MassDEP

Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

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

Charles D. Baker
Governor

Karyn E. Polito
Lieutenant Governor

Matthew A. Beaton
Secretary

Martin Suuberg
Commissioner

November 22, 2017

Captains Golf Course
Attn: Peter Ervin, Superintendent
1000 Freemans Way
Brewster, MA 02631

Town: Brewster
WMA Permit #: Permit 9P-4-22-041.03
Program: Water Management Act
Action: DRAFT Permit Renewal

Dear Mr. Ervin:

Please find the following attached:

- DRAFT Findings of Fact in Support of the renewal of Permit #9P-4-22-041.03; and
- DRAFT Water Management Act Permit #9P-4-22-041.03 for Captains Golf Course.

Consistent with 310 CMR 36.27(6) - (8) of the revised Water Management Act Regulations promulgated on November 7, 2014, the Department will now publish notice in the Environmental Monitor that a DRAFT Permit is available for review and comment for 30 days following the November 22, 2017 publication in the Environmental Monitor. Notice of the public comment period will also be sent to all registrants, permittees and those having non-consumptive use statements within the Cape Cod Basin. The Department expects to issue the final permit within 30 days of the close of the public comment period.

If you have any questions concerning this letter, please contact Julie Butler at (617) 292-5552 or Julie.Butler@state.ma.us.

Sincerely,

Rebecca Weidman

Rebecca Weidman
Division of Watershed Management
Bureau of Water Resources

eCC: Tom Cambareri, Cape Cod Commission
David Young, CDM Smith

Y:DWPArchive\SERO\2017\Brewster-Captains-9P42204103-Draft Permit Renewal-2017-11-22

This information is available in alternate format. Call the MassDEP Diversity Office at 617-556-1139. TTY# MassRelay Service 1-800-439-2370
MassDEP Website: www.mass.gov/dep

Printed on Recycled Paper

Massachusetts Department of Environmental Protection
One Winter Street, Boston MA 02108 • Phone: 617-292-5751

Communication For Non-English Speaking Parties

310 CMR 1.03(5)(a)

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

2 Español (Spanish):
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 đa dạng tại các số điện thoại được liệt kê dưới đây.

7 ប្រទេសកម្ពុជា (Kmer (Cambodian):
ឯកសារនេះគឺមានសារៈសំខាន់និងគួរត្រូវបានបកប្រែភ្លាម។ ប្រសិនបើអ្នកត្រូវបានបកប្រែ ឯកសារនេះសូមទំនាក់ទំនងដឡេកជានាយក MassDEP នៅលេខទូរស័ព្ទដែលបានរាយខាងក្រោម។

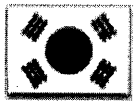
8 Kriolu Kabuverdianu (Cape Verdean):
Es documento é importante e deve ser traduzido imidiatamente. Se bo precisa des documento traduzido, por favor contacta Director de Diversidade na MassDEP's pa es numero indicode li d'boche.

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.

This information is available in alternate format. Call the MassDEP Diversity Office at 617-556-1139. TTY# MassRelay Service 1-800-439-2370
MassDEP Website: www.mass.gov/dep

Printed on Recycled Paper

10 العربية (Arabic):
هذه الوثيقة الهامة وينبغي أن تترجم على الفور. اذا كنت بحاجة الى هذه الوثيقة المترجمة، يرجى الاتصال مدير التنوع في MassDEPعلى أرقام الهواتف المدرجة أدناه.



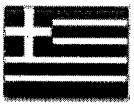
11 한국어 (Korean):
이 문서는 중요하고 즉시 번역해야합니다. 당신이 번역이 문서가 필요하면 아래의 전화 번호로 MassDEP의 다양성 감독에 문의하시기 바랍니다.

12 հայերեն (Armenian):
Այս փաստաթուղթը շատ կարեւոր է եւ պետք է թարգմանել անմիջապես. Եթե Ձեզ անհրաժեշտ է այս փաստաթուղթը թարգմանվել դիմել MassDEP բազմազանությունը տնօրեն է հեռախոսահամարների թվարկված են ստորեւ.

