



June 4, 2024

Gary Moran
Deputy Commissioner
Massachusetts Department of Environmental Protection
100 Cambridge Street, Suite 900
Boston, MA 02114

Via Electronic Mail

RE: Town of Barnstable Watershed Permit Application Deficiencies

To Deputy Commissioner Moran:

Conservation Law Foundation (“CLF”) has identified a number of significant deficiencies in the Town of Barnstable’s (“the Town”) application for a Watershed Permit. The Town submitted its application to the Massachusetts Department of Environmental Protection (“MassDEP”) on September 1, 2023. CLF’s review of the application materials found that they lack sufficient information and documentation for MassDEP to make the determinations required under the Watershed Permit Application regulations at 314 CMR 21.00. Because the application is insufficient, fails to comply with the regulatory directive, and falls far short of providing sufficient information for MassDEP to assess the application, MassDEP should not grant the Town a Watershed Permit nor is the Town entitled to the exemption to the mandatory septic system upgrades under 310 CMR 15.00 (“Title 5 regulations”).

Accordingly, to the extent that MassDEP has yet to complete the Administrative Completeness Review outlined in 310 CMR 4.04(2)(b)(1), MassDEP should find the Town’s application deficient and direct the Town to correct it. If MassDEP has moved to technical review, MassDEP should not award the Town of Barnstable a permit based on the materials currently before it. MassDEP should also make clear that because it has not submitted a complete application, the Town of Barnstable is not entitled to the regulatory exemption to the mandatory Title 5 upgrades. MassDEP can only reasonably grant the Town a permit after the Town presents the agency with all of the required information and the Town can only avail itself of the administrative exemption when it has complied with the regulation’s requirements.

I. Background

CLF is a nonprofit, member-supported, regional organization dedicated to protecting New England’s environment. For over 50 years, CLF has worked to protect the health of New England’s waterways, including addressing the significant water quality impacts of sewage pollution. CLF has a long history of working to protect the waters of Cape Cod, which its

members use and enjoy for recreational, aesthetic, and cultural purposes, including boating, swimming, fishing, hunting, and sightseeing.

Nitrogen Pollution on Cape Cod

Cape Cod's storied waters are increasingly murky and lifeless as ever-higher levels of nitrogen pollution seep through the Cape's sandy soils and into its waters. Nitrogen pollution causes eutrophication, a process in which excessive nutrients in an aquatic ecosystem lead to algal blooms that choke out critical flora, suffocate aquatic animals, and threaten human health. Algae cause harm even when they die—their remains decompose, causing more oxygen depletion and adding to already excessive nutrient levels. Today, many of the Cape's bays and estuaries suffer from eutrophication, as documented by the Massachusetts Estuaries Project and by the Section 208 Cape Cod Area Wide Water Quality Management Plan Update ("208 Plan Update"). Studies have confirmed that the improper treatment of human sewage is the largest driver of this problem. *See* Needs Assessment Report, Comprehensive Wastewater Management Planning Project, Town of Barnstable, MA (May 2011) at ES-2.

If updates to wastewater systems on the Cape are not made quickly, water quality will continue to worsen, degrading aquatic ecosystems in the Cape's coastal waters. For example, in 2015, MassDEP warned that "[f]ailure to reduce and control [nitrogen] could result in complete replacement of eelgrass by macro-algae, a higher frequency of . . . fish kills, widespread occurrence of unpleasant odors and visible scum, and a complete loss of benthic macroinvertebrates throughout most of the system." MassDEP TMDL Report for Lewis Bay System and Halls Creek (March 2015) at ii. Beyond ecological impacts, deteriorating water quality on the Cape poses significant economic problems:

Cape Cod's water resources drive the regional economy. They attract visitors in the summer months and make the Cape a desirable place to live for year-round and seasonal residents. Continuing and increasing nitrogen loading of Cape Cod's embayment watersheds will further degrade coastal water quality, adversely impacting environmental, economic, and societal norms. The economic impact of doing nothing to restore coastal water quality will be significant, affecting every homeowner in the region.

Cape Cod Area Wide Water Quality Management Plan Update (208 Plan Update) (June 2015), at S-ii).

