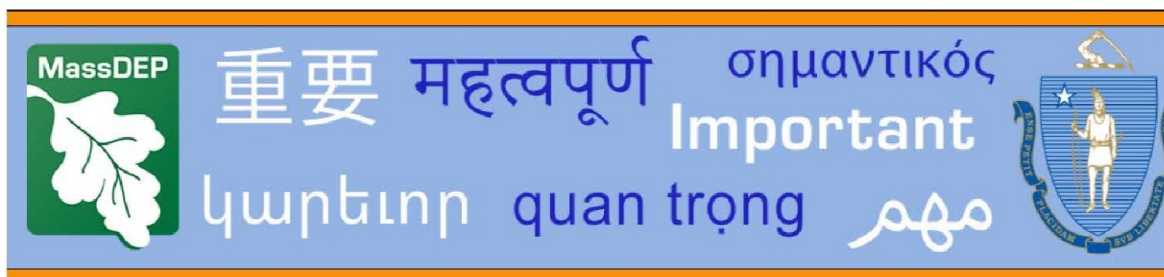
If you have any questions regarding the permit, please contact Andrew Brokowski at andrew.brolowski@mass.gov or 857-278-5634.

Sincerely,

Duane LeVangie
Water Management Program Chief
Bureau of Water Resources

ecc: Andrew Kelly, Drinking Water Program Chief, MassDEP Springfield
Lydia Olson, Mass Rivers Alliance
Melissa Shapiro, Mass Rivers Alliance
Jennifer Pederson, MA Water Works Association
Guilford Mooring, Amherst Director/Superintendent of Public Works
Duane LeVangie, Water Management Program Chief

[mass.gov.sharepoint.com/W:\DWPWMA\Permits Renewals\Connecticut\Amherst-1008000-WMA Renewed Permit-9P-1-06-008.01-2026-09-16-a11y](https://mass.gov/sharepoint.com/W:\DWPWMA\Permits Renewals\Connecticut\Amherst-1008000-WMA Renewed Permit-9P-1-06-008.01-2026-09-16-a11y)



Communication for Non-English-Speaking Parties

This document is important and should be translated immediately.

If you need this document translated, please contact MassDEP's Director of Environmental Justice at the telephone number listed below.

Español Spanish

Este documento es importante y debe ser traducido inmediatamente. Si necesita traducir este documento, póngase en contacto con el Director de Justicia Ambiental de MassDEP (*MassDEP's Director of Environmental Justice*) en el número de teléfono que figura más abajo.

Português Portuguese

Este documento é importante e deve ser traduzido imediatamente. Se você precisar traduzir este documento, entre em contato com o Diretor de Justiça Ambiental do MassDEP no número de telefone listado abaixo.

繁體中文 Chinese Traditional

本文檔很重要，需要即刻進行翻譯。
如需對本文檔進行翻譯，請透過如下列示電話號碼與 MassDEP 的環境司法總監聯絡。

简体中文 Chinese Simplified

这份文件非常重要，需要立即翻译。
如果您需要翻译这份文件，请通过下方电话与 MassDEP 环境司法主任联系。

Ayisyen Kreyòl Haitian Creole

Dokiman sa a enpòtan epi yo ta dwe tradui l imedyatman. Si w bezwen tradui dokiman sa a, tanpri kontakte Direktè. Jistis Anviwònmanal MassDEP a nan nimewo telefòn ki endike anba a.

Việt Vietnamese

Tài liệu này và quan trọng và phải được dịch ngay. Nếu quý vị cần bản dịch của tài liệu này, vui lòng liên hệ với Giám Đốc Phòng Công Lý Môi Trường của MassDEP theo số điện thoại được liệt kê bên dưới.

ប្រទេសកម្ពុជា Khmer/Cambodian

ឯកសារនេះមានសារៈសំខាន់
ហើយត្រូវបានបកប្រែភ្លាមៗ។
ប្រសិនបើអ្នកត្រូវការអោយឯកសារនេះបកប្រែ
សូមទាក់ទងនាយកផ្នែកយុត្តិធម៌បរិស្ថានរបស់
MassDEPតាមរយៈលេខទូរស័ព្ទដែលបានរាយនាមខាងក្រោម។

Kriolu Kabuverdianu Cape Verdean

Es dokumentu sta important i tenki ser tradusidu imediatamenti. Se nho ta presisa ke es dokumentu sta tradisidu, por favor kontata O Diretor di Justisia di Environman di DEP ku es numero di telefoni menxionadu di baixo.

Русский Russian

Это чрезвычайно важный документ, и он должен быть немедленно переведен. Если вам нужен перевод этого документа, обратитесь к директору Департамента экологического правосудия MassDEP (MassDEP's Director of Environmental Justice) по телефону, указанному ниже.

العربية Arabic

هذه الوثيقة مهمة ويجب ترجمتها على الفور.

إذا كنت بحاجة إلى ترجمة هذه الوثيقة، فيرجى الاتصال بمدير العدالة البيئية في MassDEP على رقم الهاتف المذكور أدناه.

한국어 Korean

이 문서는 중대하프로 즉시 번역되어야 합니다. 본 문서 번역이 필요하신 경우, 매사추세츠 환경보호부의 "환경정의" 담당자 분께 문의하십시오. 전화번호는 아래와 같습니다.

հայերեն Armenian

Այս փաստաթուղթը կարևոր է, և պետք է անհապաղ թարգմանել այն: Եթե Ձեզ անհրաժեշտ է թարգմանել այս փաստաթուղթը, դիմեք Մասաչուսեթսի շրջակա միջավայրի պահպանության նախարարության (MassDEP) Բնապահպանական հարցերով արդարադատության ղեկավարին (Director of Environmental Justice)՝ ստորև նշված հեռախոսահամարով

فارسی Farsi Persian

این نوشتار بسیار مهمی است و باید فوراً ترجمه شود. اگر نیاز به ترجمه این نوشتار دارید لطفاً با مدیر عدالت محیط زیستی MassDEP در شماره تلفن ذکر شده زیر تماس بگیرید.

Français French

Ce document est important et doit être traduit immédiatement. Si vous avez besoin d'une traduction de ce document, veuillez contacter le directeur de la justice environnementale du MassDEP au numéro de téléphone indiqué ci-dessous.

Deutsch German

Dieses Dokument ist wichtig und muss sofort übersetzt werden. Wenn Sie eine Übersetzung dieses Dokuments benötigen, wenden Sie sich bitte an MassDEP's Director of Environmental Justice (*Direktor für Umweltgerechtigkeit in Massachusetts*) unter der unten angegebenen Telefonnummer.

Ελληνική Greek

Το έγγραφο αυτό είναι πολύ σημαντικό και πρέπει να μεταφραστεί αμέσως. Αν χρειάζεστε μετάφραση του εγγράφου αυτού, παρακαλώ επικοινωνήστε με τον Διευθυντή του Τμήματος Περιβαλλοντικής Δικαιοσύνης της Μασαχουσέτης στον αριθμό τηλεφώνου που αναγράφεται παρακάτω

Italiano Italian

Questo documento è importante e deve essere tradotto immediatamente. Se hai bisogno di tradurre questo documento, contatta il Direttore della Giustizia Ambientale di MassDEP al numero di telefono sotto indicato.

Język Polski Polish

Ten dokument jest ważny i powinien zostać niezwłocznie przetłumaczony. Jeśli potrzebne jest tłumaczenie tego dokumentu, należy skontaktować się z dyrektorem ds. sprawiedliwości środowiskowej MassDEP pod numerem telefonu podanym poniżej.