13 فارسی (Farsi (Persian):
این سند مهم است و باید فورا ترجمه شده است.
اگر شما نیاز به این سند ترجمه شده، لطفا 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.

Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

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

Charles D. Baker
Governor

Karyn E. Polito
Lieutenant Governor

Matthew A. Beaton
Secretary

Martin Suuberg
Commissioner

DRAFT Findings of Fact in Support of
DRAFT Water Management Permit #9P-4-22-041.03
Town of Brewster

The Department of Environmental Protection ("MassDEP" or "the Department") has completed its review of the Captains Golf Course Water Management Act (WMA) permit renewal application. This review was conducted in regard to the permit for Captains Golf Course ("Captains") to withdraw water from the Cape Cod Basin. The Department hereby **proposes to issue** the Water Management Permit #9P-4-22-041.03 (the "Permit") in accordance with the Water Management Act (M.G.L. 21G). The Department makes the following Findings of Fact in support of the attached DRAFT Permit, and includes herewith its reasons for issuing the Permit and for the conditions of approval imposed, as required by M.G.L. c.21G, s. 11 and 310 CMR 36.00. The Permit is being issued since such action is necessary for the promotion of the purposes of M.G.L. c. 21G. The Department may modify, suspend or terminate the Permit, after notice and hearing, for violations of its conditions, of M.G.L. c. 21G, or of regulations adopted or orders issued by the Department, and when deemed necessary for the promotion of the purposes of the Water Management Act.

The Department adopted revised Water Management Regulations at 310 CMR 36.00 on November 7, 2014, (described in greater detail below). Since that time, the Department has been working closely with each Water Management Act (WMA) permittee to fully consider all aspects of their individual situations and ensure thoughtful and implementable draft permits.

Withdrawal Description and History

One of Captains' groundwater sources (Well #1) began operation in 1984 and Captains registered the well's withdrawal in 1987. WMA Registration # 422041.05 authorized a withdrawal volume of 18.3 million gallons per year (MGY). Captains was issued WMA Permit #9P2422041.03 in December 2001, which added a source (Well #2) and authorized an additional 17.70 MGY. The total authorized annual withdrawal volume was 36.00 MGY over a 240 day irrigation period, for an average daily withdrawal of 0.15 million gallons per day (MGD).

Subsequently, an irrigation well serving only the driving range was added. In May of 2014, in response to an application to add the Driving Range Well and increase Captains' authorized withdrawal volume, the Department issued a new WMA permit (#9P422041.03). That new permit authorized a withdrawal volume of 31.8 MGY, for a combined registered and permitted total withdrawal volume of 50.1 MGY, or 0.21 MGD over 240 days, from the three groundwater sources. Note that this combined volume is a correction from the May 2014 permit, which mistakenly reported a combined volume of 51.0 MGY. This

DRAFT Renewed Permit does not authorize an increase in water withdrawal volume, nor does it add a new withdrawal source. The course has two lined ponds that are not part of the irrigation system.

The Permit Extensions

Captains' permit was issued on December 24, 2001 and was originally set to expire on November 30, 2010. Because the expiration dates for all Water Management permits were extended for four years by Chapter 240 of the Acts of 2010 and as amended by the Chapter 238 of the Acts of 2012, collectively known as the Permit Extension Act, the Department accepted a renewal application from Captains dated August 19, 2010. The Department published notice of the permit renewal application in the Environmental Monitor on September 22, 2010. No comments were received.

In addition, in a letter of September 25, 2015, the Department informed Captains that the Department would need additional time before making a determination on the application in order to ensure that all permit renewal applicants in the Cape Cod Basin fully understood the new Water Management Regulations (discussed below), and to give proper consideration to all permit renewal applications within the basin. Pursuant to M.G.L. c. 30A, § 13, and 310 CMR 36.18(7), Captains' permit has continued in force and effect until the Department issues a final decision on the permit renewal application. The expiration date for all permits going forward in the Cape Cod Basin will be November 30, 2030, in order to restore the staggered permitting schedule set forth in the regulations.

