



The Commonwealth of Massachusetts
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

Deval L. Patrick
GOVERNOR

Timothy P. Murray
LIEUTENANT GOVERNOR

Richard K. Sullivan Jr.
SECRETARY

Tel: (617) 626-1000
Fax: (617) 626-1181
<http://www.mass.gov/envir>

August 26, 2011

CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS
ON THE
SINGLE ENVIRONMENTAL IMPACT REPORT

PROJECT NAME : Yarmouth Comprehensive Wastewater Management Plan
PROJECT MUNICIPALITY : Yarmouth
PROJECT WATERSHED : Cape Cod
EEA NUMBER : 14659
PROJECT PROPONENT : Town of Yarmouth
DATE NOTICED IN MONITOR : July 20, 2011

As Secretary of Energy and Environmental Affairs, I hereby determine that the Single Environmental Impact Report (SEIR) submitted on this project **adequately and properly complies** with the Massachusetts Environmental Policy Act (MEPA) (M.G.L. c. 30, ss. 61-62I) and with its implementing regulations (301 CMR 11.00).

The comments I have received on the SEIR from the Massachusetts Department of Environmental Protection (MassDEP) and the Cape Cod Commission (CCC) indicate that, since the Secretary's issuance of the Certificate on the Expanded Environmental Notification Form (EENF), the Town of Yarmouth (the Town) has worked closely with MassDEP and CCC to provide information necessary to address the comments raised on the EENF. I commend the Town on its continued coordination and outreach efforts in this regard. As a consequence of these efforts, MassDEP, CCC, and others have indicated their strong support for the Town's Comprehensive Wastewater Management Plan (CWMP). However, I have also received a comment letter on the SEIR from the Association to Preserve Cape Cod (APCC) that expresses continuing concerns regarding the Town's proposed centralized sewer system approach.

I have fully considered all of the comments received on the EENF and the SEIR and, on balance, I am convinced that the Town has satisfactorily evaluated the project's potential environmental impacts and committed to appropriate mitigation measures. While I acknowledge the concerns of the APCC, I am confident that these can be adequately addressed during the state and local permitting process and through the implementation of the Town's Adaptive

Management Plan. Towards that end, I am directing the Town to continue the same high level of coordination and cooperation with state, regional and local officials that it has shown throughout the MEPA review process for this project as it proceeds to permitting.

After careful review of the SEIR and comment letters, and after consultation with MassDEP, CCC and others, I believe that the SEIR has addressed the substantive issues outlined in the Scope and represents a concerted and effective effort to avoid, minimize and mitigate environmental impacts in accordance with MEPA. The project may proceed to state permitting where I expect that MassDEP will continue to scrutinize the project and address outstanding issues during state permitting to ensure that the project's impacts are appropriately minimized and mitigated.

Project Overview

Beginning in 2003, the Town worked with its Integrated Water Resources Planning (IWRP) Committee to develop a program to address community wastewater management needs, protect drinking water sources, and restore valuable estuaries. The Town has prepared the SEIR/CWMP as the final phase in the planning process. The Town is proposing to revise the traditional approach of Title 5 on-site septic systems and a septage-only treatment plant for the following reasons:

- 1) To address the recently identified need to reduce the amount of nitrogen discharging to groundwater from Title 5 systems as a result of the population growth and the increased number of septic systems;
- 2) To provide adequate treatment and disposal of wastewater for new development and revitalize existing commercial facilities along the Route 28 corridor;
- 3) To protect the community's drinking water sources from future impacts due to elevated nitrogen levels in the groundwater; and
- 4) To meet the Massachusetts Estuaries Program (MEP) goals since MassDEP will issue a watershed permit to area communities with a Total Maximum Daily Load (TMDL) requirement for nitrogen removal based on the results of the MEP studies.

The Yarmouth CWMP proposes the five-phased construction of a new centralized municipal sewer system, associated collection and conveyance systems, and implementation of non-structural elements to achieve significant reductions of nitrogen loading and meet TMDL limits for the coastal embayments surrounding the Town of Yarmouth over a period of 25 to 30 years.

The Town of Yarmouth's CWMP includes:

- Yarmouth Wastewater Treatment Facility (WWTF)

Construction of a new centralized wastewater treatment and disposal facility, at the existing Yarmouth-Dennis Septage Treatment Facility located at the 155-acre Buck Island Road site in West Yarmouth, capable of achieving effluent concentration limits

of 3-5 milligrams per liter (mg/L) for total nitrogen (TN) with an initial designed capacity to treat and dispose up to 0.65 million gallons per day (MGD) of wastewater flows for Phases 1 and 2 and a build-out flow of 2.75 MGD.

