Commonwealth of Massachusetts
Executive Office of Energy and Environmental Affairs
Department of Environmental Protection
Address: 100 Cambridge Street, Suite 900, Boston MA 02114 | **Phone**: 617-292-5500

Maura T. Healey, Governor
Kim Driscoll, Lieutenant Governor
Rebecca Tepper, Secretary
Bonnie Heiple, Commissioner

September 9, 2026

James McGrail
Town Manager
Town of Middleborough
10 Nickerson Avenue, 1st Floor
Middleborough, MA 02346

RE: Town of Middleborough
Permittee: Middleborough Water Department
Public Water Supply (PWS)# 4182000
WMA Permit #9P-4-25-182.01
Action: DRAFT WMA Renewed Permit

Dear Mr. McGrail:

This DRAFT renewed permit reflects updated permit requests and requirements. Please find the following attached documents:

- Findings of Fact in Support of the DRAFT Water Management Act (WMA) Permit Decision.
- DRAFT Renewed WMA Permit #9P-4-25-182.01 for withdrawals by the Town of Middleborough in the Taunton River Basin.

The Department of Environmental Protection (MassDEP) shared this document for Middleborough's review and comment until August 27, 2026. Following, pursuant to 310 CMR 36.27(6)-(8), MassDEP will publish notice in the Environmental Monitor that a DRAFT Permit is available for review and comment for 30 days. Notice of the comment period will also be sent to all registrants, permittees and those having non-consumptive use statements within the Taunton River Basin. MassDEP expects to issue the final Permit within 30 days of the close of the comment period.

The signature on this cover letter indicates formal issuance of the attached document.

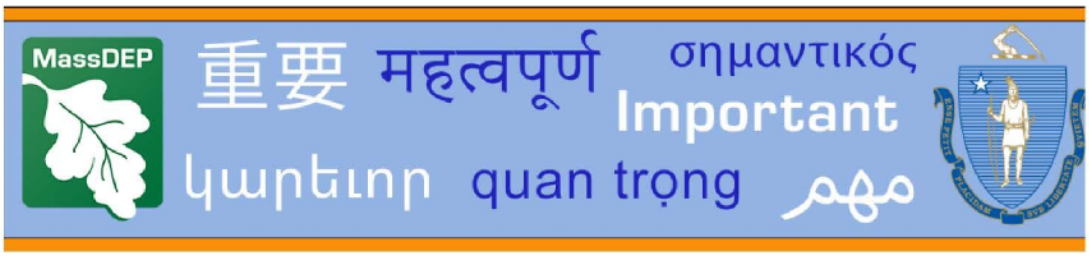
If you have any questions regarding the permit, please contact Andrew Brolowski at Andrew.Brolowski@mass.gov or (857) 278-5634.

Sincerely,

Duane LeVangie, Chief
Water Management Program
Bureau of Water Resources

ecc: James McLaughlin, MassDEP Drinking Water Program Chief, SERO; Michael Bumpus, Middleborough Water Department Superintendent; Lydia Olson, Mass Rivers Alliance; Melissa Shapiro, Mass River Alliance, Jennifer Pederson, MA Water Works Association; Kevin McKinnon and Jill Getchell, Weston & Sampson (per request); and Duane LeVangie, MassDEP Water Management Program Chief.

massgov.sharepoint.com/W:\DWPWMA\Permit Renewals\Middleborough Water Department\Middleborough-4182000-DRAFT WMA Renewal Permit-9P-4-25-182.01-2026-09-09-a11y



Communication for Non-English-Speaking Parties

This document is important and should be translated immediately.

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

Español Spanish

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

Português Portuguese

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

繁體中文 Chinese Traditional

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

简体中文 Chinese Simplified

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

Ayisyen Kreyòl Haitian Creole

Dokiman sa a enpòtan epi yo ta dwe tradui l imedyatman. Si w bezwen tradui dokiman sa a, tanpri kontakte Direktè. Jistis Anviwònmantal 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
ហើយគប្បីត្រូវបានបកប្រែភ្លាមៗ.
ប្រសិនបើអ្នកត្រូវការអោយឯកសារនេះបកប្រែ
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MassDEPតាមរយៈលេខទូរស័ព្ទដែលបានរាយដូចខាងក្រោម។

Kriolu Kabuverdianu Cape Verdean

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

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

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

العربية Arabic

Μασαχουσέτης στον αριθμό τηλεφώνου που αναγράφεται παρακάτω

어 Korean

tradurre questo documento, contatta il Direttore della Giustizia Ambientale di MassDEP al numero di telefono sotto indicato.

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

Persian
این نوشتار بسیار مهمی است و باید فوراً ترجمه
اگر نیاز به ترجمه این نوشتار دارید لطفاً با مدیر
زیستی MassDEP در شماره تلفن ذکر
بگیرید.

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।

فارسی Farsi
شود.
عدالت محیط
شده زیر تماس

Français Fre
Ce document e
immédiatement
traduction de ce
le directeur de l
MassDEP au nu
dessous.

Commonwealth of Massachusetts
Executive Office of Energy and Environmental Affairs
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Address: 100 Cambridge Street, Suite 900, Boston MA 02114 | **Phone**: 617-292-5500

Maura T. Healey Governor | **Kim Driscoll** Lieutenant Governor | **Rebecca Tepper** Secretary | **Bonnie Heiple** Commissioner

Findings of Fact in Support of Water Management Act (WMA) DRAFT Renewed Permit
Town of Middleborough Water Department Permit # 9P-4-25-182.01

The Department of Environmental Protection (the Department or MassDEP) has completed its compliance review of the 2006 WMA Permit issued to the Town of Middleborough (the Town or Middleborough). The Department has also reviewed the Town's 2009 permit renewal application and 2011 and 2013 permit amendment applications. The Department requested additional information in Orders to Complete (OTCs) dated April 8, 2011, July 1, 2019 and January 17, 2023 and reviewed all responses to the OTCs.

The Department issues this renewed Permit (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 final Permit will supersede the 2006 WMA Permit. The Department makes the following Findings of Fact in support of the attached WMA Permit and includes herewith its reasons for issuing the WMA Permit and for conditions of approval imposed, as required by M.G.L. c. 21G, § 11, and 310 CMR 36.00. The WMA 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 WMA Permit, after notice and hearing, in accordance with the provisions of 310 CMR 36.29(1).

The Water Management Act

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

- impact of the withdrawal on other sources of water,
- water availability within the *Safe Yield* of the source,
- reasonable protection of existing water uses, land values, investments, and enterprises,
- proposed use of the water and other existing or projected uses of water from the water source,
- municipal and Massachusetts Water Resources Commission (WRC) water resource management plans,
- reasonable conservation consistent with efficient water use,
- reasonable protection of public drinking water supplies, water quality, wastewater treatment capacity, waste assimilation capacity, groundwater recharge areas, navigation, hydropower resources, water-based recreation, wetland habitat, fish and wildlife, agriculture, floodplains, and,
- reasonable economic development and job creation.

Water Management Regulation Revisions

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

MA Sustainable Water Management Initiative Framework Summary, November 2012

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 Water Resource Commission (WRC). The regulations reflect a carefully developed balance to protect the health of Massachusetts' water bodies while meeting the needs of businesses and communities for water.

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

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

Safe Yield in the Taunton River Basin

This Permit has been issued in accordance with Safe Yield methodology adopted by MassDEP on November 7, 2014, and described in the Regulations at 310 CMR 36.13. As of the date of issuance of this Permit, the safe yield for the Taunton River Basin water source is 134.4 million gallons per day (MGD), with total allocated withdrawals at 93.69 MGD. The maximum withdrawals that will be authorized in this Permit, and all other permits currently under review by the Department within the Taunton River Basin, will be within the remaining safe yield and may be further conditioned as outlined in the regulations.