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

The WMA requires the Department to issue permits that balance a variety of factors including without limitation:

- Impact of the withdrawal on other water sources;
- Water available within the safe yield of the water source;
- Reasonable protection of existing water uses, land values, investments and enterprises;
- Proposed use of the water and other existing or projected uses of water from the water source;
- Municipal and Massachusetts Water Resources Commission (WRC) water resource management plans;
- Reasonable conservation consistent with efficient water use;
- Reasonable protection of public drinking water supplies, water quality, wastewater treatment capacity, waste assimilation capacity, groundwater recharge areas, navigation, hydropower resources, water-based recreation, wetland habitat, fish and wildlife, agriculture, flood plains; and
- Reasonable economic development and job creation.

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.

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 description that follows);
- Environmental protections developed through SWMI, including without limitation;
    - protection for coldwater fish resources;
    - minimization of withdrawal impacts in areas stressed by groundwater use;
    - mitigation of the impacts of increasing withdrawals; and
- The special permit conditions in each Water Management Act permit.

Safe Yield in the Cape Cod 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 Cape Cod Basin is 266.0 million gallons per day (MGD), and total registered and permitted withdrawals are 51.9 MGD, leaving 214.1 MGD potentially available. The maximum withdrawals that are authorized in this permit, and all other permits currently under review by the Department within the Cape Cod Basin, will be within the safe yield and may be further conditioned as outlined in the regulations.

Findings of Fact for Special Permit Conditions

The following Findings of Fact for the special conditions included in the Permit generally describe the rationale and background for each special condition in the Permit. This Findings of Fact also explain any changes to special conditions from prior permits, when applicable. 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
Special Condition 1 authorizes an annual average withdrawal volume of 50.1 million gallons per year (MGY) of water, or 0.21 million gallons per day (MGD) over 240 days annually from its three groundwater sources in the Cape Cod Basin. In recent history, Captains reported a total withdrawal volume in exceedance of 50.1 MGY in 2010 and 2016.

Captains will continue to report its withdrawals from the permitted wells in the WMA Annual Report Forms. For most of the reported years, Captains reported only the total system-wide withdrawal volume per month. In its Order to Complete, the Department indicated that the reporting of individual source withdrawals is required. Captains agreed to report the Driving Range Well individually, but the withdrawals from Well #1 and Well #2 will be combined due to the meter placements. Individual meters on the two wells, which are 310 feet apart, were installed underground in order to obtain accurate measurements. The existing above-ground meter measures the combined flow of both wells.

Special Condition 2, Maximum Daily Withdrawal Volume
Special Condition 2 authorizes a maximum daily withdrawal volume for the sources included in the Permit. The maximum authorized daily withdrawal volumes for the permitted wells are provided in Table 3 of the DRAFT Permit. With only one meter for Well #1 and Well #2 (as noted under Special

Condition 1 above), their authorized maximum daily withdrawal volumes must also be set to one value. Captains agreed to set the combined maximum daily withdrawal volume equal to the volume previously authorized to only Well #1 (1.50 MGD) in order to avoid a permit amendment. The Driving Range Well's maximum authorized daily withdrawal volume will remain at 0.72 MGD.

For most years of record, Captains' maximum daily withdrawals were not reported. In its Order to Complete, the Department indicated that the reporting of maximum daily withdrawal volume per source is required in the WMA Annual Report Form. Captains agreed to report its maximum daily withdrawals moving forward.

In its Order to Complete, the Department also noted a lack of calibration reports for most reported years. General Condition 8 requires annual calibration of all source meters. Captains shall submit a calibration report with its Annual Report Form each year. Meters should be repaired or replaced if calibration results are outside of the Department's acceptable range, which is 90% to 104% based on the American Water Works Association M6 Manual.

Special Condition 3, Water Conservation and Seasonal Demand Management Plan
Consistent with good water conservation practices, permitted golf courses are required to implement a Seasonal Demand Management Plan (SDMP) as a condition of their Water Management Permit. The SDMP, at a minimum, restricts nonessential outdoor water use between May 1st and September 30th when the Massachusetts Drought Management Task Force declares a drought level of "Advisory" or higher ("Watch, Warning or Emergency") for the region in which the golf course is located.