- Proposed Sewer Implementation and Phasing

Construction of seven pumping stations, seven vacuum stations and approximately 125 miles of new municipal sewer pipes to convey approximately 2.75 MGD of wastewater flows collected from 9,580 individual properties (approximately 67 percent of Yarmouth parcels) located in the Lewis Bay, Parkers Rivers and Bass River watersheds for treatment and on-site disposal at the Yarmouth WWTF.

Phase 1 of the Recommended Program will include construction of: the new WWTF (to operate at a lower design capacity); the main gravity sewer along Route 28, from the Barnstable town line to the Parkers River Bridge; the main pumping station (P3) near the Parkers River; and new effluent recharge basins at Yarmouth's existing Buck Island Road effluent recharge site (R1) using open infiltration basins. Phase 1 will provide the main conveyance system for future collection areas, the WWTF and the recharge basins.

The CWMP includes 27 sub-areas slated for sewerage in five construction phases which are each scheduled to take place in five-year increments. The Yarmouth-Dennis Septage Facility is ultimately proposed to be decommissioned once the new WWTF is online.

- Parkers River Bridge

Widening of the bridge opening at Parkers River to accommodate increased tidal flushing in order to meet the MEP goals for the Parkers River system.

- Non-Structural Program Elements

Implementing non-structural program elements designed to reduce nutrient loading including: growth management regulations; public outreach and education programs for controlling the use of fertilizer products on lawns, gardens and agricultural areas; low impact landscaping; stormwater management controls; enhancement of embayment flushing rates; and water conservation measures.

- Adaptive Management Plan (AMP)

Employing an AMP which enables the Town to revisit the Recommended Program and modify the phasing, the timing, or the exact areas to be sewerage based on the results of the earlier implementation phases to comply with the anticipated nitrogen TMDLs. The strategy also allows for the inclusion of additional features or innovative alternatives that will improve nitrogen removal levels. The Town intends to continue to reassess each phase prior to design and construction.

Although the Town plans to construct Phases 1 and 2 without a regional solution, regional opportunities may be explored through the AMP. The Town anticipates that both Barnstable and Dennis will be further along in their planning processes and will be in a better position to examine the viability of a regional solution with Yarmouth in later phases of the wastewater program.

The Town indicates that any significant changes to the Recommended Plan will be addressed in a Notice of Project Change (NPC) as a supplement to the CWMP.

MEPA Jurisdiction and Permitting

The project is undergoing review and requires the preparation of a Mandatory EIR pursuant to Sections 11.03(5)(a)(1) and 11.03(5)(a)(3) of the MEPA regulations because it requires State Agency Action and it will involve the construction of a new wastewater treatment facility with a capacity of 2,500,000 or more gallons per day (GPD) and the construction of one or more new sewer mains of ten or miles in length. The project is also undergoing MEPA review pursuant to Sections 11.03(1)(b)(3) and 11.03(3)(b)(1)(f) because it may result in the conversion of land held for natural resources purposes in accordance with Article 97 of the Amendments to the Constitution of the Commonwealth to any purpose not in accordance with Article 97, and it involves the alteration of one-half or more acres of other wetlands (Riverfront Area, Bordering Land Subject to Flooding and Land Subject to Coastal Storm Flowage).

The project requires: an Order of Conditions from the Yarmouth Conservation Commission (and on appeal only, a Superseding Order of Conditions from the Massachusetts Department of Environmental Protection (MassDEP)); a Sewer Connection/Extension Permit and a Groundwater Discharge Permit from MassDEP; a State Highway Access Permit from the Massachusetts Department of Transportation (MassDOT); review under the Massachusetts Endangered Species Act (MESA) by the Natural Heritage Endangered Species Program (NHESP); review by the Massachusetts Historical Commission; and a National Pollutant Discharge Elimination System (NPDES) Construction General Permit from the U.S. Environmental Protection Agency. The project may require Federal Consistency Review with the Massachusetts Coastal Zone Management Office and a Section 404 Permit from the U.S. Army Corps of Engineers. The project is subject to the EEA/MEPA Greenhouse Gas Emissions Policy and Protocol. The project is undergoing concurrent review as part of the CCC Development of Regional Impact (DRI) process.

The Town anticipates applying for Commonwealth financial assistance in the form of State Revolving Fund (SRF) loans for subsequent planning and construction of each phase of the proposed project. Therefore, MEPA jurisdiction is broad and extends to all aspects of the project that may cause Damage to the Environment, as defined in the MEPA regulations.

REVIEW OF THE SEIR/CWMP

Project Description

The SEIR includes a detailed discussion of the findings of the MEP Technical Reports for the Lewis Bay and Parkers River embayments which were used by the Town in the design of the Yarmouth CWMP. A nitrogen TMDL has been established for the Lewis Bay watershed only. Because the Bass River MEP report was released after the EENF in draft form, the Town has not completed its evaluation of this report. The Town anticipates submitting a NPC once the analysis is completed to report any changes to the Recommended Program identifying additional collection and treatment areas in the Bass River watershed.