Middleborough Water Department's (Middleborough's) Withdrawal History

Middleborough is registered (#42518203) for an annual average daily withdrawal volume of 1.53 million gallons per day (MGD) from the following wells in the Taunton River Basin: Rock Village GP Well 1 (01G), Rock Village GP Well 2 (02G), East Main Street GP Well 1 (03G), East Grove Street Dug Well (04G), Tispaquin GP Well 1 (05G), Millers Street GP Well (06G), East Main Street GP Well 2 (07G), Plympton Street GP Well (08G), and Cross Street GP Well (09G), and, East Main St. Replacement Wells 1 (12G) and 2 (13G). On June 1, 1991, MassDEP issued Middleborough a Water Management Act Permit (the 1991 WMA Permit) authorizing the Town to withdraw the additional volumes outlined in Table 1. The permit included the registered sources (01G through 09G) as well as two (2) additional sources, Tispaquin GP Well 2 (10G) and Spruce St Well GP Well (11G).

TABLE 1: MIDDLEBOROUGH'S 1991 WMA PERMITTED AND TOTAL AUTHORIZED VOLUME

Period	Permitted Volume	Total Authorized Volume (Permitted + Registered*)
Period 1: 6/1/1991 - 2/28/1995	0.72 MGD	2.25 MGD
Period 2: 3/1/1995 - 2/29/2000	0.89 MGD	2.42 MGD
Period 3: 3/1/2000 - 2/28/2005	1.20 MGD	2.73 MGD
Period 4: 3/1/2005 - 2/28/2010	1.50 MGD	3.03 MGD

*** Registered volume = 1.53 MGD**

On October 27, 2006, the Department issued a modified WMA Permit (the 2006 WMA Permit) that superseded the 1991 WMA Permit and reduced Period 4 Permitted Volume to 0.72 MGD, thereby reducing the Town's Total Authorized Volume to 2.25 MGD. On February 26, 2010, the Department issued an Interim Permit extending existing withdrawal authorizations while the permit renewal was under review.

Since issuance of the 2006 WMA Permit, Middleborough added two replacement wells to supplement East Main Street Well 1 (4182000-03G), East Main Street Replacement Well 1 (4182000-12G) and East Main Street Replacement Well 2 (4182000-13G), both approved to be activated and put online in 2019 and, a new source, the Mizras Well (4182000-14G), approved to be activated and put online in 2023. Refer to **Table 2** for the current list of Middleborough's authorized withdrawal sources.

TABLE 2: MIDDLEBOROUGH'S AUTHORIZED WITHDRAWAL SOURCES

#	Source Name	Source ID	Registered	Permitted
1	Rock Village GP Well 1	4182000-01G	**X**	**X**
2	Rock Village GP Well 2	4182000-02G	**X**	**X**
3	East Main St. GP Well 1	4182000-03G	**X**	**X**
4	East Grove St. Dug Well	4182000-04G	**X**	**X**
5	Tispaquin GP Well 1	4182000-05G	**X**	**X**
6	Millers St. GP Well	4182000-06G	**X**	**X**
7	East Main St. GP Well 2	4182000-07G	**X**	**X**
8	Plympton St. GP Well	4182000-08G	**X**	**X**
9	Cross St. GP Well	4182000-09G	**X**	**X**
10	Tispaquin GP Well 2	4182000-10G		**X**
11	Spruce St. GP Well*	4182000-11G		**X**
12	East Main St. Replacement Well 1	4182000-12G	**X**	**X**
13	East Main St. Replacement Well 2	4182000-13G	**X**	**X**
14	Mizras Well	4182000-14G		**X**

G = Groundwater Source; *****Spruce St. GP Well (11G) was mistakenly identified as a registered source in the Findings of Fact to the WMA 2006 permit.

The Permit Extensions

WMA permits issued during the first 20-year permitting cycle for the Taunton River Basin, including the 2006 WMA Permit, expired on February 28, 2010. Taunton River Basin permittees were required to file a renewal application on or before November 30, 2009. Middleborough submitted its permit renewal application on November 30, 2009. Expiration dates for all WMA 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. Pursuant to M.G.L. c. 30A, Section 13 and 310 CMR 26.18(7), the 2006 WMA Permit continued in force until the date the Department issues this Renewed WMA Permit. As such, consistent with 310 CMR 36.17(1), the expiration date for this permit going forward in the Taunton River Basin will be June 5, 2031.

Findings of Fact for Permit Conditions the Town's Water Management Act Permit

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

SPECIAL CONDITIONS

Special Condition 1, Maximum Authorized Annual Average Withdrawal Volume reflects the total authorized (registered plus permitted) annual average withdrawal volume based on the November 30, 2009 Water Needs Forecast (WNF) prepared by the Department of Conservation and Recreation (DCR). Middleborough's WNF was based on two separate assumptions: 1) the Town met the 65 Residential Gallons Per Capita Day (RGPCD) and 10% Unaccounted for Water (UAW) Performance Standards (65/10 WNF); and 2) the Town's RGPCD and UAW trends at the time DCR issued its WNF would continue (Current Trends WNF). Both forecasts potentially include a "5% buffer" to accommodate uncertainty in the projections. As shown in **Table 3** and **Table 4**, Middleborough's recent water use has been consistently below both the DCR 65/10 and Current Trends WNFs for the applicable time period.

TABLE 3: MIDDLEBOROUGH'S ACTUAL AND TOTAL AUTHORIZED ANNUAL AVERAGE DAILY WITHDRAWAL RATES

TOTAL AUTHORIZED RATE (MGD)	YEAR	ACTUAL ANNUAL RATE (MGD)
2.25	2021	1.66
	2022	1.70
	2023	1.70
	2024	1.74
	2025	1.79*

* value under review by MassDEP

Table 4: MIDDLEBOROUGH'S 2009 FINAL DCR WATER NEEDS FORECAST

Permit Term	65/10 WNF (MGD)	Current Trend WNF (MGD)
2021 - 2025	1.99	2.03
2026 - 2030	2.13	2.17
5% buffer:	+0.11	+0.11

The 2006 WMA Permit authorized Middleborough to withdraw from its permitted groundwater sources in the Taunton River Basin an annual average daily volume of 0.72 MGD. This permitted volume was in addition to the 1.53 MGD that the Town is authorized to withdraw from its registered sources. Thus, the 2006 WMA Permit gave Middleborough a total authorized annual average daily volume of 2.25 MGD.

It is the Department's policy to issue permits that result in a total authorized volume that does not exceed the DCR WNF volumes based on the assumption that the public water supplier (PWS) is in compliance with RGPCD and UAW performance standards. Middleborough has complied with these performance standards (**Table 5**).

Middleborough provided the Department with supply demand projections based on planned residential housing developments and initiatives. Following review of Middleborough's demand projections and subject to continued compliance with the RGPCD and UAW performance standards, the Department has set the Town's total authorized volume at 2.24 MGD, consistent with DCRs 65/10 WNF maximum projection of 2.13 MGD plus the 5% buffer of 0.11 MGD. Therefore, this permit authorizes withdrawals up to 0.71 MGD, thereby reducing the 2006 WMA permit authorized volume by 0.01 MGD, and, in addition to Middleborough's 1.53 MGD of registered volume, provides 2.24 MGD of total authorized volume. An authorized volume beyond 2.24 MGD will require the Town to obtain a new DCR WNF and a new WMA permit.

Special Condition 2, Maximum Authorized Daily Withdrawals from each Withdrawal Point specifies the maximum daily withdrawal rates by source, according to the approved rates established by MassDEP's Drinking Water Program. Withdrawals in excess of these maximum daily rates require approval from the Department. Special Condition 2 of the renewed WMA Permit adds these three (3) sources, East Main Street Replacement Well 1 (4182000-12G), East Main Street Replacement Well 2 (4182000-13G) and Mizras Well (4182000-14G) not included in the 2006 WMA Permit.

