



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 1

JOHN F. KENNEDY FEDERAL BUILDING  
BOSTON, MASSACHUSETTS 02203-0001

June, 2007

Ian A. Bowles, Secretary  
Executive Office of Environmental Affairs  
100 Cambridge Street, Suite 900  
Boston, MA 02114  
Attn: Mr. Nicholas Zavolas, MEPA

Re: EOEPA No. 12348

Dear Secretary Bowles:

We have reviewed the Comprehensive Wastewater Management Plan and Environmental Impact Report Phase III documents submitted by the Assabet River Consortium and the member communities. In general we are of the opinion that the communities have done an excellent job of evaluating and selecting appropriate technologies for achieving the permitted phosphorus limits while being compatible with potentially lower phosphorus limits in the future.

Our primary concerns relate to the proposed schedule in the Program Manager's Report and the proposed flow increase for the Marlborough Westerly Wastewater Treatment Facility. These concerns are detailed below:

Schedule

The Consortium Report suggests that post construction water quality monitoring should be pursued and that this information, along with water quality modeling conducted as part of the sediment remediation study, should be used to provide the basis for any future upgrades.

Water quality modeling conducted as part of the sediment remediation study is intended to be a tool for evaluating the relative improvements associated with different sediment remediation alternatives and not a tool for reevaluating the total maximum daily load (TMDL). The modeling has not been calibrated/verified to existing water quality data sets and therefore cannot be used to establish water quality based limits that will ensure attainment of water quality standards. Nothing in the sediment remediation study to date suggests that the TMDL requirements are not appropriate. New sediment flux data collected as part of the sediment remediation study does, however, suggest that higher winter time phosphorus limits may result in significant accumulation of phosphorus in the sediments during the higher loading period. This issue warrants further evaluation since it could result in the application of lower phosphorus limits year round.



The TMDL requires that point source phosphorus limits of 0.1 mg/l and remediation of 90% of the sediment phosphorus flux are necessary to ensure attainment of water quality standards. The schedule contained in the TMDL sought to achieve attainment of the phosphorus limits by 2009 and anticipated reissuing the permits in 2009 with lower phosphorus limits if there was not a commitment for sufficient sediment remediation. The schedule in the TMDL further indicated that the construction of further upgrades, if necessary, should be completed by 2013 and the new limits met by 2014. The schedule contained in the permits allows an additional year to meet the current limits and to reissue the permits.

We plan to reissue the permits in 2010. These permits will likely contain lower phosphorus limits if there is not a commitment to pursue sediment remediation. If additional upgrades are necessary to meet the lower limits, a schedule will be included in the permits that, consistent with the TMDL, requires completion of the upgrades by 2013 and attainment of the new limits by 2014.

If the permittees want to pursue post construction monitoring, we believe that there is sufficient time to do this prior to initiation of construction for any additional upgrades that may be necessary. Accelerating the design/construction schedule for meeting the Phase I phosphorus limits would allow for additional time for post construction monitoring.

#### Marlborough Flow Increase

The TMDL, approved by EPA on September 23, 2004, does not include an allocation for wastewater flow from the Marlborough Westerly Wastewater Treatment Facility in excess of the current design flow of 2.89 MGD. The margin of safety identified in the TMDL is a required component of the TMDL and cannot be used as part of the point source allocation. Additionally, the approved margin of safety is much less than the margin of safety proposed by the Massachusetts Department of Environmental Protection (see EPA 2004 TMDL approval).

The current design flows of the four major dischargers to the Assabet River total 15 MGD. The critical low flow of the river (7Q10 flow) under which the minimum water quality criteria are required to be met is 9 MGD at the location of the most downstream discharger (Maynard). Municipal wastewater discharges into the Assabet River are severely over allocated and further increases in permitted wastewater volumes would almost certainly increase both the frequency and duration of when wastewater dominates the flow in the river. This is not consistent with achieving the magnitude, duration and frequency components of the minimum water quality criteria or for protecting designated uses of the Assabet River.

The 1.3 pound per day increased phosphorus load resulting from the proposed flow increase is not insignificant. A discharge of 1.3 pounds per day of phosphorus would increase the instream concentration of phosphorus by approximately 18 ug/l during 7Q10



flow conditions (assuming a design flow of 4.4 million gallons per day). The increased phosphorus load would also result in an increased load being delivered to the Concord River which is a Wild and Scenic River that is already phosphorus impaired.

