



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

100 Cambridge Street Suite 900 Boston, MA 02114 • 617-292-5500

Maura T. Healey
Governor

Kimberley Driscoll
Lieutenant Governor

Rebecca L. Tepper
Secretary

Bonnie Heiple
Commissioner

Thomas Southworth, President
Southworth Development/Willowbend Country Club
120 Wells Avenue
Newton, MA 02459

August 7, 2025

RE: Water Management Act
Permit No. 9P2-4-22-172.01
FINAL WMA Permit Renewal

Dear Mr. Southworth:

Please find the following attached documents:

- Findings of Fact in Support of the Permit Decision.
- Final Water Management Act Permit for withdrawals by Willowbend Country Club in the Cape Cod Basin.

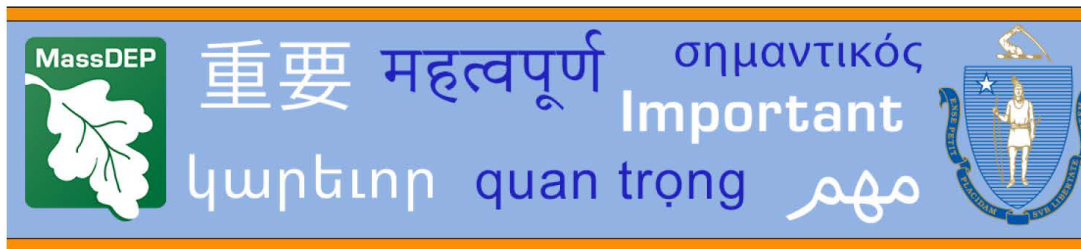
If you have any questions regarding the draft permit, please contact Shi Chen at shi.chen@mass.gov or 857-360-0042.

Sincerely,

Duane LeVangie
Water Management Program Chief
Bureau of Water Resources

cc: Julia Blatt and Lydia Olson, Mass Rivers Alliance
Andrew Gottlieb, Association to Preserve Cape Cod
Peter Schilling, Cape Cod Chapter of Trout Unlimited
Matthew Klida, Director of Agronomy, Willowbend Country Club
Jack McElhinney, Attorney for Southworth Mashpee, LLC
Steve Hurley and Adam Kautza, Department of Fisheries and Wildlife
Tara Nye Lewis, Cape Cod Commission

mass.gov.sharepoint.com/W:\DWPWMA\Permits Renewals\Cape Cod\Mashpee-Willowbend Country
Club-Final WMA Permit -2025-08-07



Communication for Non-English-Speaking Parties

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Español Spanish

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Português Portuguese

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繁體中文 Chinese Traditional

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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

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Ayisyen Kreyòl Haitian Creole

Dokiman sa a enpòtan epi yo ta dwe tradui 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
ហើយកម្រិតខ្ពស់បំផុតនៃការបកប្រែភាសា។
ប្រសិនបើអ្នកត្រូវការការបកប្រែឯកសារនេះបកប្រែ
សូមទាក់ទងនាយកផ្នែកយុត្តិធម៌បរិស្ថានរបស់
MassDEP តាមរយៈលេខទូរស័ព្ទដែលបានរាយនាមដូចខាងក្រោម។

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.

Contact Deneen Simpson 857-406-0738

**Massachusetts Department of Environmental Protection
100 Cambridge Street 9th Floor Boston, MA 02114**

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(Version revised 8.2.2023) 310 CMR 1.03(5)(a)

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العربية Arabic

هذه الوثيقة مهمة وتجب ترجمتها على الفور.