Prior to 2021, the Town periodically exceeded the approved pumping rates for some of its sources. In 2022, the Town reported that it had taken action to address this problem. The Town reported that beginning in 2021, it calibrates all its meters annually in October. In addition, the Town reads the meters at each pump station daily, records the results in operator logs, and enters the data in a central database. The Town has also informed MassDEP that it intends to automate data collection through SCADA as part of all future projects.

Special Condition 3, Zone II Delineations reflects the approved area of an aquifer that contributes water to a well under the most severe pumping and recharge conditions that can be realistically anticipated. Special Condition 3 of the 2006 WMA Permit noted that all of Middleborough's then authorized sources had approved Zone IIs. Department records show that the three additional sources listed in the Renewed WMA Permit that were not authorized when the 2006 WMA Permit was issued, East Main Street Replacement Well 1, East Main Street Replacement Well 2, and the Mizras Well also have approved Zone IIs. No further work is required.

Special Condition 4, Groundwater Supply Protection requires the Town's sources to be in compliance with Wellhead Protection (WHP) regulations at 310 CMR 22.21(2) to protect Zone II recharge areas through conditions of land-use and activities. Special Condition 4 of the 2006 WMA Permit noted that groundwater supply protection requirements were met with regard to all of the Town's then authorized sources. Department records indicate that groundwater supply protection requirements have also been met with regard to the East Main Street Replacement Wells and the Mizras Well.

Special Condition 5, Performance Standard for Residential Gallons Per Capita Day (RGPCD) requires Permittees to meet the performance standard of 65 Residential Gallons Per Capita Day (RGPCD) or less. Special Condition 5 of Middleborough's 2006 WMA Permit required the Town to meet the 65 RGPCD performance standard. Middleborough has been in compliance with this performance standard (**Table 5**). Middleborough's permit provides that if this performance standard is not met, the Town will be required to meet RGPCD Functional Equivalence requirements.

TABLE 5: RESIDENTIAL GALLONS PER CAPITA DAY AND UNACCOUNTED FOR WATER %

Year	RGPCD	UAW %
2025*	47	6
2024	43	7
2023	39	3
2022	41	4
2021	40	0

* values under review by MassDEP

Special Condition 6, Performance Standard for Unaccounted for Water (UAW) requires Permittees to meet the 10% or less Unaccounted-for Water (UAW) Performance Standard. Special Condition 6 of the 2006 WMA Permit required Middleborough to submit a compliance plan for any year if it did not meet the 10% UAW performance standard. Middleborough has been in compliance with this performance standard (**Table 5**).

Middleborough's permit requires the Town to meet the 10% performance standard for UAW two out of every three years and provides that if Middleborough fails to meet this requirement, the Town shall meet Functional Equivalence requirements based on the AWWA/IWA Water Audits and Loss Control Programs, Manual of Water Supply Practices.

Special Condition 7, Limits on Nonessential Outdoor Water Use reflects updates to Middleborough's 2006 WMA Permit for Seasonal Limitation on Nonessential Outdoor Water Use by implementing Nonessential Outdoor Water Use Restrictions ("Restrictions") based on whether Middleborough's reported RGPCD for the previous year met the RGPCD Performance Standard of 65 RGPCD (Special Condition 5).

In addition, outdoor water use restrictions for permittees with wells in subbasins[1] that are 25% or more August net groundwater depleted (Aug NGD[2]) are set to minimize withdrawals from depleted subbasins. Because Middleborough's Cross Street Well (09G) is in subbasin #24060 with an Aug NGD of 33% and Rock Village #1 (01G), Rock Village #2 (02G), Millers Street (06G) and Spruce Street (11G) Wells are in subbasin #24111 with an Aug NGD of 61% nonessential outdoor water use is limited to 1 or 2 days per week.

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

- **Calendar triggered restrictions** are in place from May 1 through September 30. Many public water suppliers find this option easier to implement and enforce than the streamflow triggered approach. Note that restrictions must be reduced to 1 day per week if the 7-day low flow trigger is reached at the stream gage (see below).
- **Streamflow triggered restrictions** are implemented at those times when streamflow falls below designated flow triggers measured at an assigned, web-based, real-time U.S. Geologic Survey (USGS) stream gage from May 1st through September 30th. At a minimum, restrictions commence when streamflow falls below the trigger for three consecutive days. Once implemented, the restrictions remain in place until streamflow at the assigned USGS local stream gage meets or exceeds the trigger streamflow for seven consecutive days.

If Middleborough selects the streamflow trigger approach, it has been assigned **USGS gage #01108000 at the Taunton River near Bridgewater, MA.** The May-June streamflow trigger is **265** cubic feet per second (**cfs**) and, the July-September streamflow trigger is **119 cfs**. Should the reliability of flow measurement at this gage be so impaired as to question its accuracy, the permittee may request that MassDEP review and approve the transfer to another gage that will trigger restrictions. MassDEP reserves the right to require use of a different gage.

- **The 7-Day Low-flow Trigger**, at which restrictions increase is incorporated into both Calendar and Streamflow Triggered restrictions to provide additional protection when flows are very low. The 7-day low flow trigger is based on the median value of the annual 7-day low flows for the period of record. The 7-day low-flow trigger for **USGS gage #01108000 is 47 cfs**.

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

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

Guidance for Permittees Concerning Enforcement Authority

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

Note that if the permittee holds a Water Management registration, **the nonessential outdoor water use restrictions in this permit supersede restrictions in the permittee's registration**.

Special Condition 8, Water Conservation Requirements updates the requirements for water conservation requirements to reflect the July 2018 standards outlined by the Massachusetts Water Resources Commission's in the Massachusetts Water Conservation Standards.

Special Condition 9, Requirement to Report Raw and Finished Water Volumes requires raw and finished system-wide water volumes and raw water volumes for individual water withdrawal points reported in the Annual Statistical Reports (ASRs) to enable compliance evaluation. Middleborough has previously complied with this condition.

NEW CONDITIONS

Special Condition 10, Coldwater Fishery Resource Protection addresses the requirement of a permittee to evaluate feasible optimization of withdrawals which impact Coldwater Fishery Resources (CFRs). Seven of Middleborough's groundwater sources are in subbasins with identified CFRs. East Main Street GP Well 1 (03G), East Grove Street Dug Well (04G), East Main Street GP Well 2 (07G), East Main Street Replacement Well 1 (12G), and East Main Replacement Well 2 (13G) are located in subbasin #24057 and, Tispaquin GP Well 1 (05G) and Tispaquin GP Well 2 (10G) are located in subbasin #24094. Middleborough therefore evaluated options for shifting withdrawals to other withdrawal points. Since the newest source, Mizras Well (14G), is not in a subbasin (#24054) with a CFR, to the extent feasible, Middleborough plans to maximize the Mizras Well's approved daily capacity (see Minimization condition).

Special Condition 11, Minimization of groundwater withdrawals in subbasins with an August NGD of 25% or more is required of permittees to offset the withdrawal impacts to these subbasins through the implementation of a Minimization Plan. Four of Middleborough's groundwater sources - Rock Village GP Well 1 (01G), Rock Village GP Well 2 (02G), Millers Street GP Well (06G), and Spruce Street GP Well (11G) - are located in Subbasin #24111, a subbasin with an August NGD of 61%. Middleborough also has one groundwater source, the Cross Street Well (09G), located in subbasin (#24060) with an August NGD of 33%. Elements of Middleborough's minimization plan include implementation of additional water conservation measures that go beyond the standard measures, educational outreach regarding installation of water-saving devices and water conservation savings and implementation of increasing block rates.

By [six months of the date of the issuance of the final Renewed Permit], Middleborough shall report operating details of the Mizras Well relative to minimizing the impact of other sources in subbasins with CFRs and that are August NGD by more than 25%.

Special Condition 12, Mitigation includes activities implemented in proportion to the amount of authorized withdrawal which exceeds the permittee's baseline, and which are designed to offset impact to streamflow or aquatic habitat from withdrawals over baseline. The Water Management Regulations, 310 CMR 36.03, define baseline to be 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.

Middleborough *baseline* is 1.73 MGD, their withdrawal volume in 2005 plus 5%.