हिन्दी Hindi

यह दस्तावेज महत्वपूर्ण है और इसका अनुवाद तुरंत किया जाना चाहिए। यदि आपको इस दस्तावेज का अनुवाद कराने की जरूरत है, तो कृपया नीचे दिए गए टेलीफोन नंबर पर MassDEP के पर्यावरणीय न्याय निदेशक से संपर्क करें।



Commonwealth of Massachusetts
Executive Office of Energy and Environmental Affairs

Department of Environmental Protection

Address: 100 Cambridge Street, Suite 900, Boston MA 02114 | Phone: 617-292-5500

Maura T. Healey
Governor

Kim Driscoll
Lieutenant Governor

Rebecca Tepper
Secretary

Bonnie Heiple
Commissioner

Findings of Fact in Support of Permit Decision Town of Amherst Water Management Act Permit #9P-1-06-008.01

The Massachusetts Department of Environmental Protection (“MassDEP” or “the Department”) makes the following *Findings of Fact* in support of the attached renewed Water Management Act (WMA) Permit #9P-1-06-008.02 and herewith includes reasons for issuing the permit and for conditions of approval imposed, as required by M.G.L. c. 21G, § 11. The issuance of this permit is in response to the timely filing of a water withdrawal permit renewal application by the Town of Amherst (“Amherst” or the “applicant”).

The Water Management Act (M.G.L. §21G)

The Water Management Act (Act) requires that MassDEP issue permits that balance a variety of factors including without limitation:

- impact of the withdrawal on other sources of water,
- water availability within the *Safe Yield* of the 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, floodplains, and,
- reasonable economic development and job creation.

Water Management Regulation Revisions

In 2010 the Executive Office of Energy and Environmental Affairs (EEA) created the Sustainable Water Management Initiative (SWMI) for the purpose of incorporating the best available science into the management of the Commonwealth’s water resources. SWMI was a multi-year process that included a wide range of stakeholders and support from the Departments of Environmental Protection, Fish and Game and Conservation and Recreation. In November 2012 the *Massachusetts Sustainable Water Management Initiative Framework Summary* was released.

[MA Sustainable Water Management Initiative \(Framework Summary, November 2012\)](#)

On November 7, 2014, and March 17, 2023, the Department adopted revised Water Management Regulations at 310 CMR 36.00 that incorporate elements of the SWMI framework and Water Conservation Standards adopted by the Massachusetts Water Resource Commission (WRC). The regulations reflect a carefully developed balance to protect the health of Massachusetts’ water bodies while meeting the needs of businesses and communities for water.

Without limitation, the Department has incorporated the following into Water Management permitting:

- safe yield determinations for the major river basins based on a new methodology developed through SWMI (see the Safe Yield in the Connecticut River Basin section of this document). For more information on the Safe Yield methodology, refer to the [November 2012 SWMI Framework Appendices](#),
- Water supply protection measures for public water supplies including Zone II delineations for groundwater sources, and wellhead and surface water protection measures as required by Massachusetts Drinking Water Regulations (310 CMR 22.00),
- water conservation and performance standards reviewed and approved by the WRC in July 2018 [Massachusetts Water Conservation Standards](#) and, including without limitation:
 1. performance standard of 65 residential gallons per capita day (RGPCD) or less,
 2. performance standard of 10% or less unaccounted-for-water (UAW),
 3. seasonal limits on nonessential outdoor water use, and,
 4. a water conservation program that includes leak detection and repair, full metering of the system and proper maintenance of the meters, periodic review of pricing, and education and outreach to residents and industrial and commercial water users, and,
- environmental protections developed through SWMI, including without limitation:
 1. protection for Coldwater fish resources,
 2. minimization of withdrawal impacts in areas stressed by groundwater use, and,
 3. mitigation of the impacts of increasing withdrawals.

Safe Yield in the Connecticut River Basin

This permit has been issued in accordance with Safe Yield methodology adopted by MassDEP on November 7, 2014, and described in the Regulations at 310 CMR 36.13. As of the date of issuance of this permit, the safe yield for the Connecticut River Basin water source is 1,866.5 million gallons per day (MGD), with total allocated withdrawals of 148.70 MGD. The maximum withdrawals that will be authorized by this permit, and all other permits currently under review by the Department within the Connecticut River Basin, will be within the remaining safe yield and may be further conditioned as outlined in the regulations.

Amherst's Water Withdrawal History

Amherst's authorized water withdrawals currently include 3.34 million gallons per day (MGD) of registered (#10600802) volume and up to 1.21 MGD of permitted volume, totaling 4.55 MGD of authorized volume. As shown below in **Table 1**, with the exception of Well #6 (07G), all of Amherst's registered sources are also permitted.

Amherst's original permit, dated November 11, 1994, included 1) authorized withdrawals from six (6) groundwater sources, Well#1 (01G), Well #2 (04G), Well #3 (02G), Well #4 (05G), Well #5 (06G) and Well #6 (07G) and, two (2) surface water supplies, Atkins Reservoir (01S) and Amethyst Brook-Hills & Hawley Reservoirs (02S), 2) set individual maximum daily groundwater withdrawal rates and a combined maximum daily rate of all groundwater sources to 3.55 MGD, 3) set the annual average daily withdrawal rate to 1.25 MGD for the Atkins Reservoir and 4) required Amherst to submit a study to determine the safe yield of the Amethyst Brook (Hills & Hawley Reservoirs) System by November 23, 1995.

Well #6 is an inactive source. The well was drilled in 1991 but was not completed due to elevated iron and manganese concentrations.

A Permit Amendment issued February 29, 2000, increased individual maximum daily withdrawals for Well #3 and Well #4 and increased the combined maximum daily rate of all wells from 3.55 MGD to 4.4 MGD, with no change to the annual authorized volume.

An April 30, 2009 Permit Modification removed Well#2 (04G) and added Replacement Well#2 (08G) with the same maximum daily withdrawal rate of 0.36 MGD, set individual maximum daily withdrawal rates for the Atkins Reservoir and Amethyst Brook (Hills & Hawley Reservoirs) to 1.5 MGD - their respective water treatment plant capacities, set the average daily withdrawal rate for the Atkins Reservoir to 1.25 MGD and, maintained the same authorized volume.

The 2010 WMA Final Permit Amendment issued October 15, 2010, set the combined maximum daily withdrawal rate for Well #1 and (Replacement) Well #2 to 1.01 MGD, increased the maximum daily rate of Well #2 to 0.56 MGD and, again, maintained the same authorized volume.

On May 31, 2022, Lawrence Swamp Replacement Well #4 was assigned source ID #09G and approved for a daily maximum rate of 1.74 MGD and, the status of Well #4 (04G) was changed to Inactive.

TABLE 1: AMHERST'S WITHDRAWAL POINTS

SOURCE NAME	SOURCE ID:	REGISTERED	PERMITTED
WELL #1 SOUTH AMHERST	01G	YES	YES
WELL #3 BROWN WELL	02G	YES	YES
WELL #4 LAWRENCE SWAMP	05G	YES	YES
WELL #5 BAY ROAD	06G	YES	YES
WELL #6	07G	NO*	YES
REPLACEMENT WELL #2	08G	YES	YES
LAWRENCE SWAMP REPLACEMENT WELL #4	09G	YES	YES
ATKINS RESERVOIR	01S	YES	YES
AMETHYST BROOK (HILL & HAWLEY RESERVOIR)	02S	YES	YES

* Well #6 was removed as a registered source and Amherst has been issued an updated Registration Statement with their renewed permit to reflect the change.

