



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

Southeast Regional Office • 20 Riverside Drive, Lakeville MA 02347 • 508-946-2700

Charles D. Baker
Governor

Karyn E. Polito
Lieutenant Governor

Matthew A. Beaton
Secretary

Martin Suuberg
Commissioner

July 28, 2016

Mr. Dana Miller
Miller Bogs, LLC
27 Pine Hill Road
Kingston, MA 02364

RE: KINGSTON – WMA
Miller Bogs, LLC
Permit No. 9P4-4-21-145.03
Permit Renewal

Dear Mr. Miller:

Please find the attached documents:

- Findings of Fact in Support of the Final Permit Decision;
- Water Management Act Permit for withdrawals by Miller Bogs, LLC in the South Coastal Basin.

The signature on this cover letter indicates formal issuance of the attached document. Please contact Jim McLaughlin at (508) 946-2805 or via email at james.m.mclaughlin@state.ma.us if you have any questions regarding this matter.

Sincerely,

Jonathan E. Hobill
Regional Engineer
Bureau of Water Resources

jm/encl.

CERTIFIED MAIL 7014 2120 0003 6904 2122

cc: Duane LeVangie, DEP, Boston

ec: Kingston Conservation Agent

Y:\DWP Archive\SERO\Kingston-9P442114503-WMA-2016-07-28

Y:\DWPWMA\PermitRenewals\SouthCoastal\Miller Bogs-Permit 9P4421145.03-2016-07-28

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

Contact Michelle Waters-Ekanem, Diversity Director/Civil Rights: 617-292-5751 TTY#
MassRelay Service 1-800-439-2370.

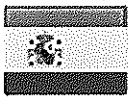
<http://www.mass.gov/eea/agencies/massdep/service/justice/>

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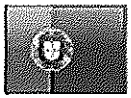
1 English:

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.



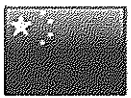
2 Español (Spanish):

Este documento es importante y debe ser traducido inmediatamente. Si necesita este documento traducido, por favor póngase en contacto con el Director de Diversidad MassDEP a los números de teléfono que aparecen más abajo.



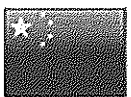
3 Português (Portuguese):

Este documento é importante e deve ser traduzida imediatamente. Se você precisa deste documento traduzido, por favor, entre em contato com Diretor de Diversidade da MassDEP para os números de telefone listados abaixo.



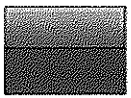
4(a) 中國 (傳統) (Chinese (Traditional):

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):

本文件非常重要，应立即翻译。如果您需要翻译这份文件，请用下面列出的电话号码与 MassDEP 的多样性总监联系。



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.



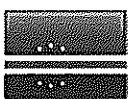
6 Việt (Vietnamese):

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 ប្រទេសកម្ពុជា (Kmer (Cambodian):

ឯកសារនេះគឺមានសារៈសំខាន់និងគួរត្រូវបានបកប្រែភ្លាម។ ប្រសិនបើអ្នកត្រូវបានបកប្រែឯកសារនេះសូមទំនាក់ទំនងនឹងអ្នកជាតំណាង MassDEP នៅលេខទូរស័ព្ទដែលបានរាយនាងក្រោម។



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.

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

Contact Michelle Waters-Ekanem, Diversity Director/Civil Rights: 617-292-5751 TTY#
MassRelay Service 1-800-439-2370.

<http://www.mass.gov/eea/agencies/massdep/service/justice/>

(Version 3.30.15)



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 բարձրագույն տնօրեն է հեռախոսահամարների թվարկված են ստորև.



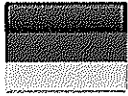
13 فارسی (Farsi (Persian):

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):

Ce document est important et devrait être traduit immédiatement. Si vous avez besoin de ce document traduit, s'il vous plaît communiquer avec le directeur de la diversité MassDEP aux numéros de téléphone indiqués ci-dessous.



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):

Questo documento è importante e dovrebbe essere tradotto immediatamente. Se avete bisogno di questo documento tradotto, si prega di contattare la diversità Direttore di MassDEP ai numeri di telefono elencati di seguito.