The TMDL model clearly indicates that this increased phosphorus loading would have a detrimental effect on biomass growth in the Hudson impoundment immediately below the Marlborough Westerly wastewater discharge. While the overall target for the TMDL was a 50% reduction in river biomass, the Hudson impoundment biomass was only projected to improve by 36%. The proposed increase in phosphorus would result in an increase over the TMDL projected biomass levels in the Hudson impoundment of 3,000 kg, further reducing the projected improvement in the Hudson impoundment to 24%.

Because most of the wastewater discharged to the Assabet River main stem is withdrawn from water supply wells located on the tributaries, many of these tributaries have little or no flow during critical summer periods. Restoring the Assabet River watershed is not possible without maintaining adequate flows for aquatic life support in the tributaries. In a December 10, 2001, EPA comment letter to MEPA, we encouraged the communities to address future flow needs by finding adequate groundwater recharge sites to address the flow imbalances in the tributary subwatersheds of the Assabet River. MEPA, in its August 15, 2002 Certificate, recognized the importance of this issue and indicated that "a successful watershed-based wastewater management program for the Assabet River must restore balancing through groundwater discharge and storm water recharge to stressed sub basins". The Certificate also required an evaluation of groundwater discharge options for all flows above current levels as well as permitted levels.

While both Marlborough and Northborough currently receive a significant amount of their water supply from MWRA sources outside of the Assabet River watershed, there are subwatersheds in both communities that are subject to significant flow imbalances, e.g., Millham Brook & Lake Williams in Marlborough and Stirrup Brook in Northborough. It is also our understanding that Northborough has expressed interest in relying more on local water supplies in the future. Current and future sub watershed imbalances need to be addressed through a combination of water conservation, infiltration/inflow removal, water reuse, storm water recharge, and wastewater recharge. Such an approach is consistent with the State Water Policy as well as the MEPA Certificate.

We concur that the Boundary Street site is a poor choice for wastewater recharge given the environmental impacts associated with development of the site. The site provides no recharge benefit to a stressed sub watershed, would require extensive clearing of trees, and the preferred alternative identified by Marlborough would require extensive energy use associated with pumping of wastewater.

In an August 28, 2003, joint letter to Marlborough from EPA and MassDEP, Marlborough was notified that any flow increase would need to satisfy 314 C.M.R. 4.00, including the Departments Antidegradation Policy that no feasible alternatives exist. The letter further indicated that the Agencies expected this to be a difficult demonstration to make.



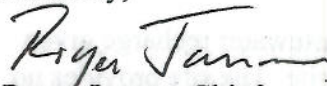
Marlborough was notified as early as 1999 by MassDEP that they need to do wastewater planning and that they need to look at infiltration/inflow removal, water conservation, and water reuse alternatives. A comprehensive evaluation of these alternatives has still not been completed. While such an evaluation may not be required under the MEPA process it may be necessary under the NPDES program in order to make a determination relative to authorizing an increase in permitted wastewater discharge volumes.

In the 2001 Assabet Consortium Technical Memorandum to Phase I Needs Survey, Marlborough was identified as having the second highest per capita water use (80 gallons per capita per day) and the highest infiltration/inflow rate (32% of total flow) of all six Assabet Consortium communities. Simply meeting the state water conservation standard of 65 gallons per capita per day would result in a city wide water use reduction of approximately 500,000 gallons per day. The infiltration/inflow rate represents between 600,000 and 900,000 gallons per day of clean water entering the sewer system. Water conservation, infiltration/inflow removal, and water reuse need to be fully pursued as an alternative to further increases in wastewater discharge volumes. Since the current design capacity is not expected to be reached until 2011, there is sufficient time for developing and implementing these alternatives before the current design flow is reached. This office has been working with the City of Marlborough on water conservation issues and we will continue to work with the City to pursue all alternatives to increasing the wastewater discharge volume to the Assabet River.

If future flow needs cannot be met though conservation, infiltration/inflow removal, and water reuse, then we believe that the best alternative is for Northborough to pursue, consistent with the State Water Policy, sustainable alternatives for managing its wastewater within its own Town boundaries. Decentralized wastewater treatment and disposal options that would benefit sub watershed flow imbalances and minimize energy use should be identified.

If you have any questions, please contact me at (617) 918-1621 or Dave Pincumbe at (617) 918-1695.

Sincerely,

  
Roger Janson, Chief  
Municipal Permits Branch