The Permit Extensions

Connecticut River Basin water withdrawal permits were originally intended to expire on November 30, 2013. The expiration date in the Connecticut River Basin for all Water Management Permits was extended for two years by Chapter 240 of the Acts of 2010 and further extended for two years by Chapter 238 of the Acts of 2012, collectively known as the Permit Extension Act. Prior to the new November 2017 expiration date, Amherst filed a permit renewal application in November 2016. Pursuant to M.G.L. c. 30A, section 13, and 310 CMR 36.18(7), Amherst's existing permit continues in force and effect until the Department issues a final decision on your permit renewal application. Consistent with 310 CMR 36.17(1), the expiration date for withdrawal permits going forward in the Connecticut River Basin will be November 30, 2033.

Findings of Fact for Permit Conditions in Amherst's Water Management Act Permit

The Findings of Fact for the special conditions included in the permit generally describe the rationale and background for each special condition in the WMA Permit. This summary of permit special conditions is not intended to and should not be construed as modifying any of the permit special conditions. In the event of any ambiguity between this summary and the actual permit conditions, the permit language shall control.

Special Condition 1, Maximum Authorized Annual Average Withdrawal Volume reflects the registered withdrawal volume of 3.34 MGD and a permitted increase of up to 0.49 MGD, for a total authorized withdrawal volume of 3.83 MGD. The permitted increase represents a decrease from Amherst's 2010 permit volume of 1.21 MGD and is based on the September 9, 2016, Department of Conservation and Recreation (DCR) draft Water Needs Forecast (WNF) for Amherst. Amherst's renewed permit is based on the DCR WNF for 65 Residential Gallons Per Capita Day (RGPCD) and 10% Unaccounted-for Water (UAW) (65/10). As shown below in **Table 2**, the "65/10 WNF" identifies a demand of 3.54 MGD during the 2028-2033 permit period, with a 5% buffer (0.18 MGD) to accommodate uncertainty in growth projections and, an additional 0.11 MGD from potential increases in UMass Amherst Campus supply demands.

TABLE 2: SUMMARY OF AMHERST'S DCR WATER NEEDS FORECASTS (MGD)

PERMIT PERIOD	CURRENT TREND	65/10 WNF
2023-2028	3.00	3.51
2028-2033	3.02	3.54
5% BUFFER	+ 0.15	+ 0.18
Potential additional water needs: (UMass Amherst Campus*)	0.11	0.11

This permit will authorize a maximum total withdrawal volume of up to 3.83 MGD by recognizing the existing 3.34 MGD of authorized volume from WMA Registration #1-06-008.02 plus the renewed permit authorized volume of 0.49 MGD, a decrease of 0.72 MGD in Amherst's 2010 permit authorized volume of 1.21 MGD.

TABLE 3: AMHERST'S 2020 - 2024 ACTUAL DAILY WITHDRAWAL VOLUMES

YEAR	ACTUAL ANNUAL AVERAGE DAILY WITHDRAWALS (MGD)
2020	2.37
2021	2.34
2022	2.60
2023	2.56
2024	2.67

As shown above in **Table 3**, Amherst has recently withdrawn substantially less than its total authorized volume of 3.83 MGD set by the renewed permit.

Special Condition 2, Maximum Authorized Daily Withdrawals from each Withdrawal Point sets daily groundwater withdrawal rates based on individual and combined volumes from approved pump tests and Zone II delineations, respectively, with surface water rates limited to approved treatment plant capacities. Special Condition 2 of the Renewed WMA Permit maintains all the same rates.

Special Condition 3, Zone of Contribution Delineation establishes the area in which Amherst's six permitted groundwater sources have an approved Zone II. No further delineations are required as a condition of this permit.

Special Condition 4, Water Supply Source Protection requires Public Water Systems (PWSs) to implement land use controls protective of its water supply in accordance with 310 CMR 22.21(2). MassDEP records indicate all of Amherst's groundwater and surface water sources meet Massachusetts drinking water regulation for wellhead and surface water protection, therefore, no further work is required.

Special Condition 5, Performance Standard for Residential Gallons Per Capita Day (RGPCD) Water Use requires Amherst to meet 65 RGPCD or less. Amherst's 2010 permit required compliance with 80 RGPCD or less. MassDEP conducts detailed reviews of performance standards presented in annual statistical reports (ASRs) for computational errors, consistency with the methodology and guidance provided to public water systems, agreement with published census data, and documentation and validity of confidently estimated municipal use (CEMU) water volumes. When necessary, MassDEP makes RGPCD calculation adjustments. As shown below in **Table 4**, Amherst has not exceeded RGPCD performance standards for the past 5 years.

TABLE 4: AMHERST'S 2020 - 2024 RGPCD and UAW

YEAR	RGPCD (GALS)	UAW (%)
2020	53	10
2021	49	8
2022	32	6
2023	27	2
2024	26	9

See **Appendix A** for additional information on the requirements if the RGPCD performance standard is not met.

Special Condition 6, Performance Standard for Unaccounted for Water (UAW) requires Amherst to meet an updated UAW performance standard of 10% or below. Amherst's 2010 permit required compliance with an UAW of 15% or less. MassDEP has reviewed performance standards reported in the 2020 through 2024 ASRs and made calculation adjustments when necessary. As shown above in **Table 4**, Amherst has remained at or below the UAW performance standard for the past 5 years.

The renewed permit will provide that if Amherst fails to meet the 10% UAW performance standard, Amherst will have to meet Functional Equivalence requirements based on the AWWA/IWA Water Audits and Loss Control Programs, Manual of Water Supply Practices, included in **Appendix B**.

Special Condition 7, Water Conservation Requirements incorporates the Water Conservation Standards for the Commonwealth of Massachusetts adopted by Massachusetts Water Resources Commission in July 2018 [Massachusetts Water Conservation Standards](#). Amherst's 2010 permit required all municipally owned public buildings in the service area to be retrofitted with water savings devices. According to Amherst's February 25, 2025 responses to the Order to Complete issued as part of this permit renewal, water savings devices have not been installed in every municipally owned public building. Special Condition 7 requires Amherst to provide a status report and schedule to complete this effort.

Special Condition 8, Seasonal Limits on Nonessential Outdoor Water Use sets Amherst's Nonessential Outdoor Water Use Restrictions ("Restrictions") based on whether the permittee's reported RGPCD for the previous year was in compliance with the RGPCD Performance Standard (see Special Condition #5).

In addition, outdoor water use restrictions for permittees with wells in subbasins[1] that are 25% or more August Net Groundwater Depleted (Aug NGD[2]) are set to minimize withdrawals from the "depleted" subbasins. Amherst's seven groundwater sources (01G, 02G, 05G, 06G, 07G, 08G and 09G) are located in subbasin 14061 which has a 96.1% Aug NGD, therefore, nonessential outdoor water use is limited to 1 or 2 days per week.

Each year, Amherst shall choose one of two options for implementing nonessential outdoor water use restrictions:

- **Calendar triggered restrictions** are in place from May 1 through September 30. Many public water suppliers find this option easier to implement and enforce than the streamflow triggered approach.
- **Streamflow triggered restrictions** are 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 through September 30. At a minimum, restrictions commence when streamflow falls below the trigger for three consecutive days. Once implemented, the restrictions remain in place until streamflow at the assigned USGS local stream gage meets or exceeds the trigger streamflow for seven consecutive days.