Middleborough's authorized withdrawal volume of 2.24 MGD is 0.51 MGD above its baseline volume of 1.73 MGD. Therefore, Middleborough's potential mitigation amount is 0.51 MGD. A *wastewater adjustment* was applied against the volume to be mitigated to account for returning wastewater to the ground within the same major basin as withdrawals. Middleborough reported on its permit renewal application that 67% of wastewater is discharged through on-site disposal systems to the Taunton River Basin. MassDEP assumes that 85% of wastewater generated by withdrawals over baseline will be returned to the ground due to 15% loss through consumption. The returned wastewater volume is therefore represented by the following equation: **volume of wastewater over baseline x % wastewater discharged through on-site septic systems to the major basin (67%) x % returned amount considering loss due to (85%).** Therefore, Middleborough's total wastewater adjustment amounts to 0.51 MGD x 0.67 x 0.85, equivalent to 0.29 MGD, as shown below in **Table 6**.

TABLE 6: MIDDLEBOROUGH'S MITIGATION VOLUME CALCULATION

1. Permitted amount above Baseline = 0.51 MGD (510,000 Gallons Per Day - GPD) • Permitted amount above Baseline: 2.24 – 1.73 = 0.51 MGD
2. Adjustment for Wastewater Discharge to Local Groundwater = 0.29 MGD (290,000 GPD) • 67% of increased withdrawals are delivered to areas with on-site septic systems: 0.51 MGD x 0.67 (67%) = 0.342 MGD • 85% of water delivered to areas with on-site septic systems returns to groundwater: 0.342 MGD x 0.85 (85%) = 0.29 MGD, or 290,000 gallons per day (GPD)
3. Amount to be Mitigated following Wastewater Adjustment = 0.22 MGD (220,000 GPD) • Permitted amount above baseline (0.51 MGD) – adjustment for wastewater discharge to same major basin as withdrawals (0.29 MGD) = 0.22 MGD or 220,000 GPD

Middleborough's amount to be mitigated following the wastewater adjustment is 0.22 MGD (220,000 GPD).

Permit Tier 3:

MassDEP has identified that an increase over baseline of 0.10 MGD in subbasin 24060 with the Cross Street Well (09G) and 0.18 MGD in subbasin 24094 with the Tispaquin Wells (05G and 10G) will change the Groundwater Withdrawal Category (GWC)[3] in each of these subbasins. Pursuant to 310 CMR 36.19(1), since Middleborough has permitted sources in these subbasins and is expected to increase withdrawals above baseline by 0.51 MGD, thereby exceeding the amounts needed to change said subbasins GWCs, Middleborough is a Tier 3 permit applicant. Being a Permit Tier 3 applicant requires Middleborough to provide a higher ratio of indirect mitigation, when feasible and an alternative source analysis.

Alternative Source Analysis:

310 CMR 36.22(7) requires Tier 3 permit applicants to demonstrate there is no feasible alternative source that is less environmentally harmful than the withdrawal point(s) identified in the application. Evaluation of alternative groundwater withdrawal points of several of Middleborough's nearby PWSs (Bridgewater, Raynham Center Water District, Halifax) have sources located in a GWC 4 or GWC 5. Middleborough is not interconnected to Taunton or Wareham, and other neighboring towns lack large municipal supplies, and consequently, are served in part by Middleborough (i.e., Carver, Lakeville, Plympton, Rochester).

While Middleborough has no identified alternative sources, the Mizras Well (14G) is located in a subbasin (#24054) that has no CFR and will not change its GWC until an increase over baseline of 1.33 MGD or more, well above the Town's 0.51 MGD request above baseline. The location and use of the Mizras Well will minimize impact on other subbasins with source(s) by the additional capacity it provides (see *Minimization* section) and therefore reduce the likelihood of the GWC changing in the Town's two identified subbasins (see *Permit Tier 3* section).

The preceding demonstrates there is no feasible alternative source that is less environmentally harmful than the withdrawal point(s) identified in the application.

Middleborough's Mitigation Plan:

310 CMR 36.22(7) indicates if a Tier 3 groundwater applicant demonstrates there is no feasible alternative source that is less environmentally harmful, then the applicant shall submit a Mitigation Plan commensurate with the impact of their withdrawal above baseline. In response to the Department's OTC, Middleborough submitted a Mitigation Plan outlining proposed mitigation activities.

Mitigation Activity types and hierarchy:

- **Direct Mitigation** activities improve streamflow by volumetrically quantifiable amounts from increased groundwater recharge, decreased stormwater runoff to streams, or surface water releases and must be considered first in mitigation planning.
- If the required mitigation cannot be achieved through direct mitigation, then indirect mitigation activities must be evaluated to provide environmental improvements that compensate for streamflow impacts.
- **Indirect Mitigation** activities cannot be volumetrically quantified and are assessed on a credit system based on qualitative benefits of the particular mitigation activity. Each indirect mitigation credit (indirect credit) is equal to 10,000 Gallons Per Day (GPD), with withdrawals that change the GWC or BC of a subbasin requiring twice the amount of indirect credits to meet the mitigation requirements for those volumes beyond the category (GWC or BC) of that subbasin.

Since Middleborough's permit is a Tier 3 based on the increase over baseline resulting in a GWC change outlined above in subbasin 24060, indirect credit values beyond that first 0.10 MGD will require twice the amount of indirect credits to equal 10,000 GPD; equivalently, each indirect credit will be valued at 5,000 GPD. Middleborough does not control surface water releases and while they do sanitary system inflow/infiltration repair work they do not have the necessary documentation to credit this work, therefore, these direct mitigation activities were not evaluated.

As outlined in **Appendix C**, MassDEP accepted 82,400 GPD of Direct Mitigation and 25.2 Indirect Credits of Mitigation Activities from Middleborough resulting in a total of 0.22 MGD of Mitigation, thereby satisfying their remaining Mitigation Amount of 0.22 MGD.

Commonwealth of Massachusetts
Executive Office of Energy and Environmental Affairs
Department of Environmental Protection
Address: 100 Cambridge Street, Suite 900, Boston MA 02114 | **Phone**: 617-292-5500

Maura T. Healey Governor | **Kim Driscoll** Lieutenant Governor | **Rebecca Tepper** Secretary | **Bonnie Heiple** Commissioner

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

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

PERMIT NUMBER: 9P-4-25-182.01 **RIVER BASIN:** TAUNTON

PERMITTEE: Town of Middleborough
10 Nickerson Avenue
Middleborough, MA 02346

EFFECTIVE DATE: DRAFT

EXPIRATION DATE: June 5, 2031

NUMBER OF WITHDRAWAL POINTS: **14**
Groundwater: 14
Surface Water: 0

USE: Public Water Supply (PWS)

DAYS OF OPERATION: 365

LOCATIONS:

TABLE 1: WITHDRAWAL POINT IDENTIFICATION

Source Name	PWS Source ID	Source Name	PWS Source ID
Rock Village GP Well 1	4182000-01G	Plympton St. GP Well	4182000-08G
Rock Village GP Well 2	4182000-02G	Cross St. GP Well	4182000-09G
East Main St. GP Well 1	4182000-03G	Tispaquin GP Well 2	4182000-10G
East Grove St. Dug Well	4182000-04G	Spruce St. GP Well	4182000-11G
Tispaquin GP Well 1	4182000-05G	East Main St. Replacement Well 1	4182000-12G
Millers St. GP Well	4182000-06G	East Main St. Replacement Well 2	4182000-13G
East Main St. GP Well 2	4182000-07G	Mizras Well	4182000-14G

SPECIAL CONDITIONS

1. Authorized Annual Withdrawal Volume

This permit authorizes the Middleborough Water Department (Middleborough or Town) to withdraw water from the Taunton River Basin at the rates described below in **Table 2**. The permitted volume is in addition to the 1.53 million gallons per day (MGD) previously authorized to Middleborough under the Water Management Act (WMA) Registration (4-25-182.03) for withdrawals from the Taunton River Basin. The permitted volume is expressed both as an annual average daily withdrawal rate in MGD and as a total annual withdrawal volume in million gallons per year (MGY) for each permit period over the term of this permit.