Nitrogen in Barnstable

The Town of Barnstable is in the "mid Cape" and contains eight watersheds, including the Popponesset Bay Watershed, Rushy Marsh Watershed, Three Bays System Watershed, Centerville River System Watershed, Halls Creek Watershed, Lewis Bay Watershed, Barnstable

Harbor Watershed and a very small portion of the Scorton Creek Watershed. Three of these watersheds are contained solely within the Town's borders. Of the eight watersheds, Popponeset Bay, Three Bays System, Centerville River System, Halls Creek, and Lewis Bay Watershed all have a Total Maximum Daily Load ("TMDL") for nitrogen. A TMDL restricts the maximum amount of a pollutant allowed to enter a waterbody such that the waterbody will meet and continue to meet state water quality standards for that pollutant.

For at least 20 years, the Town has known that the waters within its jurisdiction are polluted, yet it remains out of compliance with the nitrogen TMDLs and has been slow to take mitigation steps. The Town continues to discharge nitrogen-laden wastewater from the Hyannis Water Pollution Control Facility to the coastal and fresh waters of the Lewis Bay Watershed System, and it has made little effort to ensure updates are made to septic systems, the largest source of nitrogen pollution into Cape waters.

New Nitrogen-Reducing Regulations

MassDEP recently took steps to reduce the volume of nitrogen reaching Cape Cod's waters by promulgating new regulations that require upgrades to septic systems. The regulations were promulgated under 310 CMR 15.000, often referred to as Title 5, which obligates MassDEP to establish minimum standards for on-site sewage disposal systems to protect public health, safety, welfare and the environment. 310 CMR 15.001(1). Effective July 7, 2023, the regulations automatically designated watersheds on Cape Cod that have a nitrogen TMDL as Nitrogen Sensitive Areas. 310 CMR 15.214(1)(b). Homeowners in Nitrogen Sensitive Areas will be required to upgrade their existing septic systems with "Best Performing Nitrogen Reducing Technology," which includes nitrogen-reducing Innovative/Alternative ("I/A") septic systems, within five years of July 7, 2025. 310 CMR 15.215(2)(a). New construction must incorporate "Best Performing Nitrogen Reducing Technology" within six months of July 7, 2023. 310 CMR 15.215(2)(b).

An exemption to the upgrade requirement exists if a municipality files (1) a Notice of Intent to apply for a Watershed Permit, or (2) a Watershed Permit application, for the area during a two-year period starting July 7, 2023. 310 CMR 15.215(2)(a)–(c). For existing septic systems, the filing of either document prevents the five-year upgrade period from commencing at the end of the two-year filing period. And for new construction, the filing of either document within six months of July 7, 2023, avoids the upgrade requirement. Any Watershed Permit application must comply with the MassDEP requirements located at 314 CMR 21.03.

On September 1, 2023, the Town of Barnstable submitted a Watershed Permit application to MassDEP. CLF reviewed the Town's application and found that it contains significant deficiencies, discussed in detail below. Given that its application does not comply with the application requirements, the Town is not entitled to the exemption from the Title 5 upgrade requirement.

II. The Barnstable Watershed Permit Application is Incomplete and Fails to Respond to Application Requirements

The Town failed to provide complete materials for eight of the thirteen application requirements articulated in the regulation. *See* 314 CMR 21.03(2). The bulk of those errors stem from the same fundamental defect: the Town failed to prepare an application that was specifically tailored and responsive to the regulation’s requirements. Instead, the Town submitted only its Comprehensive Wastewater Management Plan (“CWMP”)—unaltered and without supplementation.¹ The Town’s cover letter was the only document in the application materials drafted specifically for the Watershed Permit application.

A CWMP may serve as a Watershed Management Plan—a required component of an application—only if the CWMP “includes or is supplemented with the information and documentation specified in 314 CMR 21.03(2), unless the Department determines otherwise.” 314 CMR 21.02(b)–(c). The Town’s CWMP does not include the information and documentation required in many of the provisions of 314 CMR 21.03(2) and the Town made no effort to improve, update, or supplement its CWMP to meet the application requirements. The Town entirely omitted or provided incomplete information for eight of the thirteen application requirements.²

The Town’s application is defective and must be rejected because it entirely omits information for three requirements that are essential to MassDEP’s ability to assess the application:

1. Applications must include “an implementation schedule, not to exceed 20 years, currently envisioned by the applicant(s), including a designated set of activities that will occur in each five-year period and a methodology for analyzing the results of those activities and making necessary adjustments for each subsequent five-year period of the permit to meet required load reductions.” 314 CMR 21.03(2)(b)(10). The Town fails to include a schedule meeting this standard. The only implementation schedule in the application

¹ The Town submitted: (1) the Town’s cover letter for the application; (2) the Town’s 2020 CWMP; (3) the Professional Engineer Certification of the CWMP; (4) the state Certificate on the Single Environmental Impact Report for the CWMP; (5) the state Certificate establishing a Special Review Procedure for the development and implementation of the CWMP; (5) the Cape Cod Commission’s determination that the CWMP is consistent with the 208 Plan Update (“208 Plan Consistency Determination”); and (6) the Town’s 2022 Annual Report on the CWMP. The other four files submitted are excerpts from the CWMP.

² In addition to the itemized application requirements, the regulations prohibit making “any false, inaccurate, incomplete, or misleading statement in any submission required by 314 CMR 21.00 or a Watershed Permit.” 314 CMR 21.09(2)(a). In its 2022 Annual Report on the CWMP, the Town reports numerous changes to implementation projects—some projects were added to Phase 1 of the CWMP, some projects were pushed back to Phases 2 and 3, and some projects changed in scope and financial cost. The Town failed to explain each of its changes. At best, this raises concerns about the reliability of the Town’s proposed timelines for reducing nitrogen pollution and coming into compliance with the TMDLs. And at worst, the Town’s statements about changes made could be viewed as incomplete and misleading, violating 314 CMR 21.09(2)(a).

materials is the 30-year CWMP implementation schedule, which ends 27 years after the Town filed its Watershed Permit application. The schedule not only exceeds the time limit specified in the regulations, it also only outlines activities for each 10-year period instead of for each five-year period as required by the regulations. Moreover, while the CWMP states that it will submit adaptive management plan updates every five years, it does not include a methodology for analyzing the results of implementation activities and making any adjustments necessary for meeting the required nitrogen load reductions. The myriad ways in which the CWMP implementation schedule does not satisfy this requirement underscores the Town's total reliance on materials it created for a previous planning process and the absence of any effort it made specific to its Watershed Permit application. Without a compliant schedule, MassDEP cannot reasonably grant the Town's permit application.

2. Applications that include a plan that will not attain Necessary Nitrogen Load Reductions—or the proportion of the total controllable attenuated nitrogen load that must be reduced to comply with the TMDLs—during the permit term must include documentation showing the financial costs and environmental impact of (1) “complete compliance with those goals” and (2) “a proposed alternative that makes reasonable progress toward achievement of the goals.” 314 CMR 21.03(2)(b)(13)(a)–(b). MassDEP will make a finding of “reasonable progress” only if it determines that (1) the proposed alternative “is reasonable considering the financial costs and environmental impacts” of both scenarios; (2) “the [a]pplicant cannot reasonably achieve the Necessary Nitrogen Load Reductions within the permit term; and (3) either “at least 75% of the Necessary Nitrogen Load Reductions will be achieved within 20 years,” or “an alternative schedule is appropriate based on watershed-specific issues” and includes, at a minimum, plans to achieve all Necessary Nitrogen Load Reductions. 314 CMR 21.04(1).

Because the Town would not attain 100 percent Necessary Nitrogen Load Reductions during a hypothetical 20-year permit term even if it complies with its CWMP schedule, its application must include documentation of the financial costs and environmental impact of a full compliance scenario and of its proposed alternative.³ The submitted application, however, does not include any documentation of the financial and environmental impacts of a complete compliance scenario. And although the application includes projected financial costs per year during the 30-year CWMP timeline, it does not specify any environmental impacts for a 20-year permit term. With no information about

³ If, despite this application's failures, MassDEP were to grant the Town a Watershed Permit, the permit term would end no later than August 31, 2043, which is 20 years after the application submission date. According to the Town's CWMP, in August 2043 the Town would be in the first half of Phase 3 of its 30-year implementation schedule. At that time, assuming it has met its nitrogen reduction targets in Phases 1 and 2, the Town would have attained around 81 percent of Necessary Nitrogen Load Reductions by CLF's calculations.

a complete compliance scenario and incomplete information about the Town's proposed alternative, MassDEP cannot make a "reasonable progress" determination under 314 CMR 21.04(1)(a)–(b). Without a complete compliance scenario or the information required to make a "reasonable progress" determination about a proposed alternative, MassDEP cannot reasonably grant the Town's permit application.