If Amherst selects the streamflow trigger approach, it has been assigned **USGS stream gage 01171500**, located on the Mill River at Northampton, MA. The May-June streamflow trigger is **62** cubic feet per second (cfs), and the July-September streamflow trigger is **26** cfs. Should the reliability of flow measurement at this gage be so impaired as to question its accuracy, the applicant may request that MassDEP review and approve the transfer to another gage that will trigger restrictions. MassDEP reserves the right to require use of a different gage.

- **The 7-Day Low-flow Trigger**, at which restrictions increase is incorporated into both Calendar and Streamflow Triggered restrictions to provide additional protection when flows are very low. The 7-day low flow trigger is based on the median value of the annual 7-day low flows for the period of record. The 7-day low flow trigger for **USGS stream gage 01171500** is **10** cfs.

The permittee may choose to implement limits on nonessential outdoor water use that are stricter than those required by the permit.

To the extent feasible all summer outdoor water use should take place before 9 a.m. and after 5 p.m. when evaporation and evapotranspiration rates are lower.

Guidance for Permittees Concerning Enforcement Authority

This permit condition does not confer enforcement authority to the permittee. For permittees that do not have the necessary local enforcement authority, MassDEP has developed a Model Outdoor Water Use Bylaw/Ordinance to help municipalities implement nonessential water use restrictions. The Model Bylaw also includes options for regulating private wells and in-ground irrigation systems. See [Model Water Use Restriction Bylaw/Ordinance Update | Mass.gov](#). DEP strongly advises permittees to consult with Town or City Counsel to ensure adoption of an appropriate, enforceable and legally valid bylaw that will meet municipal/district needs.

Note that if the permittee also holds a Water Management Act registration, **the nonessential outdoor water use restrictions in the permit shall be controlling.**

Special Condition 9, Minimization requires permittees with groundwater sources in subbasins having an August NGD of 25% or greater to minimize their withdrawal impacts on those subbasins, to the greatest extent feasible, through optimization of groundwater source use, surface water releases to improve streamflows, outdoor water restrictions and water conservation programs that go beyond Water Management permit requirements.

Amherst's groundwater sources are in subbasin 14061, with an Aug NGD of 96.1% (see Special Condition #8). Amherst's Minimization requirements will be met by source optimization measures that try to prioritize use of Amherst's surface water sources during the later summer bio-period instead of their groundwater wells (See **Appendix C**), require the continuation of private households and the Town to abide by permits and regulations which require the inclusion of groundwater recharge in all project designs, and evaluating and updating water rate structures over the next 3-5 years.

Special Condition 10, Mitigation of Impacts for Withdrawals that Exceed Baseline Withdrawals requires mitigation where feasible, for withdrawals over a baseline volume. WMA regulations, 310 CMR 36.03, define baseline as the volume of water withdrawn during calendar year 2005 plus 5%, or the average annual volume withdrawn from 2003 through 2005 plus 5%, whichever is greater provided that:

1. baseline cannot be less than a permittee's registered volume,
2. baseline cannot be greater than the permittee's authorized volume for 2005, and
3. if, during the period from 2003 to 2005, the permittee's withdrawals from the water source were interrupted due to contamination of the source or construction of a treatment plant, the Department will use best available data to establish a baseline volume from the water source.

Amherst's baseline is their 2003 – 2005 average annual withdrawal volume plus 5%, or 3.80 MGD.

Amherst's renewed permit sets the total authorized withdrawal volume at 3.83 MGD (See Special Condition #1). Since this value is 0.03 MGD above baseline, Amherst's potential mitigation amount is 0.03 MGD. A wastewater adjustment can be applied against this volume where water withdrawn is returned to the ground as wastewater within the same major basin as the withdrawal, and, to a lesser extent to subbasins outside the major basin. Amherst reported on its permit renewal application that 14% of their wastewater is disposed of through on-site disposal systems. MassDEP assumes that 85% of the new wastewater generated by the additional withdrawal over Amherst's baseline of 0.03 MGD will be returned to the ground within the same major basin as the withdrawal, thus reducing the mitigation amount by the wastewater adjustment volume of $0.14 (14\%) \times 0.85 (85\%) \times 0.03 \text{ MGD}$, or 0.004 MGD, thereby leaving 0.026 MGD (0.03-0.004 MGD), or 26,000 gallons per day (GPD) remaining to be mitigated.

Mitigation Plans: Permits can include both direct and indirect mitigation activities to address withdrawals over baseline. **Direct mitigation** must be considered first in mitigation planning and is quantifiable on a gallon per gallon basis. It includes activities which improve streamflow as a result of increased groundwater recharge, decreased stormwater runoff to streams, or surface water releases. If the required mitigation amount cannot be achieved by direct mitigation, then **indirect mitigation** must be evaluated. Indirect mitigation activities will improve fluvial habitat but cannot be volumetrically quantified. Each indirect credit is initially equal to a mitigation amount of 10,000 GPD.

Amherst's Mitigation Plan (the Plan): Amherst's Plan indicates no surface water release impoundments to improve streamflow. The Plan reported no eligible stormwater recharge projects due to lack of an associated operation and maintenance plan and provided no substantiating records and reports to qualify for past sewer system Infiltration and Inflow removal work. Therefore, Amherst reported no eligible direct mitigation volumes to credits.

Amherst's Plan includes a Stormwater bylaw that meets MassDEP's indirect credit criteria by applying project requirements throughout the entire municipality and by regulating projects down to one acre in size. These bylaw requirements qualify for 2 indirect credits for its implementation throughout the entire Town and 1 indirect credit for the regulated project size.

Amherst's 3 indirect credits is equivalent to 30,000 GPD in mitigation which is in excess of the required mitigation volume of 26,000 GPD (0.026 MGD). Should there be any changes to these mitigation activities during the life of the permit, Amherst should contact MassDEP about the changes to enable reassessment of Amherst's mitigation requirements.

Special Condition 11, Requirement to Report Raw and Finished Water Volumes. This condition ensures the information necessary to evaluate compliance with the conditions included herein as accurately reported. Amherst ASRs have reported both raw and finished withdrawal volumes.

Other WMA Considerations

Coldwater Fisheries Resource (CFR) Protection

Permittees with withdrawals point(s) impacting a CFR must evaluate options for shifting withdrawals to other withdrawal points and/or utilizing alternative withdrawal sources to minimize the impacts to CFRs through feasible optimization. Amherst's withdrawal points are all permitted and located in subbasins containing CFRs. Consultations between the Department and the Division of Fisheries and Wildlife regarding shifting withdrawals concluded that since all sources potentially impact CFRs and, the combination of source capacities and source types (groundwater and surface water) are already being optimized and will also be updated as part of Amherst's Minimization Plan (**Appendix C**), that minimal additional benefits exist in further evaluating optimization options. Therefore, CFR optimization is not required at this time.