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

한국어 Korean

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հայերէն 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

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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

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Język Polski Polish

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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।

Contact Deneen Simpson 857-406-0738

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Findings of Fact in Support of Final Permit Decision Water Management Act Permit #9P2-4-22-172.01 Willowbend Country Club

The Massachusetts Department of Environmental Protection (MassDEP) has completed its review of Willowbend Country Club's ("Willowbend") Water Management Act (WMA) permit renewal application. The Department hereby proposes to issue Water Management Permit #9P2-4-22-172.01 (the "Permit") in accordance with the Water Management Act (M.G.L. c. 21G) and the regulations promulgated thereunder at 310 CMR 36.00. The Department makes the following Findings of Fact in support of the attached Permit and includes herewith its reasons for issuing the Permit and for conditions of approval imposed, as required by M.G.L. c. 21G, § 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 amend, suspend or terminate the Permit, after notice and hearing, in accordance with the provisions of 310 CMR 36.29(1).

The Permit Extensions

The expiration dates for all Water Management permits were extended for four years by Chapter 240 of the Acts of 2010, as amended by Chapter 238 of the Acts of 2012, collectively known as the Permit Extension Act. That date was further extended by 462 days by the Governor's COVID-19 Order No.42, "Order Resuming State Permitting Deadlines and Continuing to Extend the Validity of Certain State Permits," issued on July 2, 2020. Revised regulations (310 CMR 36.00) has adjusted permit expiration dates. In accordance with 310 CMR 36.17 (1), the expiration date for this permit in the Cape Cod Basin will be March 6, 2032.

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The Water Management Act (M.G.L.c. 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;
- 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;
- 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) 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* (<https://www.mass.gov/files/documents/2016/08/wf/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 the Safe Yield in the Cape Cod Basin section of this document);
- Water conservation and performance standards reviewed and approved by the WRC in July 2018 (<https://www.mass.gov/files/documents/2018/09/11/ma-water-conservation-standards-2018.pdf>), including without limitation;
- Environmental protections developed through SWMI, including without limitation;
 - protection for coldwater fish resources;
 - minimization of withdrawal impacts in areas stressed by groundwater use;

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- mitigation of the impacts of increasing withdrawals.

Safe Yield in the Cape Cod Basin

This permit is being issued under the 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 Cape Cod Basin water source is 266.0 million gallons per day (MGD), and total allocated withdrawals are 51.34 MGD. The maximum withdrawals that will be authorized in this permit, and all other permits currently under review by the Department within the Cape Cod Basin, will be within the remaining safe yield and may be further conditioned as outlined in the regulations.

Findings of Fact for Permit Conditions in Willowbend Country Club'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 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, Authorized Annual Average Withdrawal Volume, specifies the authorized annual average withdrawal volume for the life of this permit. The withdrawal volume for Willowbend Country Club is 0.27 million gallons per day (MGD) or 65.88 million gallons per year (MGY) over 244 days from its irrigation wells.

Special Condition 2, Maximum Authorized Daily Withdrawal Rates from the Authorized Withdrawal Points, reflects the volumes of withdrawal expressed as a maximum daily rate for the authorized withdrawal points. The maximum daily pumping rate for the Irrigation Well is 0.42 MGD and there is no daily pumping limit on the Irrigation Pond. Withdrawals in excess of these maximum daily rates require approval from the Department. During periods when 24-hour continuous pumping is anticipated, associated meters shall be checked twice daily.

Former Special Condition 3, Monitoring, required Willowbend to implement a monitoring plan to evaluate potential impacts of groundwater withdrawals on streamflow in the Santuit River. The monitoring plan was originally developed in 1993, and revised in 2003. The monitoring requirement included the collection of daily irrigation withdrawal data, daily on-site precipitation data, monthly water level readings in four monitoring wells, and stage and discharge data at two sites within the Santuit River. During the Five-Year Review of the Willowbend permit in 2008, the Cape Cod Commission reviewed the available monitoring reports and acknowledged in a letter dated March 06, 2008 that monitoring could be discontinued as the withdrawals from the irrigation well did not appear to measurably impact the Santuit River's flow. MassDEP did not conclude the Five-Year Review in 2008 by issuing a final permit that would have eliminated the monitoring requirement and has no records of Willowbend submitting monitoring reports since 2008. Since there is no increase in the authorized withdrawal volume in this renewed permit, MassDEP discontinued the monitoring. However, Coldwater Fish Resources (CFRs) have been identified in the Santuit River and therefore

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Willowbend is required to continue the collection of the daily irrigation withdrawal data and the daily on-site precipitation data for the purpose of evaluating the withdrawal impacts on the CFR (See new Special Condition 3, Metering and Reporting Requirements, and the new Special Condition 7, Coldwater Fish Resource (CFR) Protection).