TABLE 2: MAXIMUM AUTHORIZED ANNUAL WITHDRAWAL VOLUMES

Permit Periods	Daily Average Permit Volume (MGD)	Total Annual Permit Volume (MGY)	Daily Average Registration + Permit Volume (MGD)	Total Annual Registration + Permit Volume (MGY)
X/XX/2026 to 6/5/2031	0.60 + 0.11 buffer = 0.71	259.15	1.53 + 0.71 = **2.24**	**817.60**

2. Maximum Authorized Daily Withdrawals from each Withdrawal Point

Withdrawals from individual withdrawal points are not to exceed the approved maximum daily volumes listed below in **Table 3** without specific advance written approval from MassDEP. The authorized maximum daily volume is the approved rate for 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 3: MAXIMUM AUTHORIZED DAILY WITHDRAWAL RATES

Source Name		Maximum Approved Daily Withdrawal Rate (MGD)	Source Name		Maximum Approved Daily Withdrawal Rate (MGD)
Rock Village GP Well 1	(-01G)	0.288	Plympton St. GP Well	(-08G)	0.142
Rock Village GP Well 2	(-02G)	0.288	Cross St. GP Well	(-09G)	0.293
East Main St. GP Well 1	(-03G)	*	Tispaquin GP Well 2	(-10G)	0.316
East Grove St. Dug Well	(-04G)	0.432	Spruce St. GP Well	(-11G)	0.576
Tispaquin GP Well 1	(-05G)	0.259	East Main St. Replacement Well 1	(-12G)	*
Millers St. GP Well	(-06G)	0.792	East Main St. Replacement Well 2	(-13G)	*
East Main St. GP Well 2	(-07G)	*	Mizras Well	(-14G)	0.658

***** Combined Maximum Daily Average Rate for these wells is 0.46 MGD.

3. Zone II Delineations

Department records indicate Middleborough's sources have approved Zone II delineations. No further work is required.

4. Water Supply Source Protection

MassDEP records indicate Middleborough is in compliance with Wellhead Protection (WHP) regulations at 310 CMR 22.21(2). No further work is required.

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

The RGPCD performance standard for Public Water Systems (PWS) permittees is 65 RGPCD or less. The Town shall continue to report and document its compliance with RGPCD annually in its Annual Statistical Report (ASR). The Town shall report its RGPCD and the calculations to derive that figure as part of its ASR including without limitation the source of the data used to establish the service population and the year in which the data was developed.

Permittees that do not comply with the RGPCD Performance Standard are required to develop and implement a functional equivalence program as set forth in **Appendix A:** *Functional Equivalence with the RGPCD Performance Standard*.

6. Performance Standard for Unaccounted for Water (UAW)

The Town performance standard for UAW is 10% or less of overall water withdrawal for two (2) out of the most recent three (3) years throughout the permit period. If the Town does not meet this standard, the Town shall comply with the functional equivalence requirements based on the *AWWA/IWA Water Audits and Loss Control Programs, Manual of Water Supply Practices M36,* as outlined in **Appendix B**.

The Town shall report its UAW in its ASR so as to document compliance with this performance standard. The Town's ASR shall include the calculation to derive that figure including without limitation the source of data used, the methodology for calculating UAW and any assumptions used in making the calculation.

Nothing in the permit shall prevent a permittee who meets the 10% performance standard from demonstrating compliance with the UAW performance standard by developing and implementing a water loss control program following the *AWWA M36 Water Audits and Loss Control Programs*.

Permittees meeting the performance standard for UAW through implementation of a water loss control program based on AWWA M36 annual water audits and guidance shall continue to report UAW annually as required in the ASR for public water suppliers.

7. Limits on Nonessential Outdoor Water Use

Middleborough shall limit nonessential outdoor water use through mandatory restrictions from May 1 through September 30, as outlined in **Table 4** below. Middleborough shall be responsible for tracking streamflow gages and recording and reporting when restrictions are implemented (see **Table 5**). The permittee shall document compliance with the limits on nonessential outdoor water use annually in its ASR.

TABLE 4: LIMITS ON NONESSENTIAL OUTDOOR WATER USE

Restrictions are triggered by:
USGS gage #01108000 at the Taunton River near Bridgewater, MA (the Gage).

For Permittees Meeting the 65 RGPCD Standard for the Preceding Year
When RGPCD was 65 or below as reported in the ASR and accepted by MassDEP, choose either Calendar Triggered Restrictions or Streamflow Triggered Restrictions from this section of the Table.

CALENDAR Triggered Restrictions:

Nonessential outdoor water use is allowed before 9 a.m. and after 5 p.m.:

a) **Two (2) days per week,** and,
b) **One (1) day per week** when flow at the Gage falls below **47 cfs** for three (3) consecutive days.

Once implemented, restrictions shall remain in place until streamflow at the gage meets or exceeds **47 cfs** for seven (7) consecutive days.

STREAMFLOW Triggered Restrictions:

Nonessential outdoor water use is allowed before 9 a.m. and after 5 p.m.:

a) **Two (2) days per week** when flow at the Gage falls for three (3) consecutive days below:
   - **265 cfs** from **May 1 – June 30**, and
   - **119 cfs** from **July 1 – September 30**; except

a) **One (1) day per week** whenever flow at the Gage falls below **47 cfs** for three (3) consecutive days.

Once implemented, restrictions shall remain in place until streamflow at the Gage meets or exceeds the trigger streamflow for seven (7) consecutive days.

For Permittees NOT Meeting the 65 RGPCD Standard for the Preceding Year
When RGPCD was above 65 as reported in the ASR and accepted by MassDEP, choose either Calendar Triggered Restrictions or Streamflow Triggered Restrictions from this section of the Table

CALENDAR Triggered Restrictions:

Nonessential outdoor water use is allowed before 9 a.m. and after 5 p.m. **one (1) day per week.**

STREAMFLOW Triggered Restrictions:

Nonessential outdoor water use is allowed before 9 a.m. and after 5 p.m. **one (1) day per week** when flow at the Gage falls for three (3) consecutive days below:

- **265 cfs** from **May 1 – June 30**, and
- **119 cfs** from **July 1 – September 30.**

Once implemented, restrictions shall remain in place until streamflow at the gage meets or exceeds the triggering streamflow for seven (7) consecutive days.

TABLE 5: TRACKING STREAMFLOWS THROUGH THE USGS WEBSITE

Instructions for Accessing Streamflow Website Information The permittee shall be responsible for tracking stream flows and recording and reporting to MassDEP when restrictions are implemented.
Streamflow information is available at the USGS National Water Information System (NWIS): Web Interface. The USGS NWIS default shows Massachusetts streamflows in real time, i.e., the most recent, usually quarterly hourly reading made at each USGS stream gage. Seasonal Limits on Nonessential Outdoor Water Use are implemented when the mean daily streamflow falls below the designated trigger for 3 consecutive days. The mean daily flow is not calculated until after midnight each day when the USGS computes the hourly data into a mean daily streamflow. As a result, the Permittee must use the mean daily streamflow from the preceding day when tracking streamflows. **Mean daily streamflow gage** readings are also available by following the instructions on MassDEP's link, USGS Stream Gage and Well-Monitoring Data webpage. For additional questions or for additional support, contact the MassDEP Water Management Program at DEP.WMA@mass.gov (preferred), or the WMA Program contact identified in this permit.

Should the reliability of flow measurement at the **USGS #01108000** at the Taunton River near Bridgewater, MA be so impaired as to question its accuracy, Middleborough may request MassDEP's review and approval to transfer to another gage to trigger restrictions.

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

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

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

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

Public Notice of Seasonal Nonessential Outdoor Water Use Restrictions
The Permittee shall notify its customers of the restrictions and the consequences of failing to adhere to the restrictions.