The SDMP shall also be implemented at times when groundwater levels at a USGS monitoring well fall below a groundwater trigger for 60 consecutive days. The monthly trigger levels are the period of record's monthly 25th percentile depth to water levels in a local well, as determined and published by the USGS. Restrictions could start on May 1, so monitoring of the well shall begin on March 1 of each year. Once implemented, the restrictions shall remain in place until the daily value of the groundwater levels at the assigned USGS monitoring well have recovered to less than the trigger for 30 consecutive days (when the water table elevation has risen above the trigger level).

Captains has been assigned the following USGS monitoring well: # 414630070014901 – MA-BMW 22 Brewster, MA. The monthly groundwater trigger values are shown in Table 6 of the DRAFT permit. Should the reliability of the groundwater measurements at this well be so impaired as to question its accuracy, the Permittee may request The Department's review and approval to transfer to another well to trigger restrictions. The Department reserves the right to require use of a different well.

Captains shall be responsible for tracking the Massachusetts Drought Management Task Force drought declarations and recording when drought-triggered restrictions are implemented. Captains shall also be responsible for tracking groundwater levels and recording when groundwater-triggered restrictions are implemented. See the groundwater- and drought-tracking instructions (Attachment A) for guidance.

The SDMP is intended to address the necessary minimums of acceptable demand management required as dry conditions begin to impact our environment from May through September. Of particular importance in developing your SDMP and in evaluating its effect on your golf course's irrigation, is the recognition of nonessential outdoor water uses. The Department considers the irrigation of tees and greens as essential uses, but fairways and roughs less so.

Section C of the SDMP provides two options for water use reduction in table format. The Acres Table requires that you identify the number of acres you irrigate for tees and greens, fairways, roughs, landscaping and ornamentals, along with a percent reduction per unit area with worsening drought. The Time Table requires that you identify irrigation reductions based on changes to the timing of irrigation cycles.

Captains submitted a Seasonal Demand Management Plan (SDMP) in 2011, which included the Time Table reduction approach. This approach was incorporated into the previous permit, and is shown in Table 5 of the DRAFT renewed permit.

Lastly, Captains shall continue to implement the Best Management Practices (BMPs) that were included in the previous permit for water conservation. These BMPs are presented in Table 4 of the DRAFT permit.

Special Condition 4, Mitigation Plan

The renewed DRAFT permit includes a condition that requires mitigation of withdrawals over a baseline volume, if feasible, if future withdrawals exceed the assigned baseline volume. Baseline withdrawal means 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:

(a) baseline cannot be less than a permittee's registered volume;
(b) baseline cannot be greater than the permittee's authorized volume for 2005; and
(c) 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.

The calculated baseline withdrawal volume for Captains is 36.00 MGY or 0.15 MGD, which was the 2005 authorized withdrawal volume. Captains' water use exceeded 36.00 MGY in most of the past 10 years of record. Because Captains' authorized volume exceeds its baseline volume, a mitigation plan is required. Mitigation options were discussed when the Department met with Captains in September 2015 and in follow-up correspondence in July 2017. It was decided that component recognition within the Audubon Cooperative Sanctuary Program (ACSP) would be the most suitable form of mitigation. Captains is required to obtain recognition in the Environmental Planning and Water Conservation components. Additionally, Captains shall obtain recognition in two of the following three components: Wildlife and Habitat Management, Chemical Use Reduction and Safety, and Water Quality Management.

Captains shall obtain the ACSP component recognitions within three years. Once the ACSP recognitions are obtained, Captains shall renew the recognitions every three years through the life of the Permit. Captains will submit proof of 1) its Audubon International membership payment with its Annual Report Form each year; 2) recognition in the four components within three years of permit issuance; and 3) the recognitions every three years thereafter.

Note that the ACSP recognition is a form of indirect mitigation. Captains and the Department discussed direct mitigation during the September 1, 2015 meeting; however, direct mitigation opportunities are not available to Captains because there is no surface water on site and all stormwater is currently infiltrated.