3. Applications must include "a description of the current and historic water quality conditions, including short-term (daily/seasonal) and long-term (annual) variability." 314 CMR 21.03(2)(b)(2). The Town's application is missing descriptions of both current and historic water quality conditions. Although the CWMP includes some water quality data, much of the data is outdated and there is no description of current water quality conditions that includes short-term and long-term variability.⁴ Without the required information on water quality conditions, MassDEP cannot reasonably grant the Town's permit application.

The Town's application must be rejected because for five more application requirements, the Town included only partial information scattered throughout its application materials, which further impedes MassDEP's ability to assess the application:

4. Applications must include "the types, locations, and timing of any ongoing and proposed TMDL, Alternative Restoration Plan, MEP Report, or Scientific Evaluation implementation activities within the watershed or sub-watershed proposed for coverage." 314 CMR 21.03(2)(b)(4). The application must contain a table that includes certain information such as updated nitrogen loads, projected nitrogen loads, and the portion of Necessary Nitrogen Load Reductions to be attained through each of the selected Conventional Control Technologies and Alternative Control Approaches or Technologies. 314 CMR 21.03(2)(b)(4)(a)-(g).

The Town's application materials fail to include the required table. Some of the information that should have been included in a table can be cobbled together from various parts of the application. But even after making such efforts, CLF found that the information provided is insufficient to satisfy the requirement. For example, the CWMP contains some nitrogen septic load data in tables scattered throughout the document, but the data is neither comprehensive nor up-to-date. The CWMP contains projected nitrogen loads, but for a 30-year permit term, not the 20-year term required by the regulations. *See* 314 CMR 21.03(2)(b)(4)(b). The CWMP and 2022 Annual Report identify the Conventional Control Technologies and Alternative Control Approaches or Technologies (the Town uses the terms "traditional technologies" and "non-traditional" technologies or solutions) planned for each watershed, but they fail to include (1) a breakdown of

⁴ To the extent any of this information may be available in the CWMP's appendices, the Town did not include the appendices (or excerpts of the appendices) in its application. Assuming that information is available in the excluded appendices, it would be out of date.

nitrogen reductions by each technology for the full 20-year term, and (2) implementation schedules for the Alternative Control Approaches/Technologies, as required by the regulations. *See* 314 CMR 21.03(2)(b)(4)(f)-(g). Given the incomplete information, MassDEP cannot reasonably grant the Town’s permit application.

5. Applications must include “a narrative describing the Core Sewer Area, if applicable, and the service areas prioritized for wastewater collection and treatment after accounting for implementation of the selected Alternative Control Approaches and Technologies.” 314 CMR 21.03(2)(b)(5). The Town’s CWMP documents do not describe the service areas prioritized for wastewater collection and treatment after accounting for implementation of Alternative Control Approaches and Technologies, possibly because the CWMP attempted to rely on traditional sewer expansion alone. Under the CWMP, the Town will install “non-traditional solutions” (e.g., dredging, alternative septic systems, aquaculture) during the first two phases and then monitor the results of those technologies. If it observes benefits, the Town will ask MassDEP for “relief from that amount of traditional nitrogen removal (sewers) contained in the later phases of the plan.” CWMP at 4-5 (page 137 of PDF); *see also* 5-65 (page 205 of PDF).

The CWMP’s approach is outdated: it relies solely on sewer expansion projects to achieve the required nitrogen reductions over a 30-year timeline instead of using I/A septic systems to achieve the same reductions over a 20-year (or shorter) timeline. MassDEP now recognizes the efficacy of I/A systems, evidenced by its updated Title 5 regulations requiring homeowners to upgrade their septic systems to I/A systems and its definition of “Conventional Control Approach or Technology,” which includes “enhanced nutrient removal alternative septic systems.” 314 CMR 21.02. The Town’s application fails to recognize these evolving views around the technology and, therefore, is unresponsive to the application requirements. Given the omissions in the Town’s planning, MassDEP cannot reasonably grant the Town’s permit application.