- **For calendar-triggered restrictions**, customers shall be notified by April 15 each year.
- **For streamflow-triggered restrictions**, when streamflow at the assigned USGS local stream gage falls below a streamflow trigger for three consecutive days, customers shall be notified as soon as possible, but within three days of implementing the restrictions.

Notice that restrictions have been put in place shall be filed each year with MassDEP within 14 days of the restriction's effective date. Filing shall be in writing on the form "Notification of Water Use Restrictions" available on MassDEP's website link Outdoor Water Use Restrictions for Cities, Towns, and Golf Courses | Mass.gov.

Enforcement Authority

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

8. Water Conservation Requirements

At a minimum, Middleborough shall implement the following conservation measures forthwith. Compliance with the water conservation requirements shall be reported to MassDEP upon request, unless otherwise noted below in **Table 6**.

TABLE 6: MINIMUM WATER CONSERVATION REQUIREMENTS

System Water Audits and Leak Detection

1. At a minimum, conduct a full leak detection survey every three years. The first full leak detection survey shall be completed no later than 3 years from the date of the last documented leak detection survey.

2. Conduct leak detection of the entire distribution system within one year whenever the percentage of UAW increases by 5% or more (for example an increase from 3% to 8%) over the percentage reported on the ASR for the prior calendar year. Within 60 days of completing the leak detection survey, submit to the Department a report detailing the survey, any leaks uncovered as a result of the survey or otherwise, dates of repair and the estimated water savings as a result of the repairs.

3. Conduct field surveys for leaks and repair programs in accordance with the AWWA Manual 36.

4. Middleborough shall have repair reports available for inspection by MassDEP. Middleborough shall establish a schedule for repairing leaks that is at least as stringent as the following:

- Leaks of 3 gallons per minute or more shall be repaired within 3 months of detection.
- Leaks of less than 3 gallons per minute at hydrants and appurtenances shall be repaired as soon as possible.
- Leaks of less than 3 gallons per minute shall be repaired in a timely manner, but in no event more than 6 months from detection, except leaks in freeway, arterial or collector roadways shall be repaired when other roadwork is being performed on the roadway.

Leaks shall be repaired in accordance with Middleborough priority schedule including leaks up to the property line, curb stop or service meter, as applicable. Middleborough shall have water use regulations in place that require property owners to expeditiously repair leaks on their property.

Metering

1. Middleborough shall continue to calibrate all source and finished water meters at least annually and report date of calibration on the ASR.

2. Middleborough shall maintain its 100% metered system.

3. Middleborough shall maintain their meter replacement program that is based on AWWA standards.

Pricing

1. Middleborough shall have a plan and schedule for establishing and maintaining a water pricing structure that includes the full cost of operating the water supply system. Thereafter, Middleborough shall implement the plan and schedule as approved by MassDEP. Full cost pricing factors all costs - operations, maintenance, capital, and indirect costs (environmental impacts, watershed protection) - into prices.

2. Evaluate rates at a minimum every three to five years and adjust costs as needed.

3. Middleborough shall continue to implement an increasing block rate structure.

4. Middleborough shall continue to bill at least quarterly.

TABLE 6 (continued): MINIMUM WATER CONSERVATION REQUIREMENTS

Residential and Public Sector Conservation

1. Middleborough shall ensure that the standards set forth in the Federal Energy Policy Act, 1992 and the Massachusetts Plumbing Code are met when buildings are constructed or renovated.

2. Middleborough shall maintain equipping all public buildings with water saving devices.

3. Middleborough reported that all municipally owned public buildings have not been retrofitted with water-saving devices (faucet aerators, low flow shower heads and low flow toilets). Middleborough shall maintain the practice of installing water savings devices in all municipal buildings as they are renovated and shall ensure water conserving fixtures and landscaping practices are incorporating into the design of new municipal capital projects.

4. Middleborough shall continue to meter and bill contractors for the use of fire hydrants for pipe flushing and construction.

Industrial and Commercial Water Conservation

1.Middleborough shall require significant water-use facilities to install separate meters for process water where appropriate.

Public Education and Outreach

1. Within six months of the effective date of this permit, Middleborough shall submit to MassDEP a plan and schedule for the development and implementation of a water conservation education and outreach plan designed to educate customers on ways to conserve water.

Without limitation, the plan may include the following actions:

- Include in bill stuffers and/or bills, a work sheet to enable customers to track water use and conservation efforts and estimate the dollar savings,
- Public space advertising/media stories on successes (and failures),
- Conservation information centers perhaps run jointly with electric or gas company,
- Speakers for community organizations,
- Public service announcements; radio/T.V./audio-visual presentations
- Joint advertising with hardware stores to promote conservation devices,
- Use of civic and professional organization resources,
- Special events such as Conservation Fairs,
- Develop materials that are targeted to schools with media that appeals to children, including materials on water resource projects and field trips; and
- Provide multilingual materials as needed.

2. Thereafter, Middleborough shall develop and implement the water conservation education and outreach plan and schedule as approved by MassDEP. Upon request of MassDEP, Middleborough shall report on its public education and outreach efforts.

9. Requirement to Report Raw and Finished Water Volumes.

Middleborough shall continue to report raw and finished water volumes for the entire water raw water volumes for each individual withdrawal point on the ASR.

10. Coldwater Fishery Resource (CFR) Protection

To the extent feasible, Middleborough shall maximize the approved daily capacity of the Mizras Well (14G) CFR to offset impacts of withdrawal sources in subbasins with CFRs.

11. Minimization

Middleborough shall minimize the impacts of its groundwater withdrawals from permitted sources as follows:

- Middleborough has reported using radio read meters in their system. They bill quarterly and their bills compare current use with use during the previous period and with the same period the prior year.
- Residential outreach with literature about installation of water-saving devices and water conservation savings in gallons and dollars.
- Maintain increasing block rates.
- Within six months of the date of the issuance of the final Renewed Permit, submit a report demonstrating how the Mizras Well (14G) is operated in a manner that minimizes the impact of this well on CFRs and groundwater depleted subbasins.

12. Mitigation

Middleborough's increase over baseline of 510,000 GPD (0.51 MGD), and therefore the mitigation required, was adjusted by 290,000 GPD (0.29 MGD) returned as wastewater by Middleborough customers via on-site septic systems to the Taunton River Basin. Based on this difference (0.51 MGD – 0.29 MGD), Middleborough's amount to be mitigated was set at 220,000 GPD (0.22 MGD).

Middleborough's Mitigation Plan targeted a portion of their mitigation amount through direct mitigation activities which included returns to the Taunton River Basin of 36,200 GPD from one (1) project using Stormwater Best Management Practices and 46,200 GPD from the decommissioning of one (1) cranberry bog. A total of 82,400 GPD (46,200 GPD + 36,200 GPD) was accepted by MassDEP for these direct mitigation activities.

After applying 82,400 GPD of direct mitigation, Middleborough's remaining mitigation was met by accruing the following indirect credits amounts from the implementation of the associated indirect mitigation activities:

1) 3.25 credits for Inflow and Infiltration work;
2) 2.0 credits for completion of Municipal Separate Storm Sewer System Permit requirements;
3) 6.0 credits for their Stormwater Bylaw;
4) 1.25 credits for Habitat Improvement;
5) 7.2 credits for Land Protections;
6) 3.5 credits for a Septic System Management Program; and,
7) 2.0 credits for their Wetlands Bylaw.

Indirect credit was initially valued at 10,000 GPD per credit up to the volume changing the GWC, with MassDEP accepting 1 indirect credit at this value. Subsequent indirect credits were valued at 5,000 GPD, with 25 indirect credits (25 x 5,000 GPD) accepted by MassDEP after the GWC change. Therefore, a total of 135,000 GPD (10,000 GPD + 125,000 GPD) worth of indirect credits were accepted.