Minimization of Groundwater Withdrawal Impacts in Stressed Subbasins, requires permittees with permitted groundwater sources in subbasins[1] with net groundwater depletion of 25% or more during August to minimize their withdrawal impacts on those subbasins to the greatest extent feasible.

Because the Captains' permitted sources are located where August net depletion has not been established, minimization measures are not required.

Coldwater Fish Resource Protection was incorporated into the Water Management Regulations in November 2014. Coldwater Fish Resource Protection is not a condition of this permit because Captains' withdrawals do not impact any waters that MA Division of Fisheries and Wildlife has identified as supporting coldwater fish at this time.

[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).

Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

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

Charles D. Baker
Governor

Karyn E. Polito
Lieutenant Governor

Matthew A. Beaton
Secretary

Martin Suuberg
Commissioner

WATER WITHDRAWAL PERMIT
MGL c 21G

This issuance of Permit #9P-4-22-041.03 is approved 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.

PERMIT NUMBER: 9P-4-22-041.03 **RIVER BASIN:** Cape Cod

PERMITTEE: Captains Golf Course
1000 Freemans Way
Brewster, MA 02631

ISSUANCE DATE: MONTH DAY, YEAR

EXPIRATION DATE: November 30, 2030

TYPE AND NUMBER OF WITHDRAWAL POINTS:
Groundwater: 3
Surface Water: 0

USE: Golf course irrigation – Captains Golf Course

DAYS OF OPERATION: 240 (April – November)

LOCATION:

Table 1. Withdrawal Point Identification

Source	Latitude	Longitude	Location
Well #1	41° 43′ 54″	70° 0′ 57″	1000 Freemans Way, Brewster
Well #2	41° 43′ 55″	70° 0′ 50″	1000 Freemans Way, Brewster
Driving Range Well	41° 44′ 23″	70° 0′ 48″	1000 Freemans Way, Brewster

SPECIAL CONDITIONS

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

This Permit authorizes an annual average withdrawal volume of 50.1 million gallons per year (MGY) of water, or 0.21 million gallons per day (MGD) over 240 days annually from its three groundwater sources in the Cape Cod Basin. The permitted volume of 31.8 MGY is in addition to the 18.3 MGY previously authorized to the Captains Golf Course under Water Management Act Registration #422041.05. Captains Golf Course will continue to report its withdrawals from all three sources in the WMA Annual Report Forms.

Table 2. Maximum Authorized Annual Average Withdrawal Volumes per Permit Period

Permit Periods	Permit		Permit + Registration	
	Daily Average (MGD)	Total Annual (MGY)	Daily Average (MGD)	Total Annual (MGY)
M/D/YYYY to 11/30/2020	0.13	31.8	0.21	50.1
12/1/2020 to 11/30/2025	0.13	31.8	0.21	50.1
12/1/2025 to 11/30/2030	0.13	31.8	0.21	50.1

2. **Maximum Authorized Daily Withdrawal Volume**

Withdrawals from Captains Golf Course's permitted source are not to exceed the approved maximum daily rate listed in Table 3 without advance written approval from the Department.

Table 3. Maximum Authorized Daily Withdrawal Volume

Source	Maximum Daily Rate
Well #1 and Well #2 combined rate	1.5 MGD
Driving Range Well	0.72 MGD

3. Water Conservation and Seasonal Demand Management Plan

Captains Golf Course's Water Conservation and Seasonal Demand Management Plan is included as a condition of the renewed permit. Captains Golf Course shall continue to implement the water conservation Best Management Practices (BMPs) indicated in Table 4.

Captains Golf Course shall limit nonessential outdoor water use from May 1st through September 30th as outlined in Table 5 and in the instructions for tracking groundwater levels and drought declarations (Attachment A). At a minimum, reductions shall commence when the Massachusetts Drought Management Task Force declares a drought level of "Advisory" or higher ("Watch, Warning or Emergency") for the Cape Cod & Islands Region, or when groundwater levels fall below the groundwater triggers for 60 consecutive days. The groundwater-triggered response actions shall follow the drought-triggered response actions at the Advisory level.