Special Condition 3, Metering and Reporting Requirements (Formerly Special Condition 4, Metering), requires all withdrawal points included within the permit to be metered and said meters to be calibrated annually. On September 10, 2024, MassDEP issued a Notice of Noncompliance (NON) to Willowbend for the failure to read and calibrate the meters between 2018 and 2022. Willowbend responded to the NON by submitting documentation that the meters had been calibrated or replaced as of October 16, 2024. Willowbend shall calibrate both source meters (Irrigation Well and the Irrigation Pond) annually. In addition, Willowbend shall record daily, monthly and annual withdrawals from both source meters. The monthly and annual withdrawals shall be reported on an electronic form provided by MassDEP annually and the daily withdrawal record shall be attached to that electronic form.

Special Condition 4, Water Conservation Requirements, have been updated and now incorporates the water conservation requirements that are subject to the July 2018 Water Conservation Standards for the Commonwealth of Massachusetts

(<https://www.mass.gov/files/documents/2018/09/11/ma-water-conservation-standards-2018.pdf>).

Special Condition 5, Seasonal Demand Management Plan

Consistent with good water conservation practices, permitted golf courses will be required to implement a drought triggered Seasonal Demand Management Plan (SDMP) as a condition of their Water Management Permit. The SDMP, at a minimum, restricts nonessential outdoor water use when the Secretary of the Executive Office of Energy and Environmental Affairs declares a drought level of “Mild Drought” or higher (“Significant Drought, Critical Drought or Emergency Drought”) for the region in which the golf course is located.

The SDMP shall also be implemented from May 1st through September 30th 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).

Willowbend has been assigned the following USGS monitoring well: #414124070265901 - MA-SDW 253 Sandwich, MA. The monthly groundwater trigger values are shown in Table 4 of the 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.

Willowbend shall be responsible for tracking the Massachusetts Drought Management Task Force drought declarations and recording when drought-triggered restrictions are implemented. Willowbend Country Club shall also be responsible for tracking groundwater levels and recording when groundwater-triggered restrictions are implemented. See the attached SDMP and USGS WaterAlert instructions for tracking information.

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

Section C of the SDMP provides three options for water use reduction. Two options for water use reduction are in table format with the third option being an open-ended alternative approach. 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 in timing reduction cycles.

Willowbend submitted a SDMP dated August 2015, that included the Time-Table reduction approach (See Table 5). This approach has been incorporated into the permit.

Special Condition 6, Mitigation of Impacts for Withdrawals that Exceed Baseline

The renewed permit will include 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 Willowbend Country Club is 0.26 MGD, its reported withdrawal volume in 2005 plus 5%. Therefore, Willowbend must submit and implement a mitigation plan to mitigate the volumes requested above 0.26 MGD, which is 0.01 MGD.

Mitigation plans were discussed in the response to the NON issued on September 10, 2024. There is no eligible direct mitigation activities identified at the golf course and indirect mitigation activities were evaluated to meet the mitigation requirements of 0.01 MGD. It was decided that component recognition within the Audubon Cooperative Sanctuary Program

(ACSP) would be the most suitable form of mitigation. Willowbend is required to obtain certifications in the Environmental Planning, Water Conservation and at least one more certification from the Wildlife and Habitat Management, Chemical Use Reduction and Safety and Water Quality Management components prior to exceeding its baseline volume of 0.26 MGD.