The SEIR provides additional information for the Buck Island disposal site (R1) and identifies alternate locations. The SEIR provides a detailed description of the Town's proposed Adaptive Management Plan and its water quality monitoring program for the WWTF site and the coastal embayments surrounding the Town of Yarmouth. The SEIR identifies significant environmental benefits and impacts, and measures that will be taken to avoid, minimize and mitigate the recommended sewer project's unavoidable impacts to environmental resource areas. The SEIR includes a proposed schedule for completing the final design and environmental permitting for the Yarmouth CWMP and each phase of its sewer construction program. The SEIR includes information and maps identifying the areas in Yarmouth where construction of new sewers are proposed and the locations where sewer lines, pumping stations, and other facilities will be located.

Wastewater and Water Quality*Recommended Program*

The Town's Recommended Program involves the phased construction of new sewers to eliminate septic systems in areas of Yarmouth having the greatest need for nitrogen control and located upgradient of nitrogen sensitive watersheds and major freshwater ponds. As described in the SEIR, the sewer service area was designed and informed by the MEP models for Lewis Bay, Parkers River and Bass River, and the anticipated associated TMDLs, to select the appropriate level of technology that each water body can sustain without over-engineering a workable solution and to arrive at a recommended program with the highest cost-benefit ratio.

The Recommended Program includes the construction of a new centralized wastewater treatment facility (Yarmouth WWTF) to be located at the existing Yarmouth-Dennis Septage Treatment facility. The new Yarmouth WWTF was designed to accommodate the fact that the facility would start out with much lower flows than the final design flow upon build-out of the Recommended Program. The WWTF is designed with an initial capacity to treat and dispose up to 0.65 MGD and will initially employ a Sequencing Batch Reactor (SBR) process, with the intent to convert the plant to an SBR/Membrane Bioreactor (MBR) hybrid in the future when the plant is expanded to meet stringent treatment limit of 3 mg/L. The SEIR indicates that the anticipated permit limit for total nitrogen during Phases 1 and 2 will be 7 mg/L. As indicated in

its comments, MassDEP will monitor the performance of the treatment facility during Phase 1 operation and if a 5 mg/L effluent limit is reliably maintained, then Phase 2 will be able to proceed as planned. However, if the facility operates at the 7 mg/L range, then some adjustments to the Phase 2 area (most likely delaying some connections in the Lewis Bay watershed) may be necessary.

Construction of Phase 1 of the Recommended Program will include the construction of the new Yarmouth WWTF (to operate at a lower design capacity) and provide the main conveyance system to connect future collection areas. Phase 2 of the Recommended Program will serve a large number of users in high density areas to assist in minimizing the cost of operating a new facility and to remove nitrogen from the Lewis Bay and Parkers River estuaries since the effluent from the new WWTF will be recharged into the Parkers River watershed. Phase 3 will serve commercial areas along Route 28 and Nantucket Sound, and to complete serving the Lewis Bay watershed for nitrogen removal in that estuary. The SEIR indicates that this phasing allows time to discuss further potential regional solutions for that area with the Town of Barnstable which shares the Lewis Bay watershed.

The total Recommended Program would result in the collection and conveyance of a total of 2.75 MGD of wastewater from 9,580 individual properties for treatment at the Yarmouth WWTF. As mentioned elsewhere in this Certificate, additional wastewater disposal sites and/or treated effluent reuse options may be required to accommodate the disposal of the Recommended Program wastewater flows.

Effluent Recharge

The effluent recharge for Phase 1 will utilize open infiltration basins at R1. In later project phases, recharge of all of the effluent flows from the Parkers River and Lewis Bay watersheds will continue to use R1, although it will require widening of the bridge opening at Parkers River to accommodate increased tidal flushing. Alternate locations will likely be required to manage effluent from sewage flows coming from the Bass River and Nantucket Sound watersheds.

According to comments from MassDEP and CCC, the Town should actively continue to explore alternative disposal sites. The hydrogeologic investigation conducted at the Buck Island disposal site (R1) determined that the site can support an annual average discharge of 1.2 MGD and maintain a four-foot separation, which MassDEP normally requires, between the bottom of the infiltration basins and maximum groundwater levels. However, the proposed maximum annual average of 1.9 MGD (combined flow from the Lewis Bay and Parkers River watersheds) will result in the groundwater mound reaching within a foot of the bottom of the infiltration basins. MassDEP indicates that any proposal to reduce the typical four-foot separation will require careful evaluation. In addition, according to MassDEP, the MEP model indicates that nitrogen loads at 1.9 MGD will exceed the threshold in Lewis Pond potentially requiring the discharge of wastewater at alternative sites outside the Parkers River watershed. MassDEP indicates that the investigation of alternative sites can proceed concurrently with the initial phases of the project.

