

COMPREHENSIVE WASTEWATER MANAGEMENT
CITIZENS ADVISORY COMMITTEE (CAC)

July 20, 2006 – 4:00 pm
Town Hall Meeting Room
Main Street, Chatham, Massachusetts

PRESENT:

CAC: Fred Jensen, Bob DePatie, Didi Lovett, Chuck Pollard, Scott Tappan, Phil Christophe,
John Payson and Herb Bernard

CAC members not present: David MacAdam, John Randall, and Burt Segall,

TAG: Bob Duncanson, Bill Redfield

Others Present: Nate Weeks (Sterns & Wheler), Al Havens, Chuck Bartlett

The meeting was called to order at 4:00 pm.

Item 1: Minutes

Minutes of the April 20, 2006 meet were approved as submitted.

Item 2: TAG presentation of wastewater and nitrogen management recommendations for the Taylors Pond/Red River watershed area

Nate Weeks of Sterns & Wheler presented a PowerPoint presentation. The following points were included:

- 60% Nitrogen removal percentages in this watershed were indicated
- A review of four types of wastewater management was provided:
 - Title 5 septic systems
 - Individual nitrogen-removal septic systems (aka I/A Systems)
 - Community/Cluster systems
 - Centralized systems
- Additional review which echoed previous presentations was provided:
 - Examples of individual systems include BioClear, FAST, Ruck, and Nitrex. These are being tested at the Massachusetts Alternative Septic System Test Center
 - DEP has set a regulatory limit of 19 mg/liter for these systems
 - The seasonal nature of Chatham/Cape Cod use is a problem with some of these systems
 - Community/cluster Systems remove approximately 75% of the nitrogen. Examples of these systems can be seen at Chatham Bars Inn and Bailey's Path
 - Centralized systems generally remove approximately 88% of nitrogen. Chatham's plant is functioning well, with a total nitrogen effluent level averaging 5 mg/L.
- A Carousel System is being considered as an upgrade for the Chatham Wastewater Treatment Plant. This technology would remove up to 93% of nitrogen. Also involved is an expanded collection system and an expanded effluent recharge system.
- MEP is seeking 60% removal in the Taylor's Pond watershed. This level of nitrogen removal could be accomplished through community/cluster systems, but the area is in close

proximity to the existing treatment plant, so it is deemed most cost effective to extend the collection system to include this watershed.

- Target TMDL's have not yet been determined for the Red River watershed (west of the Taylor's Pond watershed which abuts Harwich). The Red River watershed is currently not on the MEP list of areas to be studied. In addition, Red River is closer in character to Cockle Cove Creek, a large marsh system drained by a small tidal creek.
- Factors to be considered in this decision-making process include:
 - Cost effectiveness
 - Fairness throughout the community
 - Minimum use of raised (bunkered) systems – neighborhood aesthetics
- The nearby industrial area should also be included in the collection system expansion in order to avoid future contamination of groundwater.

Questions:

Phil Christophe asked about the timing/priority of the sewer expansion in this area. Nate Weeks and Bob Duncanson indicated that this decision has not yet been made. The Town will need to set priorities regarding which area will be added to the treatment system first.

There was discussion of the particle travel time as illustrated in one of the slides. There is considerable vertical and horizontal travel time involved in movement of recharged water to receiving waters.

John Payson asked about the varying numbers on the map. Nate Weeks indicated that those percentages shown in rectangles represented the original MEP numbers from the December, 2003 report. The numbers now shown in circles represent revised figures based on the May, 2006 report for the Pleasant Bay watershed. It was reiterated that these percentages represent only two of many possible alternative scenarios to meet the nitrogen removal targets.

John Payson questioned the use of built-out figures in the analysis. Nate Weeks indicated that the built-out figures had been incorporated into the work. Bob Duncanson noted that the built-out figures had been provided to the committee in June, 2005.

John Payson asked about the Phase 400 portion of the Comprehensive Wastewater Management Study which is to develop cost/benefit analyses. Nate Weeks indicated that the analysis and recommendations contained in his report were based on cost-benefit analysis and that it was the general consensus among towns involved in sewerage projects that collection and central treatment offers the best methodology. Concerns regarding individual and cluster systems include monitoring, verifying and enforcement issues.

John Payson asked about the background nitrogen figures for both the Atlantic and Nantucket Sound waters. These were stated to be: 0.10 mg bioactive nitrogen/liter (0.23 mg Total Nitrogen/liter, Atlantic) and 0.28mg Total Nitrogen/liter (Nantucket Sound.)

Fred Jensen asked for clarification of the extent of the recommended sewer expansion into the Taylor's Pond/Red River area. Nate Weeks indicated that the extent of the expansion has not yet been determined, but that it is their recommendation to extend sewer lines into the area, using gravity to the greatest extent possible to minimize pumping stations. He also noted that the goal of "fiscal fairness" has not yet been thoroughly addressed by the town and will be included in the final decision-making process.

These issues will be addressed during the public comment period. The final plan needs to be comprehensive and flexible, keeping in mind that there are multiple goals for the community.

There was brief discussion of the impact of competing fiscal demands on the development of the plan. Bob Duncanson indicated that fiscal issues should not determine the nature of the final plan but that fiscal limitations may impact the implementation schedule or future revisions/adjustments of the plan. The plan will be finalized and then an implementation schedule will be prepared. Unknown factors may cause debate and changes in the implementation in future years.

The term "Adaptive Management" was mentioned. This has been discussed at previous meetings. As science, technology, public priorities and fiscal realities impact the plan and its implementation; changes may need to be made. Thus the plan should be flexible. Bob Duncanson noted that flexibility is built into the DEP approval process as they recognize the many variables involved.