Commonwealth of Massachusetts
Executive Office of Energy and Environmental Affairs

Department of Environmental Protection

Address: 100 Cambridge Street, Suite 900, Boston MA 02114 | **Phone:** 617-292-5500

Maura T. Healey
Governor

Kim Driscoll
Lieutenant Governor

Rebecca Tepper
Secretary

Bonnie Heiple
Commissioner

WATER WITHDRAWAL PERMIT

M.G.L. c. 21G

This 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: 9P-1-06-008.01

RIVER BASIN: CONNECTICUT

PERMITTEE:

Town of Amherst
Department of Public Works
4 Boltwood Avenue
Amherst, MA 01002

EFFECTIVE DATE:

September 16, 2026

EXPIRATION DATE:

November 30, 2033

NUMBER OF WITHDRAWAL POINTS: 9

Groundwater: 7 Surface Water: 2

USE:

Public Water Supply (PWS)

DAYS OF OPERATION:

365

LOCATIONS:

TABLE 1: WITHDRAWAL POINT IDENTIFICATION

SOURCE ID:	SOURCE NAME
1008000-01S	ATKINS RESERVOIR
1008000-02S	AMETHYST BROOK (HILL & HAWLEY RESERVOIRS)
1008000-01G	WELL #1 SOUTH AMHERST
1008000-02G	WELL #3 BROWN WELL
1008000-05G	WELL #4 LAWRENCE SWAMP
1008000-06G	WELL #5 BAY ROAD
1008000-07G	WELL #6
1008000-08G	REPLACEMENT WELL #2
1008000-09G	LAWRENCE SWAMP REPLACEMENT WELL #4

SPECIAL CONDITIONS

1. Maximum Authorized Annual Average Withdrawal Volume

This permit authorizes the Town of Amherst (Amherst) to withdraw water from the Connecticut River Basin at the rates described below in **Table 2**. Permit volumes reflected by the rates below are in addition to the 3.34 million gallons per day (MGD) previously authorized to Amherst under WMA registration #1-06-008.02. The permitted volume is expressed as both an annual average daily withdrawal rate (in MGD), and as a total annual withdrawal volume (in million gallons per year, or MGY) for the permit period. The Department of Environmental Protection (MassDEP or “the Department”) will use the raw water withdrawal volume from all authorized withdrawal points to assess compliance with the registered and permitted withdrawal volumes.

TABLE 2: MAXIMUM AUTHORIZED ANNUAL AVERAGE WITHDRAWAL VOLUMES

PERMIT PERIOD	Permit		Registration + Permit	
	Daily Average (MGD)	Total Annual (MGY)	Daily Average (MGD)	Total Annual (MGY)
9/16/2026 to 11/30/2033	0.49	178.85	$3.34 + 0.49 = \mathbf{3.83}$	$1,220.66 + 178.85 = \mathbf{1,399.51}$

2. Maximum Authorized Daily Withdrawals from each Withdrawal Point

Withdrawals from individual withdrawal points are not to exceed the approved maximum daily withdrawal rates listed in **Table 3** without specific advance written approval from MassDEP. The authorized maximum daily withdrawal rate listed is the approved rate of the source based on the MassDEP-approved Zone II delineation.

TABLE 3: MAXIMUM DAILY WITHDRAWAL RATES

SOURCE NAME	SOURCE ID	MAXIMUM DAILY RATE (A)
ATKINS RESERVOIR	01S	1.5
AMETHYST BROOK (HILL & HAWLEY RESERVOIRS)	02S	1.5
WELL #1 SOUTH AMHERST	01G	0.65
WELL #3 BROWN WELL	02G	1.48
WELL #4 LAWRENCE SWAMP	05G	1.74
WELL #5 BAY ROAD	06G	0.50
WELL #6	07G	1.18
REPLACEMENT WELL #2	08G	0.56
LAWRENCE SWAMP REPLACEMENT WELL #4	09G	1.74
COMBINED 01G & 08G (B):		1.01
ALL WELLS COMBINED (C):		4.4

(A) = Groundwater Maximum Daily Rate is the Approved Daily Pumping Volume and Surface Water Maximum Daily Rate is the source’s approved treatment plant capacity.

(B) = Combined sources maximum daily rate is limited to less than the sum of individual approved daily rates.

(C) = Combined sources’ maximum daily rate is limited to approved Zone II the sources.

Maximum Authorized Average Daily Withdrawals from Surface Water

The annual average daily withdrawal rate is the maximum surface water volume pumped per year expressed as a daily average withdrawal volume (**Table 4**).

TABLE 4: ANNUAL AVERAGE DAILY WITHDRAWAL RATES (MGD)

SOURCE NAME	SOURCE ID	AVERAGE DAILY RATE
ATKINS RESERVOIR	01S	1.25 (A)
AMETHYST BROOK (HILLS & HAWLEY RESERVOIRS)	02S	N/A

(A) = Approved Firm Yield from “Pilot Evaluation for Atkins Reservoir” report by Tighe & Bond, March 1990. N/A = Not applicable since no Firm Yield Established

3. Zone of Contribution Delineations

MassDEP records indicate Amherst has approved Zone II delineations for its groundwater sources. Therefore, no further Zone II delineation work is required as a condition of this permit.

4. Water Supply Source Protection

Wellhead Protection

MassDEP records indicate all of Amherst’s groundwater sources meet Massachusetts drinking water regulations for wellhead protection requirements pursuant to 310 CMR 22.21(2). Therefore, no further wellhead protection work is required.

Surface Water Protection

MassDEP records indicate all of Amherst’s surface sources meet Massachusetts drinking water regulations for surface water protection requirements pursuant to 310 CMR 22.21C(2). Therefore, no further surface water protection work is required.

5. Performance Standard for Residential Gallons Per Capita Day Water Use (RGPCD)

Amherst’s Performance Standard for RGPCD is 65 gallons per year. Permittees that cannot comply with the RGPCD Performance Standard are required to develop and implement a functional equivalence program as set forth in **Appendix A: Functional Equivalence** with the RGPCD Performance Standard. Amherst shall report its RGPCD annually in its Annual Statistical Report (ASR).

6. Performance Standard for Unaccounted for Water (UAW)

Amherst’s Performance Standard for UAW is 10% per year. Permittees that cannot comply with the UAW Performance Standard are required to develop and implement Functional Equivalence requirements for UAW which are based on the American Water Works Association (AWWA) Water Audits and Loss Control Program, Manual of Water Supply Practices M36, as outlined in **Appendix B**. Amherst shall report its UAW annually in its Annual Statistical Report (ASR).

7. Water Conservation Requirements

At a minimum, Amherst shall implement the following conservation measures forthwith. Compliance with the water conservation requirements shall be reported to MassDEP upon request, unless otherwise noted below in **Table 5**.

TABLE 5: MINIMUM WATER CONSERVATION REQUIREMENTS

System Water Audits and Leak Detection 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 years from the date of the last documented leak detection survey. 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. Amherst shall have repair reports available for inspection by MassDEP. Amherst shall establish a schedule for repairing leaks that is at least as stringent as the following: • Leaks of 3 gallons per minute or more shall be repaired within 3 months of detection. • Leaks of less than 3 gallons per minute at hydrants and appurtenances shall be repaired as soon as possible. • 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 leaks in freeway, arterial or collector roadways shall be repaired when other roadwork is being performed on the roadway. Leaks shall be repaired in accordance with Amherst's priority schedule including leaks up to the property line, curb stop or service meter, as applicable. Amherst shall have water use regulations in place that require property owners to expeditiously repair leaks on their property.
Metering 1. Amherst shall continue to calibrate all source and finished water meters at least annually and report date of calibration on the ASR. 2. Amherst shall maintain its 100% metered system. 3. Amherst shall continue their meter replacement program that is based on AWWA standards.
Pricing 1. Amherst shall have a plan and schedule for establishing and maintaining a water pricing structure that includes the full cost of operating the water supply system. Thereafter, Amherst shall implement the plan and schedule as approved by MassDEP. Full cost pricing factors all costs - operations, maintenance, capital, and indirect costs (environmental impacts, watershed protection) - into prices. 2. Evaluate rates at a minimum every three to five years and adjust costs as needed. 3. Amherst shall continue to bill at least quarterly.