The Town is considering piloting an infiltration recharge system as an innovative approach that utilizes a permeable reactive barrier capable of removing nitrogen from wastewater. I note MassDEP's support of this initiative which will provide important data in evaluating the effectiveness of this type of approach for future planning.

Parkers River Bridge Widening

The SEIR indicates that flushing improvements realized by the proposed modifications to the culvert at the Parkers River Bridge on Route 28 are crucial to meeting the nitrogen loading limits. The SEIR suggests that this will have to be completed prior to Phase 3. According to comments from MassDEP, the CWMP should identify a schedule and program to move this project forward as it will require coordination with a variety of state agencies. As this is such an essential part of the Recommended Program, planning must start as soon as possible. MassDEP indicates that it is prepared to provide technical assistance and facilitate coordination and communication among state agencies as appropriate. MassDEP anticipates that this initiative will provide important data in evaluating the effectiveness of this approach for future planning.

Septage Handling Facility

The Yarmouth-Dennis Septage Facility is ultimately proposed to be decommissioned. The Yarmouth WWTF will include facilities for a new septage receiving and handling station to replace the existing Yarmouth-Dennis Septage Treatment Facility and will be designed to receive, treat and dispose of truck-transported septage from non-sewered areas in Yarmouth and Dennis.

Sludge Handling Facility

The Yarmouth WWTF will also include new facilities for preparing remaining sludge materials resulting from the wastewater treatment and septage handling processes for off-site trucking for suitable reuse and disposal.

Marine Water Quality

The SEIR focuses on the Lewis Bay and the Parkers River MEP reports in the design of the final Yarmouth CWMP since they have been fully evaluated. However, the Bass River MEP report indicates that the watershed is impaired and requires nitrogen requirement. The CWMP identifies areas in the Bass River watershed that are included in the Recommended Program. MassDEP indicates that the Town should begin a preliminary determination on the priority areas in the Bass River watershed and either incorporate them in the proposed phases or define new ones. Upon further evaluation of the Bass River MEP report, the Town will submit a NPC identifying any project changes. CCC notes that the draft MEP report indicates that 97 to 100 percent, and 67 percent of nitrogen in the upper and mid Bass River watersheds, respectively, may require removal. I note CCC's comments that, according to the draft MEP report, if nitrogen is abated in the upper and mid Bass River watershed this may address water quality in the lower Bass River watershed without the need for collection of wastewater in the lower Bass River watershed. The AMP, as described herein, has the flexibility to accommodate the relocation of

proposed sewerage if it is warranted for later phases.

The SEIR indicates that the MEP goals for the Parkers River watershed are attainable, assuming the widening of the Route 28 bridge culvert and the receipt of a waiver to allow the annual effluent discharge of 1.93 MGD at R1. Once the hydrologic recharge capacity of the R1 site is reached, a portion of the flow will be discharged to the other recharge sites (R2, at the Bass River Golf Course, and R6, located at the Elementary School, both within the South Bass River watershed).

According to the SEIR, the ability to meet MEP goals for the Lewis Bay watershed are dependent on the results of continued modeling of Scenario D using updated flow values and boundaries of the proposed sewer areas. Scenario D assumes collection of future build-out wastewater flow within the Lewis Bay watershed in the area of Yarmouth proposed for sewerage and discharge of the treated effluent outside the Lewis Bay watershed. While the Recommended Program appears to have the ability to meet MEP goals under current wastewater conditions, build-out conditions may result in additional nitrogen loading which would exceed the threshold value at the Lewis Bay sentinel site. However, once additional areas of proposed sewers from Barnstable are included, the MEP goals are expected to be met. If further modeling of the proposed sewer areas in both towns does not indicate MEP goals will be met, the Town indicates that modifications to the proposed sewer areas in both towns will be explored and that any changes will be presented in an NPC.

MassDEP's comments indicate that, at full build-out, including the proposed culvert improvements at the Parkers River Bridge, the CWMP will not meet the secondary threshold in Lewis Pond at a 1.9 MGD discharge. The SEIR suggests that through adaptive management the system can be recalibrated once the culverts have been installed and real data (rather than a modeled simulation) can determine if further reductions are necessary. MassDEP indicates that the Town must establish the flow and load limit under the existing model which meets the Lewis Pond threshold. This modeling can be developed during the permitting process for the GDP. Depending on the results, future alteration of the proposed sewerage areas may be necessary. The Town should continue to evaluate identified effluent recharge sites to determine their suitability.