Fred Jensen noted that the CAC does not have a clear idea of what is to be contained in the final plan. He requested that Sterns & Wheler provide a sample table of contents. Nate Weeks agreed to provide a copy of the Falmouth plan which is the best model of a Comprehensive Wastewater Management Plan document to date.

Bob Duncanson noted that the Falmouth approach has been to deal with individual areas within the town rather than the town in its entirety as is being done in Chatham. Falmouth is now debating the benefits and drawbacks of this approach. The TAG has the ultimate responsibility for creating the plan. This will be done following the public review/hearings so that the final plan will reflect community goals.

Item 3: Highlights of TAG/DEP Pleasant Bay report and next steps for developing nitrogen removal targets for North Chatham area.

Bob Duncanson noted that DEP is still developing the TMDLs for Pleasant Bay. A draft document is expected in late August or early September. This will be followed by a 30 day public comment period and public hearing. Following the comment period the document will be finalized and submitted to EPA for ultimate approval.

He noted that the Pleasant Bay Alliance (Chatham, Orleans, Harwich) and Brewster have been meeting to discuss issues regarding the shared Pleasant Bay watershed. Questions of how to work together, how to communicate with the state, how to deal fairly with each town, etc. are complicated by the fact that the towns are at different levels in dealing with wastewater problems.

Fred Jensen asked about Chatham's share in the cost of the MEP Pleasant Bay study. Bob Duncanson indicated that the total budget is \$120,000 and Chatham's share is \$48,000.

Bob Duncanson explained that MEP established ten "sentinel" stations in Pleasant Bay after evaluating all the scientific data. Two sentinel stations were located primarily to focus on the restoration of eelgrass. These are in Ryder's Cove and at the head of Little Pleasant Bay at the entrance to Meetinghouse River. Water quality at these stations will be targeted at 0.16 mg bioactive nitrogen/liter to allow for the restoration of eelgrass. The other eight sentinel stations will have a bioactive nitrogen threshold of 0.21 mg/L to achieve benthic infauna restoration. These stations were established to reflect that some sub-embayments have probably never supported eelgrass. The total nitrogen thresholds for all 10 sentinel stations vary due to a gradient in dissolved organic nitrogen (DON) down the Bay. These thresholds are based on scientific data, not modeling.

John Payson asked about the use of peer review in determining thresholds. Bob Duncanson indicated that DEP is working with USGS to establish peer review activities/guidelines.

Item 4: Highlights of TAG/DEP regulatory progress review meeting on Wednesday, July 19, 2006.

Bob Duncanson reported that the town updated DEP about its progress and inquired about the status of the Cockle Cove Creek study. DEP has not yet finished its work on this study. It is currently doing a study about nitrogen attenuation in fresh water systems. Hopefully, this will be finalized in early fall.

Item 5: Updates on Work in Progress

- A. Cockle Cove Creek salt marsh study – This has not yet been completed by SMAST/DEP.
- B. Re-runs of MEP's water quality model for Chatham – Brian Howes expects that this will take several more weeks until completion
- C. RFP for analysis of nutrient sources in Lover's Lake and Stillwater Pond – This should be finished tomorrow and published in the newspaper next week. We anticipate having a contract by early September.
- D. Evaluation of additional effluent disposal capacity at Chatham's Wastewater Treatment Plant – S&W has completed field testing for the hydraulic loading test (a large perk test) and has encouraging results. The average perk rate was 300 to 400 gals per square foot per day. EPA guidance recommends using 10% of the observed rate for design purposes (i.e. 30-40 gal/sf/day). DEP requires 5 gals/sf/day for design purposes. The report to DEP on the test results will seek approval to use a design rate higher than the DEP value of 5 gal/sf/day. These results indicate that we may be able to concentrate our treatment plant expansion in a small area, which should result in cost savings. The results indicate that there is more than enough capacity at the current treatment plant location to handle flow from the entire town.

Item 6: TAG's schedule for completing wastewater and nitrogen management recommendations for the remaining areas.

The information regarding the Taylor's Pond/Red River watershed will be presented to the Selectmen at their meeting on Tuesday, August 29. Work on the Pleasant Bay watershed should be completed in early fall.

Scott Tappan made a motion:

"That the CAC support the evaluation and recommendations made by Sterns & Wheeler regarding the Taylor's Pond/Red River watershed."

The motion was seconded by Chuck Pollard.

In discussion, John Payson indicated his opinion that we do not yet have adequate information to be supporting recommendations for sewerage. There was discussion about the re-runs of models and development of new TMDLs but general agreement that the new figures would not result in significant changes.

The vote was as follows: 6 – for; 1 – against

Fred Jensen questioned the level of detail in these presentations. Bob Duncanson indicated that design planning will begin after all data is in and after some of the other issues, such as "fairness" are addressed on a policy level. It was noted that the Non-Voting Taxpayers group has supported total sewerage of the town.

Item 7: Status of CWMP's Supplemental Needs Assessment Report

Bob Duncanson stated that because it has taken so long to do the other parts of the study, and because we are so close to the end, the information that would have comprised the Supplemental Needs Assessment Report will be incorporated into the CWMP/Environmental Impact Report.

Item 8: Other business

Fred Jensen reminded the committee that the Non-Voting Taxpayers will meet at Chatham High School on August 1 at 7:00 pm. Bob Duncanson will attend that meeting to address issues related to the CWMP.

Bob Duncanson informed the committee that there will be a meeting of the Friends of Pleasant Bay at the Wequassett Inn on Thursday, July 20 at 7:00 pm. There will be a speaker from Long Island who will speak about shellfish gardening as a means of improving water quality.

Item 9: Next Meeting Date

The next meeting is scheduled for Monday, August 24 at 4:00 pm.

The meeting was adjourned at 6:15 pm.

Marie Williams
Recorder