

DRAFT

Minutes of the Water Quality Management Committee, September 6, 2018

Members Present: Ron Zweig, Steve Leighton, Virginia Valiela, Eric Turkington, John Waterbury, Matt Charette, Tom Duncan. Also present: George Heufelder, Director of the Massachusetts Alternative Septic Systems Test Center

To view video of full meeting, see the following link:

<http://www.fctv.org/v3/vod/falmouth-water-quality-management-committee-09062018>

Chairman Turkington called the meeting to order at 3:30pm. He recalled that Innovative Alternative (I/A) septic systems are being evaluated for use in the Oyster Pond and other Comprehensive Wastewater Management Plans (CWMPs). He introduced George Heufelder who has been involved with the working group developing a management plan for Oyster Pond and any other estuary that would be using I/A systems.

1. Discussion of I/A Management Plan and I/A options for Oyster Pond CWMP with George Heufelder from Massachusetts Alternative Septic System Test Center

John Waterbury introduced the plan, noting that the town will need a robust management plan for the Massachusetts Department of Environmental Protection (MassDEP) to accept this strategy. Nearly a year ago, a general plan was submitted to MassDEP and received a favorable review. This plan was extended for application to Oyster Pond; the general approach is to target 75% nitrogen removal meaning septic effluent should have a nitrogen concentration of 10mg/L or less. After receiving comments from the public, the plan specific to Oyster Pond will be submitted to MassDEP to get their comments back in time to make any needed adjustments before filing a draft Oyster Pond CWMP in December 2019.

Virginia Valiela noted that the town submits a Draft CWMP. For a watershed such as Oyster Pond that is wholly within town limits, the state will approve a Targeted Watershed Management Plan.

George Heufelder described some important features of I/A systems that are being evaluated for use as part of the management plan. In particular, these systems enable direct measurement of the nitrogen concentration and flow volume at the input as well as the output of the system. This information can be used to determine the actual nitrogen removal performance of each system. Most I/A systems cannot make this calculation because of their design, typically because of effluent recycling in the process. Nitrogen reduction performance of the systems will need to be either 10mg/L output concentration or 75% reduction of the input concentration. The capability of septic systems to achieve this level of performance is a recent

development resulting from a lot of research, especially in Florida but also in Colorado and Connecticut directed at developing affordable, non-proprietary, mostly passive ways of removing nitrogen with on-site systems. The general approach is to introduce a long-lived carbon source that will support bacterial metabolism of active nitrogen in the effluent. Florida has defined mostly passive as “no more than 1 pump using 2kWh/day”. Another requirement for these systems is that they should not need frequent replenishment of the carbon source. One system at MassTC has been able to reduce nitrogen from 96mg/L at the input to 12 mg/L at the output. It seems that these systems generally are either able to achieve 10mg/L or 25% removal, or don't even come close, and usually if they stop working it is because someone put something toxic into the system that killed the bacteria.

There was discussion of the plan including the importance of residents realizing that the town needs to have access to monitoring ports for any system included in a TWMP. There will be a flow-based fee assessed on each system to support monitoring. Single home systems will be monitored once every 12 months and clustered systems will be monitored more frequently. It is believed that phosphorous monitoring could be included but may not be needed. It was noted that the management plan provides a way of getting information about the performance of each system, and this information will need to be combined with an evaluation of the impact on the watershed. The plan submitted to MassDEP for Oyster Pond will recommend a 7 year evaluation period.

The Falmouth Board of Health is the most obvious entity to implement the management plan. The Department of Public Works will probably agree. If MassDEP allows this plan, it could result in enough systems getting installed to provide a basis for General Use Approval which will benefit plans for other estuaries. The big risk is that the systems might not work. It is important to get two or more vendors to participate to discourage vendors from underpricing systems just to get state approval and then raising prices on future projects after becoming a sole source supplier.

Wright-Pierce will be continuing the CWMP development process leading up to state submission in December 2019. There will be a public meeting in May-June 2019, followed by a vote of selectmen to send the draft CWMP to the state. There will be a process in 2020 for the public to comment on the draft. If the Oyster Pond CWMP recommends sewerage, implementation may have to wait until 2025 for the town's next 'debt window'. Using I/A systems may allow earlier implementation. There are funds available for residents who want to install systems now but there is no guarantee that these systems will be admissible as part of the final TWMP.

2. Discussion of revised final report 'Diagnostic Assessment of Nutrient Cycling in Mill Pond' submitted 8/30/18 by Amber Unruh and Brian Howes, School for Marine Science & Technology, UMass Dartmouth (SMAST)

This report was discussed briefly, comments and revisions were requested to be submitted as soon as possible to finalize the report. Ron Zweig asked whether the report considered the option of returning Mill Pond, which is an artificial pond, to its natural state, following the strategy applied upstream with the Coonamessett River.

3. Discussion of draft Master Schedule to 2025

Due to time this item was postponed to the next meeting.

4. Reports of members and staff

The selectmen have invited the Water Quality Management Committee to participate in a joint meeting at 7pm on September 17 along with the Coastal Pond Management Committee and the Conservation Comm. It is anticipated that there will be additional discussion of Perch Pond dredging and the Menauhant Road erosion issue.

5. Discuss meeting schedule for September

The September 20 meeting will start at 3pm and will begin with a report from the US Geological Survey about groundwater data from the Maravista area.

6. Motion to Adjourn - 4:55pm. Unanimous.

Minutes submitted by Eric Karplus