Freshwater Ponds

The SEIR provides an analysis of freshwater pond data collected through the Cape Cod Ponds and Lakes Stewardship (PALS) program. Of the five ponds examined, two were identified as eutrophic or meso-eutrophic (Tom Matthews Pond and Long Pond), two were moving toward mesotrophy (Dennis Pond and Greenough Pond), and one was oligotrophic with stable water quality (Flax Pond). According to the SEIR, the Tom Matthews Pond watershed has little development; therefore it requires further assessment to determine the appropriate measures to improve water quality, and sewerage has not been identified as a requirement in this area. However, Long Pond is surrounded by development and sewerage is recommended and proposed to improve the water quality of this pond by reducing wastewater phosphorus inputs. Dennis Pond and Greenough Pond require further analysis to determine the sources of phosphorus, through additional sampling and development of a phosphorus loading budget.

Adaptive Management Plan (AMP)

The Yarmouth CWMP contains an AMP that identifies a systematic process for determining the effectiveness of the early phases of Recommended Program construction and the need for any revisions to the Yarmouth CWMP before initiating later construction phases. As an example, the WWTF and pumping stations have been designed to have modular additions. As new phases come online, these modular additions will allow for adaptive management in the event the total sewer service area changes or if new technologies are developed that provide better or most cost-effective treatment than those presently proposed. The Town plans to revisit the Recommended Program throughout its implementation to re-evaluate each phase prior to design and construction. The AMP includes:

1. Technical Review Committee – including, but not limited to representatives from the Town, MassDEP and CCC;
2. Water Quality Monitoring – of sentinel and check stations, in addition to freshwater ponds;
3. Habitat Monitoring – continued eel grass mapping;
4. Wastewater Treatment Plant/Groundwater Discharge Reporting – develop regular compliance reports as a requirement of its MassDEP GDP;
5. CWMP Implementation and Funding Status – update regarding the implementation of the Recommended Program and the status of the project's funding;
6. Community Growth Status – describe growth both in the community at large and within the sewered areas to determine if additional growth control is necessary; and
7. CWMP Recommended Program Modifications – assist Town in evaluating compliance with TMDLs and identify the need for adjustments or mid-course corrections to subsequent phases of the structural and non-structural components of the Recommended Program.

I concur with MassDEP that the Recommended Program provides the appropriate framework for immediate steps in Phases 1 and 2 while still maintaining flexibility and the opportunity for further study and options evaluation in future phases in order to incorporate new information as it develops. This adaptive management approach is entirely warranted given the complexity and expense of this ambitious plan.

Wetlands and Waterways

Most of Yarmouth's proposed Recommended Program sewer main installation, with the exception of 2,900 linear feet, is located within existing roadway right-of-ways. According to the SEIR, the Yarmouth Conservation Commission issued an Order of Resource Area Delineation to indicate agreement with wetland delineations in the area of Phase 1 activities. The Town will conduct wetland delineations for each phase of the project. The WWTF will be constructed outside wetland resource area. The Town has indicated that Pumping Station 2 may be located in one of three places, one of which is located in the 200-foot Riverfront Area and Land Subject to Coastal Storm Flowage (LSCSF). Pumping Stations 3 and 4 are in LSCSF, and one of the two

proposed sites for Vacuum Station 3 is in LSCSF. All other pumping and vacuum stations will be constructed outside wetland resource areas. Anticipated environmental impacts include 289,000 square feet (sf) of Riverfront Area, 27,000 sf of Bordering Land Subject to Flooding, and 1,548,000 sf of LSCSF. The SEIR indicates that roads will be restored to pre-construction grades and paved after sewer construction.

Prior to construction of projects within the resource areas, the Town will apply for wetlands permits. As indicated in comments from CCC, any proposed work must meet the minimum standards of the Barnstable County Regional Policy Plan. According to the SEIR, the Recommended Program construction activities are not anticipated to require a Section 404 Permit from the U.S. Army Corps of Engineers. The project may be revised as it advances to final design and permitting. I anticipate that the Town will continue to examine alternatives that avoid impacts to wetland resource areas, their associated buffer zones, riverfront protection areas, and 100-year flood plain areas during permit review.

Rare Species

As described in the SEIR, a portion of the phased sewer main installations is located near or within *Priority* and *Estimated Habitat* of rare or endangered species. According to NHESP's previous comments on the EENF, it appears that the proposed work is exempt from MESA review (321 CMR 10.14). However, if proposed activities do not meet the MESA exemptions, a checklist for these activities must be filed with NHESP. The Town indicates that during the design of each phase of the project, detailed construction plans will be provided to NHESP to confirm the exemption status or determine the need for further information.

The Town should continue to work closely with NHESP and consult with the Yarmouth Conservation Commission during each phase of the project to identify necessary project construction and post-construction conditions and commitments to avoid an adverse impact to resource area habitats of state-listed species located within and adjacent to the project areas.