Once implemented, the groundwater-triggered reductions shall remain in place until the daily value of the groundwater levels at the assigned USGS monitoring well have recovered to less than the trigger for 30 consecutive days (when the water table elevation has risen above the trigger level). Captains Golf Course has been assigned the following USGS monitoring well: #414630070014901 – MA-BMW 22 Brewster, MA. The groundwater trigger values are provided in Table 6. Should the reliability of the groundwater measurements at this well be so impaired as to question their accuracy, the Permittee may request the Department's review and approval to transfer to another well to trigger restrictions. The Department reserves the right to require use of a different well.

Captains Golf Course shall be responsible for tracking the Massachusetts Drought Management Task Force drought declarations and recording when drought-triggered restrictions are implemented. Captains Golf Course shall also be responsible for tracking groundwater levels and recording when groundwater-triggered restrictions are implemented. See the attached groundwater- and drought-tracking instructions for guidance. Nothing in this permit shall prevent the Permittee from implementing water use restrictions that are more restrictive than those set forth in this permit.

Table 4. Captains Golf Course Water Conservation BMPs

1. Water use is 100% metered.
2. Source meters regularly calibrated.
3. Implementation of an irrigation system inspection and maintenance program that includes leak detection and repair, and sprinkler head maintenance and repair.
4. Regular inspection of the course to determine irrigation needs.
5. Implementation of a Turf Management Plan.
6. Use of a computer-controlled irrigation system.
7. Use of low trajectory sprinkler heads, with individual sprinkler head control.
8. Use of wetting agents and growth regulators.
9. Regular aerating of turf to increase percolation of water into soil.
10. Use of mulch materials in planting beds to improve water holding capacity.
11. Elimination of irrigation whenever possible, such as in rough areas.

12. Limited ornamental watering.
13. Employee training in water conservation and management.
14. Raising turf height during dry weather and drought conditions.

Table 5. Irrigation Time Reduction in the Captains Golf Course SDMP

Massachusetts Drought Levels	Irrigating Less Volume as Drought Severity Increases Reduced Minutes in Irrigation Cycles						
Action Levels	Irrigated Tees & Greens	Irrigated Fairways		Irrigated Roughs		Irrigated Landscape & Ornamentals	
	Percent	Percent	Time (min)	Percent	Time (min)	Percent	Time (min)
Normal	100% (Full Cycle)	100%	20	100%	10	100%	10
Advisory †^	100%	80%	16	50%	5	*	XXX
Watch †	100%	60%	12	*	XXX	*	XXX
Warning †	100%	40%	8	*	XXX	*	XXX
Emergency **	TBD	TBD	TBD	*	XXX	*	XXX

† Nonessential outdoor irrigation use shall not occur between the hours of 9 am and 5 pm, except that hand-watering of hot spots may occur at any time

^Advisory-level reductions should also be implemented when the assigned groundwater trigger is hit.

* No irrigation allowed.

** Mitigation actions to be determined by the Governor's Emergency Proclamation.

Table 6. Groundwater Level Triggers for MA-BMW 22 in Brewster, MA

Groundwater-Level Triggers (feet below ground surface)						
March	April	May	June	July	August	Sept
31.52	31.11	31.08	31.11	31.26	31.62	31.78

4. Mitigation Plan

Captains Golf Course's authorized withdrawal volume (50.1 MGY) exceeds its baseline volume (36.0 MGY) by 0.059 MGD. In order to mitigate this volume, Captains Golf Course shall obtain recognition in four components of the Audubon Cooperative Sanctuary Program. The components shall include Environmental Planning, Water Conservation, and two of the following: Wildlife and Habitat Management, Chemical Use Reduction and Safety, or Water Quality Management.

Captains Golf Course shall obtain the ACSP component recognitions within three years of permit issuance. Once the ACSP recognitions are obtained, Captains Golf Course shall renew the recognitions every three years through the life of the Permit. Captains Golf Course will submit proof of 1) its Audubon International membership payment with its Annual Report Form each year; 2)

recognition in the four ACSP components within three years of permit issuance; and 3) the recognitions every three years thereafter.