TABLE 5 (continued): MINIMUM WATER CONSERVATION REQUIREMENTS

Residential and Public Sector Conservation 1. Amherst shall ensure that the standards set forth in the Federal Energy Policy Act, 1992 and the Massachusetts Plumbing Code are met when buildings are constructed or renovated. 2. Amherst reports metering water used by contractors using fire hydrants for pipe flushing and construction and shall continue to do so. 3. Municipal buildings: • Six months following the permit issuance date, Amherst shall submit to MassDEP a status report detailing which municipally owned public buildings in the Permittee'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 cost estimates and reasonably phased work schedules to complete the remaining retrofits. Note: Municipally owned buildings scheduled for rehabilitation or demolition may with MassDEP's approval, be exempted from this condition based on the schedule of work. Status report required above shall identify those buildings and schedule for repairs/demolition.
Industrial and Commercial Water Conservation 1. Amherst shall continue to inspect industrial facilities and recommend the use of separate meters for process water where appropriate.
Public Education and Outreach 1. Within six months of the effective date of this permit, Amherst shall submit to MassDEP a plan and schedule for the development and implementation of a water conservation education and outreach plan designed to educate customers on ways to conserve water. <u>Without limitation, the plan may include the following actions:</u> • 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, • Public space advertising/media stories on successes (and failures), • Conservation information centers perhaps run jointly with electric or gas company, • Speakers for community organizations, • Public service announcements; radio/T.V./audio-visual presentations • Joint advertising with hardware stores to promote conservation devices, • Use of civic and professional organization resources, • Special events such as Conservation Fairs, • Develop materials that are targeted to schools with media that appeals to children, including materials on water resource projects and field trips; and • Provide multilingual materials as needed. 2. Thereafter, Amherst shall develop and implement the water conservation education and outreach plan and schedule as approved by MassDEP. Upon request of MassDEP, Amherst shall report on its public education and outreach efforts.

8. Seasonal Limits on Nonessential Outdoor Water Use

Amherst shall limit nonessential outdoor water use through mandatory restrictions from May 1 through September 30, as outlined in **Table 6** below. Amherst shall be responsible for tracking streamflow gages and recording and reporting when restrictions are implemented (see **Table 7**). The permittee shall document compliance with the limits on nonessential outdoor water use annually in its ASR.

When RGPCD for the previous year was 65 or below, Amherst shall choose either Calendar Triggered Restrictions or Streamflow Triggered Restrictions

TABLE 6: LIMITS ON NONESSENTIAL OUTDOOR WATER USE

For Permittees Meeting the 65 RGPCD Standard for the Preceding Year
When RGPCD was 65 or below as reported in the ASR and accepted by MassDEP, choose either Calendar Triggered Restrictions or Streamflow Triggered Restrictions from this section of the Table
CALENDAR Triggered Restrictions:
Nonessential outdoor water use is allowed before 9 a.m. and after 5 p.m.: a) Two (2) days per week, unless, b) USGS stream gage 01171500, located on the Mill River at Northampton, MA falls below 10 cfs for three (3) consecutive days, then one (1) day per week is allowed. Once streamflow triggered restrictions are implemented, they shall remain in place until streamflow at gage meets or exceeds 10 cfs for seven (7) consecutive days.
STREAMFLOW Triggered Restrictions:
Nonessential outdoor water use is allowed before 9 a.m. and after 5 p.m.: a) Two (2) days per week when USGS stream gage 01171500, located on the Mill River at Northampton, MA falls below: ➤ 62 cfs for three (3) consecutive days from May 1 – June 30, and ➤ 26 cfs for three (3) consecutive days from July 1 – September 30, unless, b) USGS Gage 01171500 falls below 10 cfs for three (3) consecutive days at any time from May 1 – September 30, then one (1) day per week is allowed. Once implemented, restrictions shall remain in place until streamflow at the gage meets or exceeds the trigger streamflow for seven (7) consecutive days.
For Permittees NOT Meeting the 65 RGPCD Standard for the Preceding Year
When RGPCD was above 65 as reported in the ASR and accepted by MassDEP, choose either Calendar Triggered Restrictions or Streamflow Triggered Restrictions from this section of the Table
CALENDAR Triggered Restrictions:
Nonessential outdoor water use is allowed before 9 a.m. and after 5 p.m. one (1) day per week.
STREAMFLOW Triggered Restrictions:
Nonessential outdoor water use is allowed before 9 a.m. and after 5 p.m. one (1) day per week when USGS stream gage 01171500 , located on the Mill River at Northampton, MA falls below: ➤ 62 cfs for three (3) consecutive days from May 1 – June 30, and, ➤ 26 cfs for three (3) consecutive days from July 1 – September 30. Once implemented, restrictions shall remain in place until streamflow at the gage meets or exceeds the trigger streamflow for seven (7) consecutive days.

TABLE 7: TRACKING STREAMFLOWS THROUGH THE USGS WEBSITE

Instructions for Accessing Streamflow Website Information

If the Permittee chooses Streamflow Triggered Restrictions, the Permittee shall be responsible for tracking streamflows and recording and reporting to MassDEP when restrictions are implemented.

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 for 3 consecutive days. 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, the Permittee must use the mean daily streamflow from the preceding day when tracking streamflows.

Mean daily streamflow gage readings are also available by following the instructions on MassDEP's [USGS Stream Gage and Well-Monitoring Data webpage](#).

For additional questions or for additional support, contact the MassDEP Water Management Program at DEP.WMA@mass.gov (preferred), or the WMA Program contact identified in this permit.

Should the reliability of flow measurement at the **USGS stream gage 01171500**, located on the Mill River at Northampton, MA be so impaired as to question its accuracy, Amherst may request MassDEP's review and approval to transfer to another gage to trigger restrictions.

MassDEP reserves the right to require the use of a different gage.

Nonessential Outdoor Water Use means a use that is not required:

- (a) for health or safety reasons, including public facilities used for cooling such as splash pads and swimming pools, and for washing of boats, engines, or marine equipment to prevent negative saltwater impacts or the transfer of invasive aquatic species;
- (b) by permit, license, statute or regulation;
- (c) for the production of food, including vegetable gardens, and fiber;
- (d) for the maintenance of livestock;
- (e) to meet the core functions (those functions essential to the commercial operations) of a business, including but not limited to:
 - 1. plant nurseries as necessary to maintain stock;
 - 2. golf courses as necessary to maintain greens and tees, and limited fairway watering per 310 CMR 36.07(2)(c)2.a. through c.;
 - 3. venues used for weddings or similar special events that limit watering to hand-held hose or drip irrigation as necessary to maintain gardens, flowers and ornamental plants;
 - 4. professional washing of exterior building surfaces, parking lots, driveways and/or sidewalks as necessary to apply surface treatments such as paint, preservatives, stucco, pavement, or cement in the course of construction, reconstruction or renovation work;

- (f) for irrigation of public parks before 9:00 a.m. and after 5:00 p.m.,
- (g) for irrigation of public and private recreation fields, including those operated by schools, colleges, universities and athletic associations, before 9:00 a.m. and after 5:00 p.m.,
- (h) for irrigation of publicly funded shade trees and trees in the public right-of-way; or
- (i) to establish a new lawn as necessary to stabilize soil in response to new construction or following the repair or replacement of a Title 5 system.