Fisheries Resources

According to the Division of Marine Fisheries' (DMF) comments on the EENF, diadromous fish species use all or part of Lewis Bay, Parkers River, and Bass River for passage, spawning, nursery, and forage habitat. Mill Creek, located in Lewis Bay, and Parkers River are migratory routes for alewives (*Alosa pseudoharengus*), American eel (*Anguilla rostrata*), and/or white perch (*Morone americana*), and Bass River supports all three species. In accordance with *Marine Fisheries* recommendations, the Town has committed to including a requirement in the construction specifications that no in-river work may be conducted from March 15 through June 30 to protect diadromous fish passage, migration and spawning habitat. This provision is also included in draft Section 61 Findings. In addition, any work in waterways will require an Order of Conditions and review by DMF concurrently with the Yarmouth Conservation Commission's review of the Notice of Intent. I encourage the Town to work with DMF to ensure that these species are protected and habitat impacts from the project are avoided or minimized.

Historical/Archeological Resources

According to the Massachusetts Cultural Resource Information System (MACRIS), the project area is located proximate to approximately 350 state-listed historical and archaeological sites. The Town does not anticipate impacts to these registered sites because proposed work proximate to these sites will occur within Town-owned rights-of-way only. In accordance with MHC recommendations, the Town will submit detailed project plans for each construction phase to MHC and will also consult the Inventory of Historic and Archaeological Assets of the Commonwealth during each phase. I ask that the Town continue to coordinate with MHC during final project design and prior to each successive sewer construction phase to identify opportunities to avoid, minimize and mitigate project construction impacts to historic and archeological resources in the project area.

Greenhouse Gas Emissions (GHG)

The Certificate on the EENF allowed the Town to forgo the GHG quantification analysis that is typically required under the MEPA Greenhouse Gas Policy and Protocol (GHG Policy) and requested a modified approach, in light of the significant commitment to GHG mitigation measures described in the EENF, and as a project that may ultimately be powered primarily through renewable energy (either wind turbine or rooftop solar photo voltaic (PV) system).

According to the SEIR, the Town is committed to constructing a wind turbine or solar PV panels at the Buck Island Road site during the implementation phase of the CWMP Recommended Program that will provide approximately 30 percent of the WWTF's power at full build-out. I commend the Town for proposing significant investments in renewable energy and other GHG emission reduction measures consistent with its emphasis on designing a WWTF with the goal of minimizing GHG emissions wherever feasible, cost-effective opportunities exist. If the renewable energy project appears infeasible, or if the 30 percent renewable energy goal cannot be reached, alternative GHG reduction measures will be required. The Town should account for this project change through an NPC which should address alternative mitigation measures to ensure compliance with the GHG Policy.

The SEIR includes a description of the wind turbine system, the power generation anticipated seasonally, and to what extent power generated at the site would be used on or off-site. The wind turbine described in the EENF can generate approximately 1,100,000 kiloWatt hour (kWh)/year (30 percent of build-out). By the time Phase 2 properties are connected and being treated at the WWTF, 100 percent of the renewable energy would be used at the WWTF. As requested by MassDEP, the SEIR provides a schedule that aligns the renewable power generation and consumption by the project through its multiple phases and its projection of the energy consumption profile of the associated pumping stations over this period. The SEIR indicates that actual implementation of the wind turbine or solar array would lag behind the construction of Phase 1 components. While implementation of wind turbine or solar array may lag behind the construction of Phase 1, the Town must implement this mitigation measure (or equivalent as identified in the NPC) within a reasonable time period of the commencement of Phase 1 construction (and ideally not later than commencement of full operation of the Phase 1 system), and before Phase 2 construction. The SEIR outlines the permitting requirements and

studies required for construction of the wind turbine. As requested by MassDEP, the Town should provide MassDEP with the feasibility studies for both the wind turbine and the PV option for its review prior to commencing construction of Phase 1.

As requested by MassDEP, the Town will provide, in conjunction with the submittal of the project manual for the facility permit documentation 1) those measures from the GHG mitigation measure table presented in Section 11.11.3 of the SEIR that were incorporated into the final design, 2) which measures were substituted, and 3) an explanation and justification of any measures that were indicated herein as included but were later determined to be technically or financially infeasible to implement. The Town should strive to substitute measures that achieve similar energy efficiencies to those deemed infeasible during the final design process.

The Town should commit to continue to work closely with MassDEP and the Department of Energy Resources (DOER) during final WWTF design and permitting to identify and incorporate appropriate energy efficiency measures into the buildings, treatment processes and operations for the Yarmouth WWTF. I note the comments received from DOER regarding the Energy Use Intensity required to attain a rank of 50 for the proposed WWTF using the Energy Star Portfolio Manager (ESPM) for WWTFs. I encourage the Town to consider the use of ESPM as a metric to assist in the ongoing design of the WWTF. MassDEP has indicated that it will work with the Town to incorporate these GHG reduction measures through its project financing and permitting authority. Upon completion of the construction of the Yarmouth WWTF, the Town should provide a certification to the MEPA Office signed by an appropriate professional (e.g., engineer, architect, general contractor) indicating that the all of the GHG mitigation measures committed to by the Town as described in the SEIR, or as modified as part of the MassDEP permitting process, have been incorporated into the Yarmouth WWTF project. This certification should be supported by as-built plans. For those measures that are operational in nature (i.e. TDM, recycling) the Town should provide an updated plan identifying the measures, the schedule for implementation and how progress towards achieving the measures will be obtained. The proposed draft Section 61 Findings in the SEIR includes this self-certification requirement. MassDEP should incorporate this self-certification requirement into its Section 61 finding for this project.