GENERAL PERMIT CONDITIONS (applicable to all Permittees)

No withdrawal in excess of 100,000 gallons per day over the registered volume (if any) shall be made following the expiration of this permit, unless before that 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 up to the authorized volume so as not to impair the purposes and interests of the Act.
3. **Entry and Inspections** The Permittee or the Permittee's agent shall allow personnel or authorized agents or employees of MassDEP to enter and examine any property, inspect and monitor the withdrawal, and inspect and copy any relevant records, for the purpose of determining compliance with this permit, the Act or the regulations published pursuant thereto, upon presentation of proper identification and an oral statement of purpose.
4. **Water Emergency** Withdrawal volumes authorized by this permit are subject to restriction in any water emergency declared by MassDEP pursuant to M.G.L. c. 21G, §§ 15-17, M.G.L. c. 111, § 160, or any other enabling authority.
5. **Transfer of Permits** This permit shall not be transferred in whole or in part unless and until MassDEP approves such transfer in writing, pursuant to a transfer application on forms provided by MassDEP requesting such approval and received by MassDEP at least thirty (30) days before the effective date of the proposed transfer. No transfer application shall be deemed filed unless it is accompanied by the applicable transfer fee established by 310 CMR 36.37.
6. **Duty to Report** The Permittee shall submit annually, on a form provided by MassDEP, a certified statement of the withdrawal. Such report is to be received by MassDEP by the date specified by MassDEP. Such report must be mailed or hand delivered to the address specified on the report form.
7. **Duty to Maintain Records** The Permittee shall be responsible for maintaining withdrawal records as specified by this permit.
8. **Metering** Withdrawal points shall be metered. Meters shall be calibrated annually. Meter shall be maintained and replaced as necessary to ensure the accuracy of the withdrawal records.
9. **Amendment, Suspension or Termination** The Department may amend, suspend or terminate this permit in accordance with M.G.L. c. 21G or 310 CMR 36.29.

APPEAL RIGHTS AND TIME LIMITS

This permit is a decision of MassDEP. Any person aggrieved by this decision may request an adjudicatory hearing. Any such request must be made in writing, by certified mail and received by MassDEP within twenty-one (21) days of the date of receipt of this permit.

No request for an appeal of this permit shall be validly filed unless a copy of the request is sent by certified mail, or delivered by hand to the local water resources management official in the community

in which the withdrawal point is located; and for any person appealing this decision, who is not the applicant, unless such person notifies the permit applicant of the appeal in writing by certified mail or by hand within five (5) days of mailing the appeal to MassDEP.

CONTENTS OF HEARING REQUEST

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

FILING FEE AND ADDRESS

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

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

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

EXEMPTIONS

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

WAIVER

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

Rebecca Weidman

Rebecca Weidman, Director
Division of Watershed Management
Bureau of Water Resources

11/22/17
Date

ATTACHMENT A

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

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

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

Mean daily groundwater level readings are available at the USGS NWIS Web Interface at http://waterdata.usgs.gov/ma/nwis/current/?type=gw&group_key=county_cd

- Scroll down to 414630070014901 MA-BMW 22 Brewster, MA.
- Click on the station number.
- On the pull-down menu "Available data for this site" choose "Daily data".
- Under "Available Parameters" click on "72019 Water level, depth L".
- Under "Output format" click on "Table" and enter the number of days of records (the default is 7 days; entering 60 will give you the past 60 days of data) and hit "GO".
- The table provides the "Daily Mean Depth to water level, feet below land surface" for the most recent number of days chosen.
- Compare each day's value to its month's trigger value (25th percentile) in your permit. Outdoor water use restrictions must be implemented when the daily depth to water has been at or below (i.e. a greater value than) the trigger values for 60 consecutive days.

Drought Advisory information is available at the Massachusetts Department of Conservation and Recreation (DCR) Drought Status Website at http://www.mass.gov/eea/agencies/dcr/water-res-protection/water-data-tracking/drought-status.html

- The color coded map displays the six drought regions in Massachusetts. Restrictions are implemented when a Drought Advisory, Watch, Warning or Emergency is announced in your region through the DCR website.