Public Notice of Seasonal Nonessential Outdoor Water Use Restrictions

The Permittee 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 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 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 form "Notification of Water Use Restrictions" available on MassDEP's website link [Outdoor Water Use Restrictions for Cities, Towns, and Golf Courses | Mass.gov](#).

Enforcement Authority

This permit condition does not confer enforcement authority to the permittee. If Amherst does not have appropriate enforcement authority, then, beginning as soon as possible, but no later than 24 months after issuance of the permit, the permittee shall establish enforceable restrictions limiting nonessential outdoor water use.

9. Minimization

Amherst shall minimize the impacts of its groundwater withdrawals from 01G, 02G, 05G, 06G, 07G, 08G and 09G located in Subbasin 14061 as follows:

1. Following Amethyst Brook's (source -02S) Centennial Water Treatment Plant coming online and subject to maintenance and repairs of source infrastructure and weather, i.e. a drought situation, implement source optimization schedule to minimize impacts from groundwater withdrawals by reducing use of primary groundwater wells (02G and 09G) during the late summer bioperiod while increasing water production from the two surface water sources, as proposed in **Tables 2 and 3** located in **Appendix C**.
2. Amherst will ensure private households and the Town abide by permits and regulations which require the inclusion of groundwater recharge in all project designs and,
3. Evaluate its rate structure over the next 3-5 years to assess adding more rate categories with higher rates for larger consumers.

10. Mitigation

Amherst is required to mitigate 0.026 MGD for its permitted withdrawals over baseline. This mitigation amount has been met and exceeded in accordance with WMA Stormwater Bylaw guidance for indirect credits based on Geographic Extent and Regulated Project Size criteria in Amherst's Stormwater bylaw, cumulatively providing 3 indirect credits each valued at 10,000 gallons per day, and equivalent to 0.03 MGD.

Amherst shall contact MassDEP should there be changes to the status of activities which qualified them for the aforementioned indirect credits.

11. Requirement to Report Raw and Finished Water Volumes

Amherst shall report the raw and finished water volumes for the entire water system and the raw water volumes for each individual withdrawal point on the Annual Statistical report.

GENERAL PERMIT CONDITIONS (applicable to all permittees except Cranberry permits)

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 the Department has received a timely permit renewal 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, the Water Management Act regulations at 310 CMR 36.00, and all other 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 the Department to enter and examine at reasonable times any property, facility, operation, equipment or activity involving the withdrawal of water, and to 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 the Department 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 the Department approves such transfer in writing, pursuant to the submittal of a transfer application in accordance with 310 CMR 36.33 on forms provided by the Department requesting such approval and received by the Department 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 as set forth in 310 CMR 4.00.
6. **Duty to Report:** The permittee shall complete and submit annually, on a form provided by the Department, all of the information required by said form including, without limitation, a certified statement of the withdrawal. Such report shall be received by the Department by the date specified on the form each year. For public water supplier permittees, the report form is the MassDEP Drinking Water Program Public Water Supply Annual Statistical Report.
7. **Annual Compliance Fee:** The permittee shall submit any applicable annual compliance fee as established in 310 CMR 4.00.
8. **Duty to Maintain Records:** The permittee shall maintain withdrawal records and other information in sufficient detail to demonstrate compliance with this permit.
9. **Metering:** All withdrawal points included within the permit shall be metered. Meters are to be calibrated annually. Meters shall be maintained and replaced as necessary to ensure the accuracy of the withdrawal records.
10. **Amendment, Suspension or Termination:** The Department may amend, suspend or terminate the permit in accordance with M.G.L. c. 21G and 310 CMR 36.29.

NOTICE OF APPEAL RIGHTS

Any person aggrieved by this decision may request an adjudicatory hearing by timely filing a Notice of Claim for an Adjudicatory Appeal ("Notice of Claim") in accordance with 310 CMR 36.37 and 310 CMR 1.01 within twenty-one (21) days of receipt of this Permit. The Notice of Claim shall state specifically, clearly, and concisely the facts that are grounds for the appeal, the relief sought, and any additional information required by applicable law or regulation. A copy of this Permit shall be included with the Notice of Claim. No request for an appeal of this permit shall be validly filed unless a copy of the request is sent at the same time 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 Permittee, unless such person notifies the Permittee of the appeal in writing by certified mail or by hand within five (5) days of mailing the appeal to the Department.

The Notice of Claim and supporting documentation, including a copy of the fee transmittal form and a copy of the check, must be sent by certified mail or hand delivered to:

Case Administrator
Office of Appeals and Dispute Resolution
Department of Environmental Protection
100 Cambridge Street, Suite 900
Boston, MA 02114

In addition, the Department's fee transmittal form, together with a valid check or money order made payable to the Commonwealth of Massachusetts in the amount of \$100 for the appeal filing fee, if required, must be mailed to:

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

The Notice of Claim may be dismissed if the filing fee is not paid unless the appellant is exempt or granted a waiver. The filing fee is not required if the appellant is a city, town (or municipal agency), county, district of the Commonwealth of Massachusetts, or a municipal housing authority. The Department may waive the adjudicatory filing fee for a person who shows that paying the fee will create an undue financial hardship. A person seeking a waiver must file, along with the hearing request, an affidavit setting forth the facts believed to support the claim of undue financial hardship.



Duane LeVangie
Water Management Program Chief
Bureau of Water Resources

September 16, 2026

Date

Endnotes

Appendix A: Functional Equivalence with the RGPCD Performance Standard

Appendix B: Functional Equivalence with the 10% UAW Performance Standard

Appendix C: Amherst Minimization Plan Source Production Optimization Tables 2 and 3

Endnotes

- [1] Subbasins used for WMA permitting are the 1,395 subbasins delineated by the U.S. Geological Survey in “Indicators of Streamflow Alteration, Habitat Fragmentation, Impervious Cover, and Water Quality for Massachusetts Stream Basins” (Weiskel et al., 2010, USGS SIR 2009-5272) at [USGS Publication | sir20095272](#). The Water Management Regulations, 310 CMR 36.03, define August net groundwater depletion (NGD) to mean the unimpeded median flow for August minus 2000-2004 groundwater withdrawals plus 2000-2004 groundwater returns described by U.S. Geological Survey in Indicators of Streamflow Alteration, Habitat Fragmentation, Impervious Cover and Water Quality for Massachusetts Stream Basins. A subbasin is groundwater, depleted if it has an August NGD of greater than 25%.
- [2] The Water Management Regulations, 310 CMR 36.03, define August net groundwater depletion to mean the unimpeded median flow for August minus 2000-2004 groundwater withdrawals plus 2000-2004 groundwater returns described by U.S. Geological Survey in Indicators of Streamflow Alteration, Habitat Fragmentation, Impervious Cover and Water Quality for Massachusetts Stream Basins.
- [3] The Water Management Regulations 310 CMR 36.14(1)(b), establishes a groundwater withdrawal category (GWC) based on the ratio of 2000 to 2004 groundwater withdrawal volume to the unimpacted median monthly flow for August and represents conditions during the late summer bioperiod (July thru September). Each GWC represents the range of this ratio that would result in the BC of the same number under conditions of low (15%) impervious cover. The GWC for each withdrawal ratio for the late summer bioperiod is as follows: GWC 1, 0% to 3%; GWC 2, >3% to 10%; GWC 3, >10% to 25%; GWC 4, >25% to 55%; and GWC 5, >55%.
- [4] The Water Management Regulations, 310 CMR 36.14(1)(a), establish a biological category (BC) for each subbasin based on the simulated 2000 to 2004 existing condition of aquatic habitat using fluvial fish community characteristics as the surrogate indicator variable. Each biological category represents the percent alteration within the range of these fluvial fish community characteristics as a function of the following subbasin parameters: 1. Impervious cover; 2. Cumulative groundwater withdrawal as a portion of the unimpacted August median flow; 3. Stream channel slope; and 4. Percent wetland within the stream buffer area. The percentage alteration for each BC is as follows: BC 1, 0% to 5%; BC 2, > 5% to 15%; BC 3 >15% to 35%; BC 4, > 35% to 65%; BC 5, >65%.