Sewering and Growth Management

In the EENF, the Town previously relied on the Lewis Bay watershed MEP build-out analysis to provide the town-wide build-out estimate instead of site-specific analyses throughout the sewer service area. To address the requirement of an independent assessment of town-wide growth impacts, the SEIR indicates that it has received grant funding from CCC to perform a detailed and comprehensive build-out analysis due for completion in fall 2011. The results of the build-out analysis will be submitted to MassDEP as an amendment to the CWMP. The Town indicates that while the SEIR build-out analysis and associated wastewater flows approximate the general level of growth anticipated within the areas of desired economic development, more detailed information regarding the potential new growth in the Route 28 Growth Incentive Zone will be developed as part of the new build-out analysis. This analysis will likely include: an evaluation of the assumptions included in the MEP analysis; identification of possible land use controls; town-wide parcel level identification; and data analysis.

The Town plans to adopt land use controls to limit unwanted secondary growth related to the construction of new sewers by requiring a property to meet all Title V requirements before it can be further developed, regardless of whether it is served by municipal sewer or an on-site septic system. The Town desires the sewerage of existing residential areas to be growth neutral and will implement residential growth controls with the ultimate goal of achieving a growth neutral scenario in line with the full build-out of the Recommended Program. The Town will adopt and implement any proposed growth by-laws and regulations prior to the bonding of any SRF funding.

Costs to Homeowners

As described in the SEIR/CWMP, the Recommended Program will be constructed in five phases over 25-30 years and will have an estimated construction cost of approximately \$275 million. The estimated operation and maintenance (O&M) costs for the Recommended Program total approximately \$1.1 million and \$3.6 million, in Year 1 and at build-out, respectively. Phase 1 will have an estimated construction cost of \$55 million. The SEIR provides a discussion of four scenarios which were evaluated to determine the cost impacts of the Recommended Program. While the Town is continuing to evaluate various cost recovery models, the Board of Selectmen have voted for the option which will recover 75 percent of the project's municipal debt service through the general tax fund and 25 percent through fees paid by users of the sewer system. The SEIR provides Fiscal Year 2021 impacts (25 percent user fees) to properties valued at \$300,000 using 70,000 GPD of water for households connected to the Recommended Program sewer system (\$949.00) and those households not connected to the Recommended Program sewer system (\$449.00). A final recommended cost allocation strategy will be presented to voters in September 2011.

Regional Program

Yarmouth shares the Lewis Bay watershed and the Bass River watershed with the Towns of Barnstable and Dennis, respectively, and therefore, the SEIR describes potential regional solutions. The phasing plan for the Town's wastewater system allows Yarmouth to construct the core of its system (Phase 1) before finalizing the details of a possible regional solution with the Towns of Barnstable and/or Dennis. Phases 1 and 2 will focus primarily on the Parkers River watershed which is completely within Yarmouth. As previously indicated, the Town plans to move forward with Phases 1 and 2 without a regional solution from either town because it anticipates that, in later phases of the wastewater program, both Barnstable and Dennis will be farther along in their planning process and able to examine the viability of regional solutions with Yarmouth. The Town indicates that it will address the regional solutions with Dennis in a future NPC, following evaluation of the Bass River MEP report, when the recommended plan for the Bass River watershed in Yarmouth is presented. If future discussions with Barnstable result in an opportunity for a regional solution, this will also be described in the NPC.

According to the SEIR, the possible regionalization of wastewater treatment between Yarmouth and Barnstable involves the conveyance of a portion of Yarmouth's wastewater flows from the Lewis Bay watershed to the Hyannis Water Pollution Control Facility (WPCF) for

treatment and disposal. The Town indicates that sending all of its proposed sewer flows (2.744 MGD) to Barnstable is not feasible, as the WPCF does not have adequate capacity to handle these flows, in addition to flows from Barnstable's planned sewer expansion. In addition, Barnstable requires that treated flows must be pumped back to Yarmouth for disposal. Three scenarios were analyzed in terms of cost to send Yarmouth flow to the Hyannis WPCF and back for recharge. The cost comparison indicated that the additional costs ranged from \$13.2 million to \$14.4 million. I note CCC's recommendation to identify potential Phase 1 pump station retrofits for future conveyance of Yarmouth's Lewis Bay flows to Barnstable, collection of flows in Hyannis Park for treatment in Barnstable, and a feasibility assessment for potential use of Cape Cod Hospital Bogs (R8).