6. Applications that propose Alternative Control Approaches and Technologies must include “a contingency plan for a back-up Conventional Control Technology in the event that the Alternative Control Approaches and Technologies selected do not function as predicted.” 314 CMR 21.03(2)(b)(7). As discussed above, the Town’s plan reflects the inverse of this approach: sewer expansion is prioritized and installation of I/A septic systems do not comprise a significant portion of the plan for achieving nitrogen reductions. By categorizing I/A septic systems as a “non-traditional” technology and making it a non-essential part of its plan to achieve Necessary Nitrogen Load Reductions, the Town excludes the very technology that it is supposed to incorporate. The Town continues to put forward a drawn-out 30-year plan—which anticipates scaling back sewer expansion efforts if its “non-traditional” solutions are effective—when, instead, it should be leveraging I/A systems and other alternative approaches *in addition to* sewer expansions to pursue a more ambitious 20-year (or shorter) timeline for coming into

compliance with the law. Given that the Town's plan does not leverage the available tools to achieve timely compliance, MassDEP cannot reasonably grant the Town's permit application.

7. Applications must include “a watershed or sub-watershed scale monitoring plan that defines the goals of the monitoring plan, the selected water quality parameters, the method(s) of monitoring to be employed, the sampling frequency, locations, timing and duration, and a Quality Assurance Program Plan.” 314 CMR 21.03(2)(b)(11). Although the Town's application materials include a brief description of the monitoring plan associated with the CWMP—covering the plan's goals, water quality parameters, sampling frequency, and timing—they lack a detailed monitoring methodology, specific sampling locations, and a Quality Assurance Program Plan. Notably, the Town's application included an attachment titled “Quality Assurance and Consistency.” This document, however, merely contains an excerpt from the CWMP describing treatment and effluent disposal options and a statement of consistency with the 208 Plan Update. It does not meet the regulations' definition of a Quality Assurance Program Plan. *See* 314 CMR 21.02. Given the incomplete Quality Assurance Program Plan, MassDEP cannot reasonably grant the Town's permit application.
8. Applications must include “the information sources relied upon to develop the proposed Watershed Management Plan.” 314 CMR 21.03(2)(b)(12). The Town appears to have relied upon dozens of sources, included in the CWMP's List of Appendices. None of those sources, however, were included in the application materials submitted to MassDEP. *See* WP95 - Watershed Permit Application Form (listing attachments). While CLF located some of the sources in the List of Appendices, other sources—such as the Feasibility Analysis of Shared Wastewater Treatment and Effluent Discharge between Barnstable, MA and Yarmouth, MA—could not be found with reasonable efforts. The Town's failure to provide the sources it relied upon once again underscores its lack of effort specific to the Watershed Permit application process. Given that the application fails to cite its sources, MassDEP cannot reasonably grant the Town's permit application.

While MassDEP aimed to lessen the burden on municipalities by allowing the use of CWMPs and other existing documents in Watershed Permit applications, the regulations do not excuse applicants from providing MassDEP with the necessary information set forth in the requirements. Watershed Permit application requirements differ in some important ways from a CWMP. To the extent that CWMP documents do not squarely satisfy the application requirements, an applicant is responsible for making a good faith effort to supply other materials that are responsive. The Town has failed to make such an effort here.

Moreover, the regulations require that an application contains “sufficient information for [MassDEP] to evaluate whether the application meets the applicable review criteria.” 314 CMR

21.03(2). As discussed above, this includes determining the reasonableness of any proposed alternative plans for achieving required nitrogen reductions. The Town's application falls far short of providing sufficient information for MassDEP to make a reasonableness determination and to evaluate many of the other review criteria discussed above. MassDEP cannot grant a Watershed Permit to the Town without opening itself up to a potential challenge. Additionally, permit aside, the incomplete application does not entitle the Town to avoid the mandatory Title 5 upgrades.

III. Conclusion

On the basis of the current record, MassDEP should deny the Town of Barnstable's application for a Watershed Permit, and it should not allow the exemption to the mandatory Title 5 upgrades to take effect. The Town can, and should, submit a new, complete application for MassDEP's consideration. MassDEP can only reasonably grant the Town a permit after the Town presents the agency with all of the required information.

Sincerely,



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