If Willowbend fails to achieve those components of the ACSP within two years of the issuance of the final permit, additional mitigation options will need to be included in their plan prior to exceeding its baseline volume.

Special Condition 7, Coldwater Fish Resource (CFR) Protection was incorporated into the Water Management Regulations in November 2014. Willowbend's irrigation well is located next to the Santuit River, which has been identified as a coldwater habitat for a population of Eastern Brook Trout. MassDEP consulted with the Department of Fisheries and Wildlife (DFW) and based on those conversations the permit has been conditioned to require continued collection of daily withdrawal and precipitation data to evaluate the potential withdrawal impacts from the irrigation well. As required by Special Condition 3, Willowbend shall record and report daily, monthly and annual withdrawals from both the Irrigation Well and the Irrigation Pond, which triggers withdrawals from the Well based on Irrigation Pond levels. The monthly and annual withdrawals shall be reported on an electronic form provided by MassDEP annually and the daily withdrawal record shall be attached to that electronic form. Willowbend shall not change the current transducer settings without informing MassDEP.

Upon receiving five years of accurate withdrawal data, MassDEP will evaluate if there are impacts from the Irrigation Well withdrawals on the CFRs. MassDEP may amend this permit if actions are needed to fulfill the CFR protection requirements.

Minimization of Groundwater Withdrawal Impacts in Stressed Subbasins, requires permittees with permitted groundwater sources in subbasins¹ with net groundwater depletion of 25% or more during August to minimize their withdrawal impacts on those subbasins to the greatest extent feasible.

Willowbend's permitted sources are located in an unassessed area where August net groundwater depletion has not been established. Therefore, Willowbend is not currently required to implement measures to minimize the withdrawal impact.

Response to Comments

The draft permit was posted in the Massachusetts Environmental Monitor for public comments from February 26, 2025 to March 28, 2025. MassDEP received comment letters from the Massachusetts Rivers Alliance (Mass Rivers) in conjunction with the Association to Preserve

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).

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Cape Cod (APCC), and the Cape Cod Chapter of Trout Unlimited (CCTU). Both comment letters raised the issue that Willowbend has not been in compliance with the existing monitoring requirements in the permit since 2008. The comment letters also state that the permitted withdrawals at the Willowbend have negative impacts on the Santuit River and contributed to the elimination of the sea-run brook trout since 2015. Both comment letters request that Willowbend continue to implement the existing monitoring program that includes groundwater and surface water elevation monitoring. In addition to that monitoring, both comment letters also request the monitoring of the water temperature, nutrient and harmful substances levels, Total Suspended Solids, and dissolved oxygen concentrations in the Santuit River.

In response to these recent concerns on the adverse impacts from the withdrawals and the requests for a holistic, all-encompassing monitoring program, Willowbend resubmitted the Groundwater monitoring and Stream Flow Study Annual Report for 2006 Irrigation Season prepared by the Horsley Witten Group. The report presents the 2006 monitoring data in accordance with the monitoring requirements, and it concludes that there is no evidence of significant influence on the Santuit River from the operation of the Willowbend irrigation well after four years of extensive hydrologic monitoring in the vicinity of the irrigation well. MassDEP reviewed the available annual withdrawal reports submitted by Willowbend and the reports indicate that the irrigation water at the golf course has been primarily from the irrigation pond. This renewed permit requires Willowbend to record and submit daily withdrawals data from both the pond and the well for the next five years. The Department will evaluate the five years of daily withdrawal data to evaluate if there is an increase in withdrawals from the irrigation well, and may amend the monitoring requirements in the future to assess the impact of such a shift.

