

DRAFT

Minutes of the Water Quality Management Committee, August 30, 2023, 4:30pm Falmouth Town Hall, 52 Town Hall Square, Falmouth, MA 02540

Members present: Ken Foreman, Ed Jalowiec, Steve Rafferty, Steve Leighton, John Waterbury, Tom Duncan, Jordan Mora. Also present: Ed Eichner, TMDL Solutions/SMAST; Amy Lowell, Falmouth Wastewater Superintendent; Paul Dreyer, Planning Board; Brian Baumgaertel, MASSTC; Peter Hargraves, Finance Committee; Kim Comart, Falmouth Ponds Coalition; Hilda Maingay and Earle Barnhart, The Green Center; Korrin Peterson, Buzzards Bay Coalition; Gilda Geist, Falmouth Enterprise; numerous members of the public

A recording of the meeting can be found at:

https://youtu.be/9p3Ajuccrqq?list=PL3kvbh7I9uU_0Riu9fafcE7KNpoxRDxar

1. Presentation on the Draft Little Pond Habitat Baseline Update - Ed Eichner, TMDL Solutions/SMAST

Chairman Rafferty introduced Ed Eicher and explained the background behind the request to update the baseline conditions in Little Pond.

Ed Eichner opened the presentation by indicating the primary task was to set a new system baseline to see where the Little Pond watershed currently is and compare the current results to what was available as a result of the Massachusetts Estuaries Project (MEP) report. He indicated the new information will be valuable to quantify the full impacts of sewerage on the improvement of the estuary.

Eichner described the Little Pond system and data collected as part of the assessment. He noted that as part of this evaluation the team from UMASS-Dartmouth School of Marine Science and Technology (SMAST) repeated the benthic infauna analysis, mapped eelgrass and macroalgae, assessed temperature increases, and updated the baseline total nitrogen levels and trends using the Pond Watchers data over the last 30 years.

Eichner then summarized the results of the analyses from the current evaluation. He reported that the current total nitrogen data compared to the MEP averages show no significant difference in concentrations in all stations except for LP-Head (the station at the uppermost portion of the estuary with the highest groundwater inputs). He indicated that the TN data at LP-Head was significantly less than the MEP average. He said this decrease is likely an early indicator of the impacts of sewerage on the groundwater inputs and watershed.

Eichner commented that eelgrass recovery is a major element the state looks for in the health status of the estuary. He showed the historic eelgrass mapping and the results of their recent mapping. He described the previous mapping as being done by interpretation of aerial photographs, whereas this round utilized a remote vehicle fitted with imaging capabilities to identify percent coverage and health of the eelgrass itself. He noted that overall, there is some improvement in the expansion of acreage, but the eelgrass is competing with macroalgae and the actual health of the eelgrass has not improved.

Eichner reviewed the findings of the recent benthic infauna assessment compared to the MEP results. The system is still dominated by species indicative of poor water quality, but there are some signs of improvement. He noted there is increased biodiversity in the upper estuary with amphipods noted. He said that amphipods are usually a sign that there is improvement going on. But the metric analysis indicates an overall impaired system.

Eichner concluded the review of the analyses with the results of the temperature trend analysis. He indicated that since 2000 there have been small increases in temperature but they are not statistically significant. He noted that the trend is more pronounced in the stations closest to the inlet indicating the main driver for increasing temperature is water coming in from Vineyard Sound.

Eichner concluded that while there are some positive signs, the system is still impaired and will take a while to flush out. Based on the USGS predicted groundwater flows, Eichner anticipates seeing total nitrogen concentration reductions in maybe three years.

Tom Duncan asked whether Vineyard Sound inlet dredging data was included in the evaluation to help explain pulsed signals in the data. Eichner replied they did not evaluate that data. Other members recommended taking that data into consideration.

2. Revisions and comments on the draft report: Modelling the Potential Efficacy of Urine Diverting Technologies for Nitrogen Removal in Falmouth, MA – discussion and vote

Chairman Rafferty gave a brief recount of the initial objective of the analysis. He remarked that he felt the revised draft as presented is a reasonable document to keep the conversation on implementing urine diversion moving forward. Kristen Rathjen described how comments were incorporated into the current version of the report. Rafferty commented that the report is not a determinant document.

Tom Duncan moved to accept and finalize the report as revised. Steve Leighton seconded. Unanimous in favor.

3. MASSTC proposal for urine diversion pilot in Falmouth - discussion

Chairman Rafferty announced that the town had received a proposal for a urine diversion pilot project. He stated that the committee had not considered the proposal yet and would not likely be in a position to make a hard recommendation to the Select Board at this time. He noted that he was informed that there was a petitioner's article submitted for Fall Town Meeting by the Green Center. Rafferty remarked that the next step for the Town is to meet with the Department of Environmental Protection (DEP) to determine what the Department needs to give urine diversion its approval as an alternative approach to nitrogen reduction. He noted that the meeting with DEP is scheduled for September 13th. Rafferty then invited Brian Baumgaertel, Director of the Massachusetts Alternative Septic System Test Center (MASSTC), to speak on the proposal.

Baumgaertel gave a brief recount of the initial request for the proposal. He informed the members that MASSTC incorporated comments from the Falmouth community in drafting the proposal. He described the key elements of the proposal and goals of the project. The project as proposed would identify 50 participating households to produce a large dataset with maximum replication. The project would work with the individual households to determine which type of urine diversion technology would be right for each homeowner and which has the best efficacy. He described the different data that would be collected as part of the project. Baumgaertel also noted that there is an implementation subsidy for the homeowners included in the current proposal. There was a more detailed discussion among the committee members about the specifics for data collection and schemes for subsidy allowance.