APPENDIX A
Functional Equivalence with the
Residential Gallons Per Capita Day (RGPCD) Performance Standard

I. Compliance Plan Requirement

If the permittee fails to achieve and document compliance with the RGPCD performance standard in its Annual Statistical Report (ASR), then the permittee 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 the permittee's failure to meet the performance standard.

If an RGPCD Plan is required, the permittee 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 the permittee's ASR for the calendar year in which the standard is met.

II. Contents of an RGPCD Plan

A permittee that does not meet the 65 RGPCD performance standard within 2 years, has the choice to file an RGPCD Plan containing measures that the permittee believes will be sufficient to bring the system into compliance with the performance standard (Individual RGPCD Plan) or may adopt the MassDEP RGPCD Functional Equivalence Plan that includes mandated Best Management Practices (BMPs).

A permittee that has been unable to meet the 65 RGPCD performance standard within 5 years must implement the MassDEP RGPCD Functional Equivalence Plan to be considered functionally equivalent with the performance standard.

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.

Individual RGPCD Plan

Individual RGPCD Plan will document a plan to adopt and implement measures tailored to the specific needs of the water supply system that the permittee believes will be sufficient to bring the system into compliance with the performance standard within three years.

At a minimum, all Individual 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 the permittee is already implementing one or more of these programs, it must include in its Individual 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, the Individual RGPCD Plan for failure to meet the RGPCD performance standard may include any of the actions set forth in the MassDEP RGPCD Functional Equivalence Plan below.

MassDEP RGPCD Functional Equivalence Plan

In order to be considered functionally equivalent with the RGPCD performance standard, the permittee must be in compliance with the permit Special Condition, Seasonal Limits on Nonessential Outdoor Water Use, and must adopt and implement the MassDEP RGPCD Functional Equivalence Plan that requires all 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),
- c. the adoption and enforcement of an ordinance, bylaw, or regulation to require the installation of soil moisture sensors or similar climate related control technology on all automatic irrigation systems,
- d. the use of an increasing block water rate or a seasonal water rate structure as a tool to encourage water conservation,
- e. 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; and
- f. the implementation of monthly or quarterly billing.

Hardship

A permittee may present an analysis of the cost effectiveness of implementing certain conservation measures included in the MassDEP RGPCD Functional Equivalence Plan 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:

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

APPENDIX B
Functional Equivalence with the
10% Unaccounted for Water (UAW) Performance Standard

Water Loss Control Program: 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 ongoing Water Loss Control Program in place that ensures best practices for controlling water loss.

Developing a Municipal Water Loss Control Program: A permittee who fails to document compliance with the 10% UAW performance standard for 2 out of the 3 years during the permit period, shall develop a Municipal Water Loss Control Program in accordance with the *AWWA M36 Water Audits and Loss Control Program*. Within 5 full calendar years of failing to meet the standard, the permittee shall:

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 as an attachment to the 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 component analysis and long-term program to reduce real and apparent water losses.
 - i. 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.
 - ii. 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, 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.
3. Submit the Municipal Water Loss Control Program that includes an M36 component analysis and implementation schedule and identifies implementation funding to the Department.
4. Upon request of the Department, the permittee shall report on its implementation of the water loss control program.
5. Continued implementation of the Program will be required for the permittee to be considered functionally equivalent with the 10% UAW performance standard and in compliance with their permit.

A PWS permittee may choose to discontinue the Municipal Water Loss Control Program implementation if UAW, as reported on the ASR and approved by the Department, 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 Water Loss Control Program: If the permittee is required to develop a Water Loss Control Program in order to be functionally equivalent with the 10% Unaccounted for Water Performance Standard, and the permittee has not developed a Municipal Water Loss Control Program that includes a component analysis and identifies implementation funding after 5 full calendar years of failing to meet the standard, the permittee will be required to implement the MassDEP UAW Water Loss Control Program measures outlined below:

- Complete an annual water audit and leak detection survey, as described in the AWWA M36 Manual, for 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.
- Review the permittee's water pricing structure and ensure revenues are 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 Water Loss Control Program and offer alternative measures. Any analysis must explicitly consider environmental impacts and must produce equal or greater environmental benefits.

A permittee's hardship analysis shall:

- 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 UAW Water Loss Control Program.

MassDEP will review a permittee's detailed, written analysis to determine whether unique circumstances make specific water loss control measures less cost-effective than alternatives, or infeasible for the permittee.

APPENDIX C

Amherst Minimization Plan Source Production Optimization Tables

Table 2: Monthly Source Production Optimization for Minimizing Streamflow Impact (prior to Centennial WTP coming on line)

Source Name	Source ID	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Well #1 South Amherst	01G	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Well #3 Brown Well	02G	30%	30%	30%	30%	30%	30%	25%	25%	25%	30%	30%	30%
Well #4 Lawrence Swamp	05G	-	-	-	-	-	-	-	-	-	-	-	-
Well #5 Bay Rd	06G	-	-	-	-	-	-	-	-	-	-	-	-
Well #6	07G	-	-	-	-	-	-	-	-	-	-	-	-
Replacement Well #2	08G	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Lawrence Swamp	09G	30%	30%	30%	40%	40%	40%	25%	25%	25%	40%	40%	30%
Replacement Well #4													
Atkins Reservoir	01S	30%	30%	30%	20%	20%	20%	40%	40%	40%	20%	20%	30%
Amethyst Brook (Hill & Hawley Res)	02S	-	-	-	-	-	-	-	-	-	-	-	-

Table 3: Monthly Source Production Optimization for Minimizing Streamflow Impact (after Centennial WTP comes on line – Jan 2026)

Source Name	Source ID	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Well #1 South Amherst	01G	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Well #3 Brown Well	02G	20%	20%	20%	20%	20%	20%	10%	10%	10%	20%	20%	20%
Well #4 Lawrence Swamp	05G	-	-	-	-	-	-	-	-	-	-	-	-
Well #5 Bay Rd	06G	-	-	-	-	-	-	-	-	-	-	-	-
Well #6	07G	-	-	-	-	-	-	-	-	-	-	-	-
Replacement Well #2	08G	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Lawrence Swamp	09G	0%	0%	0%	20%	20%	20%	0%	0%	0%	20%	20%	0%
Replacement Well #4													
Atkins Reservoir	01S	35%	35%	35%	25%	25%	25%	40%	40%	40%	25%	25%	35%
Amethyst Brook (Hill & Hawley Res)	02S	35%	35%	35%	25%	25%	25%	40%	40%	40%	25%	25%	35%