The letter submitted by Mass Rivers recommends that direct mitigation planning be worked into mitigation crediting for Willowbend and the club should be required to implement stronger water conservation requirements to further reduce water withdrawal impacts on the Santuit River. Willowbend responded that it installed new irrigation systems, lined storage ponds, and implemented the re-use of surface runoff from course areas during the golf course's expansion in 2003. As a result, the golf course was able to reduce its water consumption and added an additional nine holes without increasing the withdrawals from the irrigation well. Willowbend has also utilized best management practices on stormwater design, vegetated retention basins and recharge areas when it develops residential neighborhoods since 2008. MassDEP is not able to calculate a direct mitigation volume because those activities do not meet the stormwater recharge direct mitigation criteria. Willowbend also state in the response that it is currently going through the permitting process for developing twelve additional homes on a five-acre parcel. The project will include retirement and restoration of five acres of currently active bogs to a more naturalized riverine environment along Quaker Run when it is approved. MassDEP will review the direct mitigation opportunities for the cranberry bogs' retirement in the next permit review. This renewed permit requires Willowbend to obtain certifications in the Environmental Planning, Water Conservation and at least one more certification from the Wildlife and Habitat Management, Chemical Use Reduction and Safety and Water Quality Management components within the Audubon Cooperative Sanctuary Program (ACSP). Willowbend states in the responses that it is in the process of obtaining the three certifications required.

In its comments, MassRivers also raises concerns about the safe yield methodology used in permitting which is set forth in the Water Management Regulations at 310 CMR 36.13. Comments pertaining to the safe yield methodology used in permitting or other policies developed as part of the Sustainable Water Management Initiative (SWMI) are not within the scope of individual Water Management permits. MassDEP continues to work with all constituents to review programmatic requirements in forums outside of the development of individual permits. Comments on regulatory and policy issues and comments addressing modifications that are not aligned with current regulations are not included in this Finding of Fact.



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

100 Cambridge Street Suite 900 Boston, MA 02114 • 617-292-5500

Maura T. Healey
Governor

Kimberley Driscoll
Lieutenant Governor

Rebecca L. Tepper
Secretary

Bonnie Heiple
Commissioner

WATER WITHDRAWAL PERMIT #9P2-4-22-172.01

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: 9P2-4-22-172.01

RIVER BASIN: Cape Cod

PERMITTEE: Willowbend Country Club

EFFECTIVE DATE: August 7, 2025

EXPIRATION DATE: March 6, 2032

NUMBER OF WITHDRAWAL POINTS: 2

Groundwater: 1

Surface Water: 1

USE: Golf Course Irrigation

DAYS OF OPERATION: 244

LOCATION:

Source Name	WMA Source ID	Latitude	Longitude	Location
Irrigation Pond	WM4827-01S	41°37'11.7"	70°27'34.0"	Off Quinaquisset Ave. Mashpee
Irrigation Well	WM4827-01G	41°37'43.0"	70°27'12.0"	Off Quinaquisset Ave. Mashpee

This information is available in alternate format. Please contact Melixza Esenyie at 617-626-1282.

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SPECIAL CONDITIONS

1. Authorized Annual Average Withdrawal Volume

This permit authorizes Willowbend Country Club (Willowbend) to withdraw water from the Cape Cod Basin at the rate described below in Table 1. The permitted volume is expressed both as an annual average daily withdrawal rate (million gallons per day or MGD), and as a total annual withdrawal volume (million gallons per year or MGY) for each permit period over the term of this permit.

The Department of Environmental Protection (MassDEP) bases these withdrawal volumes on the raw water volume from the authorized withdrawal points and will use the raw water volume to assess compliance with the permitted withdrawal volumes.

Table 1: Authorized Annual Average Withdrawal Volumes

Permit Periods	Total Raw Water Withdrawal Volumes	
	Daily Average (MGD)	Total Annual (MGY)
08/07/2025 to 3/6/2032	0.27*	65.88*

* Should Willowbend fail to meet the mitigation requirements outlined in Special Condition 6, Willowbend's authorized withdrawals are limited to 0.26 MGD.