According to the SEIR, the possible regionalization of wastewater treatment between Yarmouth and Dennis is dependent on the results of the Bass River MEP study. Although the South Bass River watershed is proposed for sewerage in the Recommended Program, the North Bass River watershed is not. If the MEP results indicate that the North Bass River watershed requires sewerage to meet nutrient limits for receiving waters, the Town plans on seeking a solution for this area through the use of either a decentralized approach or a regional solution in conjunction with the Town of Dennis.

Comments received from APCC have requested that the Yarmouth CWMP be required to demonstrate how it will coordinate wastewater management planning between or among municipalities with whom it shares watersheds and/or water bodies to ensure that TMDLs are met in the short and long terms. While I share the concerns of APCC, I find that the AMP has sufficient flexibility to accommodate the incorporation of a regional option once later phases are evaluated.

I ask the towns to work closely together with MassDEP, CCC, and APCC, at the earliest opportunity, to consider possible opportunities to solve these shared environmental problems through a watershed-wide planning effort and integrate Yarmouth's wastewater treatment planning efforts with the water and wastewater management planning efforts being undertaken by the Barnstable and Dennis.

Construction Period Impacts

The construction period will be the major source of impacts from the project, including impacts from earth moving, impacts to vegetation, potential impacts from erosion and sedimentation, traffic impacts on adjacent roadways, and impacts to adjacent land uses. The SEIR includes a detailed draft Construction Management Plan (CMP) that describes anticipated construction activities, scheduling and sequencing, and Best Management Practices (BMPs) that will avoid and minimize both temporary and permanent construction period impacts. The CMP includes a discussion of impacts relating to: noise and dust; trees and other vegetation; traffic; water quality and wetlands (including the development of a NPDES Stormwater Pollution Prevention Plan (SWPPP); materials management, construction debris, solid waste, and recycling; and management of hazardous materials.

Project construction contracts will require the contractor(s) to comply with the

Massachusetts Diesel Retrofit Program (MDRP) by having all off-road diesel vehicles and equipment used during construction equipped, or retrofitted, with after-engine emission control that are EPA certified or its equivalent. Additionally, the contractor(s) will be required to use Ultra Low Sulfur Diesel (ULSD) fuel in all off-road construction equipment, and the anti-idling law will be enforced at construction sites. The Town should consult with MassDEP to discuss additional construction period diesel mitigation measures. I strongly encourage the Town to commit to using lower emission equipment in addition to requiring its contractors to retrofit diesel-powered equipment with emissions controls, such as particulate filters or traps. All construction-related refueling and equipment maintenance activities should be conducted under cover on impervious surface areas with containment, and outside of wetlands resource areas, endangered species habitat areas, residential areas and wellhead protection areas.

The Town identified known hazardous waste sites governed by the Massachusetts Oil and Hazardous Material Release Prevention and Response Act (M.G.L. c. 21E). The CMP includes a discussion of the management of hazardous materials which details the mitigation measures that will be employed to address potential impacts associated with subsurface contamination throughout the project area. All work will be conducted in compliance with applicable Massachusetts Contingency Plan (MCP, 310 CMR 40.0000) requirements. A Licensed Site Professional (LSP) will be retained to determine if notification to MassDEP is required and will be available during construction to render appropriate opinions as needed.

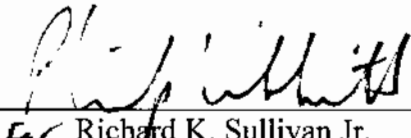
Mitigation and Section 61 Findings

The SEIR includes a separate chapter on mitigation measures and proposed Section 61 Findings for all state permits and approvals required for the project. This section of the SEIR provides a description of the Town's proposed mitigation plan, and discusses the value of the proposed mitigation in terms of the resources it provides and the opportunities for open space protection, and active and/or passive recreation it affords. Final Section 61 Findings will be prepared by state agencies issuing permits for this project and will include conditions considered binding upon the Town. State Agencies should forward final copies of Section 61 Findings to the MEPA Office for the project file and for public notice in the *Environmental Monitor*.

Conclusion

After a thorough consideration of the comments received from MassDEP and others, I am satisfied that any outstanding design issues relating to sewer layout and construction phasing will be fully considered and addressed during state and local permitting.

August 26, 2011
DATE



For Richard K. Sullivan Jr.

Comments received:

08/18/2011 Cape Cod Commission
08/24/2011 Massachusetts Department of Environmental Protection – SERO
08/23/2011 Department of Energy Resources (DOER)
08/20/2011 Association to Preserve Cape Cod

RKS/PPP/ppp