In sum, rounding to two decimals, Middleborough's mitigation amount of 220,000 GPD (0.22 MGD) was met by applying 82,400 GPD of direct mitigation plus 135,000 GPD worth of total indirect mitigation credits (82,400 GPD+ 135,000 GPD). Therefore, at this time, no further mitigation work is required.

Refer to **Appendix C** for MassDEP accepted Summary of Middleborough's Mitigation Activities. The Town shall notify MassDEP if there are any significant changes to criteria accepted as qualifying it for a mitigation activity.

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

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

1. **Duty to Comply:** The permittee shall comply at all times with the terms and conditions of this permit, the Act, the Water Management Act regulations at 310 CMR 36.00, and all other applicable State and Federal statutes and regulations**.**
2. **Operation and Maintenance:** The permittee shall at all times properly operate and maintain all facilities and equipment installed or used to withdraw water so as not to impair the purposes and interests of the Act.
3. **Entry and Inspections:** The permittee or the permittee's agent shall allow personnel or authorized agents or employees of the Department to enter and examine at reasonable times any property, facility, operation, equipment or activity involving the withdrawal of water, and to inspect and copy any relevant records, for the purpose of determining compliance with this permit, the Act or the regulations published pursuant thereto, upon presentation of proper identification and an oral statement of purpose.
4. **Water Emergency:** Withdrawal volumes authorized by this permit are subject to restriction in any water emergency declared by the Department pursuant to M.G.L. c. 21G, §§ 15-17, M.G.L. c. 111, §§ 160, or any other enabling authority.
5. **Transfer of Permits:** This permit shall not be transferred in whole or in part unless and until the Department approves such transfer in writing, pursuant to the submittal of a transfer application in accordance with 310 CMR 36.33 on forms provided by the Department requesting such approval and received by the Department at least thirty (30) days before the effective date of the proposed transfer. No transfer application shall be deemed filed unless it is accompanied by the applicable transfer fee as set forth in 310 CMR 4.00.
6. **Duty to Report:** The permittee shall complete and submit annually, on a form provided by the Department, all of the information required by said form including, without limitation, a certified statement of the withdrawal. Such report shall be received by the Department by the date specified on the form each year. For public water supplier permittees, the report form is the MassDEP Drinking Water Program Public Water Supply Annual Statistical Report.
7. **Annual Compliance Fee:** The permittee shall submit any applicable annual compliance fee as established in 310 CMR 4.00.
8. **Duty to Maintain Records:** The permittee shall maintain withdrawal records and other information in sufficient detail to demonstrate compliance with this permit.
9. **Metering:** All withdrawal points included within the permit shall be metered. Meters are to be calibrated annually. Meters shall be maintained and replaced as necessary to ensure the accuracy of the withdrawal records.
10. **Amendment, Suspension or Termination:** The Department may amend, suspend or terminate the permit in accordance with M.G.L. c. 21G and 310 CMR 36.29.

NOTICE OF APPEAL RIGHTS

Any person aggrieved by this decision may request an adjudicatory hearing by timely filing a Notice of Claim for an Adjudicatory Appeal ("Notice of Claim") in accordance with 310 CMR 36.37 and 310 CMR 1.01 within twenty-one (21) days of receipt of this Permit. The Notice of Claim shall state specifically, clearly, and concisely the facts that are grounds for the appeal, the relief sought, and any additional information required by applicable law or regulation. A copy of this Permit shall be included with the Notice of Claim. No request for an appeal of this permit shall be validly filed unless a copy of the request is sent at the same time by certified mail, or delivered by hand, to the local water resources management official in the community in which the withdrawal point is located; and for any person appealing this decision, who is not the Permittee, unless such person notifies the Permittee of the appeal in writing by certified mail or by hand within five (5) days of mailing the appeal to the Department.

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

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

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

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

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

_____ _____

Duane LeVangie
Water Management Program Chief
Bureau of Water Resources

Date

Endnotes

Appendix A: Functional Equivalence with the RGPCD Performance Standard
Appendix B: Functional Equivalence with the 10% UAW Performance Standard
Appendix C: Summary of Middleborough's Mitigation Activities

ENDNOTES

[1] Subbasins used for WMA permitting are the 1,395 subbasins delineated by the U.S. Geological Survey in Indicators of Streamflow Alteration, Habitat Fragmentation, Impervious Cover, and Water Quality for Massachusetts Stream Basins (Weiskel et al., 2010, USGS SIR 2009-5272). The Water Management Regulations, 310 CMR 36.03, define August net groundwater depletion (NGD) to mean the unimpeded median flow for August minus 2000-2004 groundwater withdrawals plus 2000-2004 groundwater returns. A subbasin is groundwater, depleted if it has an August NGD of greater than 25%.

[2] The Water Management Regulations, 310 CMR 36.03, define August net groundwater depletion to mean the unimpeded median flow for August minus 2000-2004 groundwater withdrawals plus 2000-2004 groundwater returns as described in the USGS report Indicators of Streamflow Alteration, Habitat Fragmentation, Impervious Cover, and Water Quality for Massachusetts Stream Basins (Weiskel et al., 2010, USGS SIR 2009-5272).

[3] The Water Management Regulations 310 CMR 36.14(1)(b), establishes a groundwater withdrawal category (GWC) based on the ratio of 2000 to 2004 groundwater withdrawal volume to the unimpacted median monthly flow for August and represents conditions during the late summer bioperiod (July thru September). Each GWC represents the range of this ratio that would result in the BC of the same number under conditions of low (15%) impervious cover. The GWC for each withdrawal ratio for the late summer bioperiod is as follows: GWC 1, 0% to 3%; GWC 2, >3% to 10%; GWC 3, >10% to 25%; GWC 4, >25% to 55%; and GWC 5, >55%.

APPENDIX A
Residential Gallons Per Capita Day (RGPCD)

I. Compliance Plan Requirement

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

a. meet the requirement set forth below in Section II,
b. include measures to be implemented to meet the performance standard), and
c. include the schedule for implementing such measures.

The filing of an RGPCD Plan shall not constitute a return to compliance, nor shall it affect MassDEP's authority to take action in response to the permittee's failure to meet the performance standard.

If an RGPCD Plan is required, the permittee must:

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

II. Contents of an RGPCD Plan

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

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

At a minimum, all RGPCD Compliance Plans must include a detailed:

a. description of the actions taken during the prior calendar year to meet the performance standard,
b. analysis of the cause of the failure to meet the performance standard,
c. description and schedule of the actions that will be taken to meet the performance standard, and
d. analysis of how the actions described in c. will address the specific circumstances that resulted in the failure to meet the performance standard.

RGPCD Plans may be amended to revise the actions that will be taken to meet the performance standard.

Individual RGPCD Plan

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

At a minimum, all Individual RGPCD Plans for failure to meet the RGPCD performance standard must include implementation of at least one of the following residential conservation programs:

a. a program that provides water saving devices such as faucet aerators and low flow shower heads at cost,
b. a program that provides rebates or other incentives for the purchase of low water use appliances (washing machines, dishwashers, and toilets), or
c. the adoption and enforcement of an ordinance, bylaw, or regulation to require the installation of moisture sensors or similar climate-related control technology on all automatic irrigation systems.

If the permittee is already implementing one or more of these programs, it must include in its Individual RGPCD Plan the continued implementation of such program(s), as well as implementation of at least one additional program. All programs must include a public information component designed to inform customers of the program and to encourage participation in the program.

Without limitation, the Individual RGPCD Plan for failure to meet the RGPCD performance standard may include any of the actions set forth in the MassDEP RGPCD Functional Equivalence Plan below.