2. Maximum Authorized Daily Withdrawal Rates from the Authorized Withdrawal Points

Withdrawals from individual withdrawal points are not to exceed the approved maximum daily volumes listed in Table 2 without specific advance written approval from MassDEP. The authorized maximum daily volume is the approved rate of each source. In no event shall the combined withdrawals from the individual withdrawal points exceed the withdrawal volumes authorized above in Special Condition 1.

Table 2: Maximum Daily Withdrawal Volumes

Source Name	WMA Source ID	Maximum Daily Rate
Irrigation Pond	WM4827-01S	No daily limit
Irrigation Well	WM4827-01G	0.42 MGD

3. Metering and Reporting Requirements

Willowbend Country Club shall calibrate the source meters at the Irrigation Well and the Irrigation Pond annually. Willowbend shall also record and report daily, monthly, and annual withdrawals from the source meters located at the Irrigation Well and the Irrigation Pond as part of their annual report filing. The monthly and annual withdrawals shall be reported on an electronic form provided by MassDEP annually and the daily withdrawal record shall be attached to that electronic form.

4. Water Conservation Requirements

Willowbend shall implement the following water conservation requirements (Table 3).

Table 3. Water Conservation Requirements

a. Metering 100% of water use, and calibrating source meters annually.
b. Implementation of an irrigation system inspection and maintenance program that includes the following on a routine basis: <ul style="list-style-type: none">• Leak detection and repair: Daily monitoring of the golf course to insure no leaks throughout the system are present.• Weekly Sprinkler head maintenance and replacement to ensure proper trajectory, pressure, and rotation• Weekly cleaning or replacing clogged nozzles.
c. Use of a computerized-control irrigation system that allows for irrigation of only those areas in need.
d. Use of portable soil moisture sensors and golf weather apps to increase the efficiency of the irrigation system
e. Irrigating in the early morning or evening hours when evaporation rates are at their lowest, to extent practicable to maintain the turf
f. Regular aerating of turf to increase the percolation of water into the soil
g. Use of mulch materials in planting beds to improve water-holding capacity of the landscaping
h. Use of environmentally safe wetting agents to improve water infiltration and minimize evaporation
i. Use of low water use or native drought tolerant plants to the greatest extent practicable
j. Employee training in water conservation and management

5. Seasonal Demand Management Plan

Willowbend Country Club shall limit nonessential outdoor water use through mandatory restrictions as outlined in the Seasonal Demand Management Plan (SDMP). At a minimum, restrictions shall commence when the Secretary of the Executive Office of Energy and Environmental Affairs declares a Level 1- Mild Drought or higher Level 2- Significant Drought, Level 3-Critical Drought, or Level 4-Emergency Drought for the region in which the golf course is located.

The SDMP shall also be implemented from May 1st through September 30th 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 Level 1-Mild Drought.

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). Willowbend has been assigned the following USGS monitoring well:

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#414124070265901 - MA-SDW 253 Sandwich, MA. The groundwater trigger values are provided in Table 4. 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.

Willowbend Country Club is using the Time-Table Option for its SDMP, which requires that the club identifies irrigation in timing reduction cycles (Table 5).

Table 4. Groundwater-Level Trigger Values

*Groundwater-Level Triggers (feet below ground surface) for 414124070265901 - MA-SDW 253R Sandwich, MA						
March	April	May	June	July	August	Sept
48.81	48.60	48.22	48.21	48.45	48.65	48.96

*Statistics Calculated 2025-02-04

Table 5. Willowbend Country Club Seasonal Demand Management Plan

Irrigating for Shorter Durations as Drought Severity Increases Reduced Minutes in Irrigation Cycles								
Massachusetts Drought Levels	Irrigated Tees & Greens		Irrigated Fairways		Irrigated Roughs		Irrigated Landscape & Ornamentals	
	Percent	Time (min.)	Percent	Time (min.)	Percent	Time (min.)	Percent	Time (min.)
Normal	Full cycle	10	Full cycle	10	Full Cycle	10	100%	10
Mild Drought or WMA Permit Trigger is reached	Full cycle	10	80%†	8	50%†	5	0%*	
Significant Drought	Full cycle	10	60%†	6	0%	0		
Critical Drought	Full cycle	10	40%†	4	0%	0		
Emergency Drought**	TBD	TBD	0%	0	0%	0	0%	
†Irrigation use shall not occur between the hours of 9 a.m. and 5 p.m., except that hand-watering of hot spots may occur at any time.								