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 poniżej.



19 हिन्दी (Hindi):

यह दस्तावेज महत्वपूर्ण है और तुरंत अनुवाद किया जाना चाहिए. आप अनुवाद इस दस्तावेज़ 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 Final Permit Decision Water Management Act Permit #9P4-4-21-145.03 Miller Bogs, LLC, Kingston

The Department of Environmental Protection makes the following *Findings of Fact* in support of the attached Water Management Act (WMA) Permit #9P4-4-21-145.03, and includes herewith its 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 a water withdrawal renewal application by Miller Bogs, LLC (the “applicant”) for the purpose of cranberry cultivation at an existing cranberry bog. The site is located off Elm Street in Kingston. The site has an existing 21.67 acres of cranberry bog that is registered with the WMA under registration 4-21-145.03. A prior owner permitted an additional 33.6 acres of cranberry bog. The permit was transferred to Miller Bogs, LLC on January 3, 2013.

The withdrawal is from three existing on-site reservoirs. Flood water for the cranberry cultivation is captured and recycled using a tailwater recovery system. No further construction is proposed.

A draft of this WMA permit was advertised in the Environmental Monitor on June 8, 2016, for a 30-day comment period. No written comments were received during the comment period.

The Water Management Act

Factors To Be Considered in Permitting

The Water Management Act (M.G.L. c. 21G, § 7) requires that MassDEP issue permits that balance a variety of factors including:

- Impact of the withdrawal on other sources of water;
- Time of year when the withdrawal will be made;
- Water available within the safe yield of the source;
- Reasonable protection of existing water uses, land values, investments and enterprises;
- Use to be made of the water withdrawn;
- 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) convened 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* (<http://www.mass.gov/eea/docs/eea/water/swmi-framework-nov-2012.pdf>) was released.

On November 7, 2014, the Department adopted revised Water Management Regulations at 310 CMR 36.00 that incorporate elements of the SWMI framework and the Water Conservation Standards adopted by the Massachusetts 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.

Safe Yield in the South Coastal Basin

This permit is being issued under the safe yield methodology adopted by the Department 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 South Coastal Basin is 70.1 million gallons per day (MGD), and total registered and permitted withdrawals are 47.4 MGD, leaving 21.8 MGD potentially available. The maximum withdrawals that will be authorized in this permit, and all other permits currently under review by the Department within the South Coastal Basin, will be within the safe yield and may be further conditioned as outlined in the regulations.

Permit Conditions

The Department has developed a set of permit conditions at 310 CMR 36.28 that are considered for inclusion in each permit. Not all of these permit conditions apply to every permitted water withdrawal. In addition, some permits have unique permit conditions to address site-specific issues.

Findings of Fact for Miller Bogs, LLC Permit Conditions

In the case of Miller Bogs, LLC:

- permit conditions specific to public water suppliers do not apply;
- there are no vernal pools or wetlands requiring monitoring to assess withdrawal impacts;
- Miller Bogs' withdrawals do not impact any waters that MA Division of Fisheries and Wildlife has identified as supporting coldwater fish;

- minimization requirements do not apply because the Miller Bogs, LLC bogs are located in the part of the South Coastal Basin underlain by Plymouth-Carver Aquifer, where groundwater withdrawal levels cannot be readily determined;
- water conservation measures specific to cranberry production are required; and
- mitigation is not required because this permit does not authorize increased water withdrawals in excess of the 2005 withdrawal.

The following Findings of Fact are intended to describe the rationale, and to provide some additional detail, for each of the special conditions in the Miller Bogs, LLC 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, Authorized Annual Withdrawal Volume, sets an annual average withdrawal volume of 0.14 million gallons per day (MGD) for a total of 51.1 million gallons per year (MGY) over 365 days for the cultivation of 33.6 acres of cranberry bog located off Elm Street in Kingston. This volume equals 4.67 acre-feet of water per acre of bog per year for the 33.6 acres of permitted bog. This volume is in addition to the registered volume of 0.17 MGD (61.8 MGY) to cultivate 21.67 acres of bog at Miller Bogs, LLC's registered bogs abutting the permitted bogs within the South Coastal Basin.