Chairman Rafferty asked Baumgaertel whether the pilot was applicable only to Falmouth. Baumgaertel responded that it was applicable anywhere there are toilets. Rafferty inquired whether it would make sense for the County to fund a portion of the work as the outcome has the potential to benefit the entire Cape. Baumgaertel agreed and suggested approaching the representatives of the Assembly of Delegates for funding requests.

Chairman Rafferty stated that Ed Jalowiec has been the point person for urine diversion and asked for another volunteer to work with Ed to make a report on progress and make a recommendation for a committee response to the petitioner's article. Tom Duncan volunteered.

Jordan Mora asked for additional details about the proposed timeline for the project. Baumgaertel relayed some more details and remarked that ultimately the timeline will depend on how the DEP approaches the permitting requirements and other recommendations for the project. Baumgaertel remarked that it is unclear whether urine diversion will be treated as other alternative septic technologies and be required to go through the provision, pilot and general use approval permitting process.

Matt Patrick offered comments on his personal experience with urine diverting and extended his assistance to the committee as a resource as the pilot moves forward.

Chairman Rafferty closed discussions by reiterating that the next step is to get guidance from the DEP. He emphasized that that guidance will not come prior to the petitioner's article going through the finance committee or in time for the WQMC to make a recommendation to the Select Board. He remarked that 'the DEP is the gateway for the usefulness of any pilot [urine diverting] proposal'.

4. Request to Select Board to authorize funding from AFCEE account for the continued monitoring efforts of the Shorewood Drive PRB – discussion and vote

Kristen Rathjen recounted the recommendation made by former WQMC member Matt Charette for the continued monitoring of the Shorewood Drive permeable reactive barrier (PRB). Rathjen shared the quote for sample analysis costs for the next two years and suggested the committee approach the Select Board for funds not to exceed between \$6,000 and \$6,500 to cover costs. Tom Duncan moved to make a request of the Select Board for no

more than \$6,500 in AFCEE funds for the continued monitoring of the PRB. John Waterbury seconded. Unanimous in favor.

5. Vote to refer Buzzards Bay Coalition's outside review of Herring Brook to SMAST for review and future consideration of issues raised

Chairman Rafferty took this as Item 2.

Rafferty noted that the Buzzards Bay Coalition (BBC) retained an outside scientist to review and issue an opinion on the SMAST Herring Brook Report. Chairman Rafferty made a suggestion that the committee should have Ed Eichner review the document prior to the committee discussing it.

Tom Duncan moved to have Eichner review the BBC report. Steve Leighton seconded. Unanimous in favor.

6. Revised draft letter to Town Meeting members – discussion

Chairman Rafferty reported that Ken Foreman, Steve Leighton and Tom Duncan had worked together on the current draft of the letter. Rafferty reminded the members of a previous discussion where each member would be tasked with reaching out to Town Meeting members ahead of the Fall Town Meeting. Rafferty distributed the Town Meeting member list to the committee members. Ken Foreman spoke to the revisions in the current draft letter. He said at this point the committee should make comments about the content and how to make the letter briefer. Chairman Rafferty suggested that members send any comments to Tom to incorporate for the next iteration of the letter.

7. Reports of members and staff

John Waterbury reported that he and Steve Rafferty made a presentation at the Falmouth Heights Association summer meeting and primarily discussed the proposed treated wastewater outfall. He reported the event was well attended and the general feeling was that the community understands the benefits to an outfall for the town and would likely support it. He noted that Rafferty also attended the Teaticket Association meeting and thought it was a similar reception to the topics discussed.

John Waterbury gave a brief report on the next steps for outfall planning. He recapped the changes to the Ocean Sanctuaries Act that would allow for the town to pursue an outfall. He noted the Town is following the white paper compiled by BBC on what should be included in an outfall application. He reviewed the studies completed to date and briefly described the next assessments that need to be completed. He indicated that the article at Fall Town Meeting is an appropriation to help with the next steps. Rafferty commented that the largest portion of the ask is to support taking borings to see what the sediments look like to secure bids for the horizontal drilling. Rafferty believes that in 1 – 1.5 years the remaining studies will be completed.

8. Vote minutes of prior meeting (07.31.23)

Tom Duncan suggested minor updates to the minutes. Steve Leighton moved to approve the minutes as updated. Ed Jalowiec seconded. Two abstentions, five in favor. Motion passed.

9. Motion to Adjourn -6:32pm. Unanimous

Minutes submitted by Kristen Rathjen

List of Documents

- Presentation on the Little Pond Habitat Baseline Update
- Little Pond Habitat Baseline Update – tech memo
- Revised draft Modelling the Potential Efficacy of Urine Diverting Technologies for Nitrogen Removal in Falmouth, MA
- Response to comments on the draft Modelling the Potential Efficacy of Urine Diverting Technologies for Nitrogen Removal in Falmouth, MA
- Proposal - Assessing the efficacy of urine diversion as a mean to address nutrient pollution in marine and freshwater watershed in the Town of Falmouth, Massachusetts
- Letter from the Buzzards Bay Coalition on the Herring Brook Estuary Report
- Draft revised letter to Town Meeting members
- Draft minutes of the 07-31-2023 WQMC meetings