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* Courses whose core business includes a special event venue may continue to irrigate gardens, flowers and ornamental plants by means of hand-held hose or drip irrigation during a Mild, Significant, or Critical Drought.
** Mitigation actions to be determined by the Governor's Emergency Proclamation.

6. Mitigation of Impacts for Withdrawals that Exceed Baseline

The baseline volume for Willowbend Country Club is 0.26 MGD, the 2005 reported withdrawal volume plus 5%. Willowbend shall mitigate the impacts of its withdrawals above the baseline. Willowbend's mitigation plan documents their plan to achieve certifications in the Environmental Planning, Water Conservation and at least one more certification from the Wildlife and Habitat Management, Chemical Use Reduction and Safety and Water Quality Management components of the Audubon Cooperative Sanctuary Program (ACSP) within two years of the issuance of the final permit.

Willowbend shall also submit copies of those certifications to MassDEP for its review within two years of the issuance of the final permit. Should those certifications not be received within two years of the final permit's issuance date, then Willowbend's authorized withdrawals are limited to 0.26 MGD.

7. Coldwater Fish Resource (CFR) Protection

Willowbend Country Club is required to record and submit daily, monthly, and annual withdrawal volumes from the Irrigation Well and the Irrigation Pond annually as specified under the permit condition #3. Willowbend shall also collect daily on-site precipitation data. In addition, Willowbend shall inform MassDEP if it changes the current transducer setting that triggers the Irrigation Well pumping based on the water levels at the Irrigation Pond.

General Permit Conditions (applicable to all Permittees)

- 1. Duty to Comply** The Permittee shall comply at all times with the terms and conditions of this permit, the Act and all applicable State and Federal statutes and regulations.
- 2. Operation and Maintenance** The Permittee shall at all times properly operate and maintain all facilities and equipment installed or used to withdraw up to the authorized volume so as not to impair the purposes and interests of the Act.
- 3. Entry and Inspections** The Permittee or the Permittee's agent shall allow personnel or authorized agents or employees of MassDEP to enter and examine any property, inspect and monitor the withdrawal, and inspect and copy any relevant records, for the purpose of determining compliance with this permit, the Act or the regulations published pursuant thereto, upon presentation of proper identification and an oral statement of purpose.

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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.

APPEALS

Any person aggrieved by this decision may request an adjudicatory hearing on this Permit 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 its 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 a 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 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 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.



August 7, 2025

Duane LeVangie
Water Management Program Chief
Bureau of Water Resources

Date

ATTACHMENT A

Seasonal Limits on Nonessential Outdoor Water Use using Groundwater Level

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

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

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

Mean daily groundwater level readings are available at the USGS NWIS Web Interface at <https://waterdata.usgs.gov/state/massachusetts/#dataTypes=72019>.

- Scroll down to MA-SDW 253R Sandwich, MA-414125070265901.
- Click on the station number.
- Click on “Data Inventory” at the top of the page.
- Click on “Daily Data” in the dropdown menu.
- Under “Available Parameters” click on “72019 Water level, depth LSD (Mean)”.
- Under “Days” and enter the number of days of records (entering 60 will give you the past 60 days of data) or the desired date range (from “Begin date” to “End date”) and hit “GO”.
- The graph provides the “Depth to water level, feet below land surface” for the most recent number of days or desired date range 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 Status information is available at <https://www.mass.gov/info-details/drought-status>.

- Restrictions are implemented when a Mild Drought, Significant Drought, Critical Drought or Emergency Drought is announced in your region through the website.