The historical formula for calculating water needs for cranberry cultivation assumes an average water requirement that varies between 5 acre-feet of water per acre per year for renovated or newly constructed bog and 10 acre-feet of water per acre per year for older-style bogs, or between 1.63 and 3.26 MGY for each acre of bog. This formula and the thresholds established for WMA registration and permitting for cranberry bogs were developed based on studies done by the U.S. Department of Agriculture, Soil Conservation Service (now NRCS) and representatives of the Massachusetts cranberry industry. This average volume requirement can be reduced by instituting water conservation Best Management Practices (BMPs). Miller Bogs, LLC, has developed a Farm Plan in conjunction with NRCS (effective September 8, 2004). The Farm Plan includes implementation of BMPs, as explained in Special Condition 3, which can reduce Miller Bogs water needs on the permitted acreage below the 5 acre-foot of water per acre per year industry standard.

Special Condition 2, Authorized Cranberry Acreage, lists the applicant's permitted and registered acreage at the site.

Special Condition 3, Water Conservation Requirements, acknowledges that the applicant has implemented water conservation BMPs for all of its bogs, including:

1. annual flume and dike repair maintenance;
2. use of low-volume sprinkler heads;
3. on-site water supply/tailwater recovery system;
4. return of all unconsumed water back to the water supply/tailwater recovery system;
5. laser leveling of bog sections; and
6. sequential flooding of bog.

Prior Special Condition requiring Withdrawal Records Cranberry growers are generally not required to meter their water use. The enforcement action that originally precipitated the metering requirement is no longer at issue and this permit includes a tailwater recovery system that would result in inaccurate measurement of actual water use (double counting of recovered tailwater). Therefore, the Special Condition requiring metered withdrawal records has been removed from this permit.

General Conditions applicable to all WMA permits are included.

The Department utilized the following information during the review of the application: the Massachusetts Geographic Information System (GIS). The data layers used included: 1997 through 2015 aerial photography, water supply layers, wetlands-related layers, natural habitat layers, DFW Coldwater Fisheries layer, flood zones and USGS maps.

Please note annual reporting requirements, your renewal date, and any conditions that may apply. The regulations governing this statement can be found at 310 CMR 36.00-36.44. DEP's Timely Action and Fee Provision, 310 CMR 4.00, authorizes an annual compliance fee for Water Management Act registrations and permits. Please also note that this permit is for cranberry cultivation only; any change in use is subject to Department review and may require a permit application.



Department of Environmental Protection

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WATER WITHDRAWAL PERMIT M.G.L. c. 21G

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

PERMIT NUMBER: 9P4-4-21-145.03 WATERSHED: South Coastal

PERMITTEE: Miller Bogs, LLC
 27 Pine Hill Road
 Kingston, Massachusetts 02364

EFFECTIVE DATE: July 28, 2016

EXPIRATION DATE: August 31, 2030

USE: Cranberry Cultivation

DAYS OF OPERATION: 365

NUMBER OF WITHDRAWAL POINTS: 3 surface water

Withdrawal Point Locations

ID	Source	Latitude	Longitude	Location
1	Central Irrigation Pit/ Tailwater Recovery	41° 58' 32.8"	70° 46' 15.4"	Elm Street, Kingston
2	Reservoir 2	41° 58' 26.6"	70° 46' 6.6"	Elm Street, Kingston
3	Winter Flood Reservoir	41° 58' 45.2"	70° 46' 9.4"	Elm Street, Kingston

SPECIAL CONDITIONS

1. Authorized Annual Withdrawal Volume

This permit authorizes the withdrawal of water from sources in the South Coastal Basin. The permitted volume is expressed in millions of gallons, both as an average daily volume that may be withdrawn, and as a total volume that may be withdrawn annually from this source for the permit term.

The volume reflected by this rate is in addition to the 0.17 MGD (61.8 MGY) previously authorized to Miller Bogs, LLC under WMA Registration 4-21-145.03 for withdrawal from the South Coastal Watershed.