MassDEP RGPCD Functional Equivalence Plan

In order to be considered functionally equivalent with the RGPCD performance standard, the permittee must be in compliance with the permit Special Condition, Seasonal Limits on Nonessential Outdoor Water Use, and must adopt and implement the MassDEP RGPCD Functional Equivalence Plan that requires all the following residential conservation programs:

a. a program that provides water saving devices such as faucet aerators and low flow shower heads at cost,
b. a program that provides rebates or other incentives for the purchase of low water use appliances (washing machines, dishwashers, and toilets),
c. the adoption and enforcement of an ordinance, bylaw, or regulation to require the installation of soil moisture sensors or similar climate related control technology on all automatic irrigation systems,
d. the use of an increasing block water rate or a seasonal water rate structure as a tool to encourage water conservation,
e. the adoption and enforcement of an ordinance, bylaw, or regulation to require that all new construction include water saving devices and low water use appliances; and
f. the implementation of monthly or quarterly billing.

Hardship

A permittee may present an analysis of the cost effectiveness of implementing certain conservation measures included in the MassDEP RGPCD Functional Equivalence Plan and offer alternative measures. Any analysis must explicitly consider environmental impacts and must produce equal or greater environmental benefits. Suppliers will be able to present:

a. Reasons why specific measures are not cost effective because the cost would exceed the costs of alternative methods of achieving the appropriate standard,
b. Alternative specific conservation measures that would result in equal or greater system-wide water savings or equal or greater environmental benefits than the conservation measures included in the MassDEP RGPCD Functional Equivalence Plan, and
c. When applicable, an analysis demonstrating that implementation of specific measures will cause or exacerbate significant economic hardship.

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

Water Loss Control Program: MassDEP will consider PWS permittees who cannot meet the 10% UAW performance standard to be functionally equivalent, and in compliance with their permit, if they have an ongoing Water Loss Control Program in place that ensures best practices for controlling water loss.

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

1. Conduct an annual "top down" water audit, calculate the data validity level/score using AWWA Water Loss Control Committee's Free Water Audit Software, and submit the AWWA WLCC Free Water Audit Software Reporting Worksheet and data validity score annually as an attachment to the Annual Statistical Report (ASR).
    - If a PWS's data validity level/score is less than Level III (51-70), steps recommended through the audit(s) shall be taken to improve the reliability of the data prior to developing a component analysis and long-term program to reduce real and apparent water losses.
        i. Data with a validity score of 50 or less are considered too weak to be used to develop a component analysis or for infrastructure planning and maintenance.
        ii. Developing data with an acceptably strong validity score can be a multi-year process.
2. When the data validity score meets the Level III (51-70) requirement, conduct a component analysis to identify causes of real and apparent water loss and develop a program to control losses based on the results of the component analysis.
3. Submit the Municipal Water Loss Control Program that includes an M36 component analysis and implementation schedule and identifies implementation funding to the Department.
4. Upon request of the Department, the permittee shall report on its implementation of the water loss control program.
5. Continued implementation of the Program will be required for the permittee to be considered functionally equivalent with the 10% UAW performance standard and in compliance with their permit.

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

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

However, these small systems can benefit from developing reliable data and conducting an annual top-down water audit. Small systems can rely on the real losses (gallons per mile of main per day) performance indicator developed in the water audit as a measure of real water loss when developing a water loss control program. The M36 Manual discusses the audit process for small systems and includes a chapter to guide small systems in understanding the results of their audits and in developing a water loss control program (*Manual of Water Supply Practices – M36, Fourth Edition, Chapter 9: Considerations for Small Systems*, pp. 293-305).

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

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

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

A permittee's hardship analysis shall:

- Document economic hardship and present an analysis demonstrating that implementation of specific measures will cause or exacerbate significant economic hardship.
- Present reasons why specific measures are not cost-effective because the cost would exceed the costs of alternative methods of achieving the appropriate standard, and
- Propose specific conservation measures that would result in equal or greater system-wide water savings or equal or greater environmental benefits than the conservation measures included in the MassDEP UAW Water Loss Control Program.

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

Appendix C
Summary of Middleborough's Mitigation Amounts

SUMMARY OF MIDDLEBOROUGH'S MASSDEP-ACCEPTED MITIGATION ACTIVITIES

DIRECT MITIGATION:	**Eligible Direct Mitigation criteria**	**Volume**
Stormwater Best	Middleborough High School	
Management Practice	Pre-2005, discharge to surface water; post 2005, infiltration basins	
	Drains 12.3 impervious acres with 3.4-inch design infiltration depth	
	Credit Calculator form and Certification completed	36,200
Decommission Bog	Retired (Wheeler) Cranberry Bog, 186 Purchase St., Middleborough	
	23 ac. in use before 2005, Registration (#42418222), forfeited in 2014	
	Deeded as conservation land in perpetuity to USDA NRCS **(1)** in 2014	
	Old-style bog:10-acre-feet water/acre-year at 22.5% consumption	46,200
	Total Volume of Direct Mitigation Volume (GPD):	**82,400**
INDIRECT MITIGATION:	**Eligible Indirect Credits criteria:**	**Credits***
Inflow/Infiltration (I/I)	Complying with 314 CMR 12.04 and follows SSES **(2)** guidelines	
	Completion of 2018 I/I Analysis Plan and Study with Report	1.0
	Completion of 2022 SSES Plan and Study with Report	1.0
	Developed Sewer System rehabilitation plan and funding application	1.25
	Certification provided	
Stormwater/MS4 (3)	Completing Town's MS4 Permit requirements	1.0
	Summary Table completion of MS4 requirements and Certification	1.0
	Certification provided	
Stormwater Bylaw	Bylaw conforms with MA Stormwater Handbook	
	Geographic Jurisdiction Extent: entire municipality	2.0
	Regulated project size: at least 10,000 feet squared	3.0
	Stormwater Volume Infiltrated per MA Stormwater Handbook	1.0
Habitat Improvement	**Fishway**: *Wareham St. Fish Ladder,* Nemasket River, Middleborough	
	Massachusetts Division of Marine Fisheries approved	
	Not ranked on fish passage prioritization list	
	Middleborough's Operation & Maintenance of Fishway	1.25
Land Protection	Picone Farm, 415 Plymouth St., Middleborough	
	Lots: 41-466, 31-6082, 31-4447, 31-5272 and 31-3687	
	Town acquired. Non-priority conservation land.	
	Conservation Restrictions in perpetuity. For passive recreation.	
	94 acres x 0.1 credit/acres (9.4 credits) at 5 credit maximum	5.0
	Land Protection Certification provided	
Land Protection	Wilbur Well Land. Lot 78-1565, Marion Rd., Middleborough	
	Town acquired. For Zone II water supply protection.	
	Land use Restrictions in perpetuity.	
	5.67 Acres in Zone II at 0.1 credits per acre.	0.6
	Land Protection Certification provided	

SUMMARY OF MIDDLEBOROUGH'S MASSDEP-ACCEPTED MITIGATION ACTIVITIES (continued)

Land Protection	Caparrotta Land. Lots 106-2835, Miller St., Middleborough	
	Town acquired. For Zone B water supply protection.	
	Land use Restrictions in perpetuity.	
	7.6 Acres in Zone II at 0.2 credits per acre.	1.6
	Land Protection Certification provided	
Septic System	Community Septic Management Program (CSMP) Betterment Loans	
***Maintenance Program*(4)**	Third party legal basis establishment and enforcement	
	Funded by Massachusetts Clean Water Trust CSMP	
	Low-interest loans for system repairs and replacement	
	Tracking system for replacements	3.0
	Prioritization of replacements in environmentally sensitive areas	0.5
Wetlands Bylaw	Town implemented and enforced	1.0
	Enhanced standard: Requires 25-foot no build/disturb buffer setback	1.0
	Total Number of Indirect Mitigation Credits:	**25.2**

GPD = Gallons Per Day; **MGD** = Million Gallons Per Day; **GWC** = Groundwater Category
*** Indirect Mitigation:** 1 credit = 10,000 GPD or 5,000 GPD
(1) = United States Department of Agriculture Natural Resources Conservation Service
(2)=Sewer System Evaluation Survey; **(3)**=Municipal Separate Storm Sewer Systems
(4) = Middleborough hosted since 1997 with over $4.8 million in septic loan distributions