Withdrawals are authorized as follows:

Permit Period	Authorized Permit Volume		Permit + Registration = Total Volumes	
	Daily Average (MGD)	Total Annual (MGY)	Daily Average (MGD)	Total Annual (MGY)
7/28/2016 to 8/31/2030	0.14	51.1	0.14 + 0.17 = 0.31	51.1 + 61.8 = 112.9

2. Authorized Cranberry Acreage

This permit authorizes Miller Bogs, LLC to withdraw water from the permitted withdrawal points listed above at Elm Street in Kingston, for the cultivation of 33.6 acres of cranberry bog.

Bog Name	Address	Municipality	Permitted Acreage	Registered Acreage	Total WMA Authorized Acreage
Elm Street Bog	Elm Street	Kingston	33.6	21.67	55.27

3. Water Conservation Requirements

Miller Bogs, LLC shall continue to adhere to the Best Management Practices (BMP's) as defined on Page 5 in the Memorandum of Agreement for Implementation of Water Conservation BMP's at Cranberry Bogs signed by the Cape Cod Cranberry Growers' Association, the Commission for Conservation of Soil, Water and Related Resources and the Department of Environmental Protection, effective September 8, 2004.

Miller Bogs, LLC, shall implement water conservation BMPs for this bog, including:

1. annual flume and dike repair maintenance;
2. use of low-volume sprinkler heads;

3. on-site water supply/tailwater recovery system;
4. return of all unconsumed water back to the water supply/tailwater recovery system;
5. laser leveling of bog sections;
6. sequential flooding of bog.

GENERAL CONDITIONS (applicable to all permittees)

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

1. **Duty to Comply** The Permittee shall comply at all times with the terms and conditions of this permit, the Act and all applicable State and Federal statutes and regulations.
2. **Operation and Maintenance** The Permittee shall at all times properly operate and maintain all facilities and equipment installed or used to withdraw water so as not to impair the purposes and interests of the Act.
3. **Entry and Inspections** The Permittee or the Permittee's agent shall allow personnel or authorized agents or employees of the Department to enter and examine any property over which Permittee has authority, title or control, 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. 150, § 111, 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 a transfer application 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 established by 310 CMR 36.33.
6. **Duty to Report** The Permittee shall submit annually, on a form provided by the Department, a certified statement of the withdrawal. Such report is to be received by the Department by the date specified by the Department. Such report must be submitted as specified on the report form.
7. **Duty to Maintain Records** The Permittee shall be responsible for maintaining withdrawal and all other records as specified by this permit.
8. **Metering** (If Applicable). Transferring cranberry withdrawals to another use requires the authorized volume be verified based on actual water use at the bog(s) to be transferred.

9. **Right to Amend, Suspend or Terminate** The Department may amend, suspend or terminate the permit in accordance with M.G.L. c. 21G and 310 CMR 36.29.

APPEAL RIGHTS AND TIME LIMITS

This permit is a decision of the Department. Any person aggrieved by this decision may request an adjudicatory hearing as described herein and in accordance with the procedures described at 310 CMR 36.37. Any such request must be made in writing, by certified mail or hand delivered and received by the Department within twenty-one (21) days of the date of receipt of this permit. The hearing request, including proof of payment of the filing fee, must be mailed to:

Case Administrator
MassDEP Office of Appeals and Dispute Resolution
One Winter Street
Boston, MA 02108

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 the Department.

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 the Department 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 Department's fee transmittal form, 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.

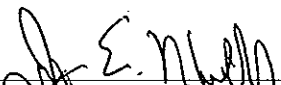
WAIVER

The Department may waive the adjudicatory hearing filing fee for any person who demonstrates to the satisfaction of the Department that the fee will create an undue financial hardship. A person

Miller Bogs, LLC
Permit #9P4-4-21-145.03

seeking a waiver must file, together with the hearing request, an affidavit setting forth the facts which support the claim of undue hardship.

Issuance Date: July 28, 2016

By:  _____

Jonathan E. Hobill
Regional Engineer
Bureau of Water Resources
Massachusetts Department of Environmental Protection