

COMPREHENSIVE WASTEWATER MANAGEMENT  
CITIZENS ADVISORY COMMITTEE (CAC)

March 17, 2005  
Town Hall Meeting Room  
Main Street, Chatham, Massachusetts - 4:00 pm

**PRESENT:**

CAC: Fred Jensen, Scott Tappan, Bob DePatie, Herb Bernard, John Payson, and Kevin Mikita  
CAC members not present: John Randall, Didi Lovett, David MacAdam, Phil Christophe, Burt Segall, and Chuck Pollard

TAG: Bob Duncanson, Bill Redfield,

Others: Jean Young, Sean Summers, Tim Wood, Chuck Bartlett, Jeff Gregg and Nate Weeks  
(Stearns & Wheler)

A quorum was not present so it was determined that this would be an informational session.

**Item 1:** Minutes of the January 20, 2005 meeting will be voted on at the next meeting. There were no comments regarding the minutes.

**Item 2: Review of meeting of Water and Sewer Commissioners on February 15, 2005.**

Bob Duncanson cited two highlights of the meeting:

- Discussion regarding the “reserve” capacity at the wastewater treatment plant. Staff has provided information on set-asides and allocations, which indicate an unallocated capacity of approximately 1,200 gallons. He explained that staff looked at utilization of the reserve in the short term to address three areas: (a) new homes since 1987 which are adjacent to the sewer lines and under covenant; (b) properties already connected to the sewer, but required to install a septic system for expansion and under covenant; (c) properties adjacent to the gravity sewer but not connected prior to the Administrative Consent Order moratorium. These properties represent a flow of approximately 10,000 gallons per day (Title 5 design flow). The state has been asked about the possible connection of this group of properties, using the reserve capacity of the treatment plant. The town is awaiting an answer from the state.
- The Growth Neutral policy was discussed and a public hearing has been scheduled for Tuesday, March 22 at 4 pm as part of the Board of Selectmen’s meeting. Adoption of this policy will require an amendment to the Water and Sewer Regulations. Information is available on the town’s website.

**Item 3: Review of meeting of the Water and Sewer Commissioners on February 17, 2005 regarding the Sewer Bank Policy on sewer flow “transfers.”**

There was discussion of this matter, but no conclusions were finalized by the Water & Sewer Commissioners. This will be discussed further at future meetings of the Water and Sewer Commissioners.

**Item 4: Discussion of actions that the wastewater management study team might take to accelerate the progress of the study.**

Nate Weeks and Jeff Gregg from Stearns & Wheeler (S&W) presented a PowerPoint presentation (attached).

**RECENT ACTIVITIES - Completed**

- Nate Weeks of Stearns & Wheeler presented information about ongoing activities and possible actions that will accelerate work. Highlights included the following:
- Alternate “build-out” projections have been completed. These included re-development possibilities, which were not included in the build-out projections prepared earlier by the Cape Cod Commission.
- Water use data has been corrected to include four quarters of data. This information has been given to the Cape Cod Commission for use in modeling.
- Mass. DEP has completed a review of the Town’s “Action Plan for the Town of Chatham Ponds”. The ponds have been ranked with indications that Lovers Lake and Stillwater Pond are the most negatively impacted at this time. Mass. DEP indicated that the Action plan provides a sufficient basis for moving forward on identified issues without waiting for development of TMDLs for the ponds/lakes.

**ACTIVITIES TO ACCELERATE THE STUDY - Ongoing**

- Evaluation of permitting issues relative to wetland restoration in Muddy Creek watershed. This would provide additional nitrogen attenuation in that area. This will be a complicated process as two towns (Chatham and Harwich) are involved.
- Hydrodynamic evaluations by SMAST relative to possible new inlets to Stage Harbor and Cockle Cove Creek
- Discussion with Mass. DEP regarding the connection of properties adjacent to the existing gravity sewer collection system, and implementation when/if approved.
- Groundwater modeling by USGS re wastewater mount/landfill and alternative dispersal locations
- Discussions with the Falmouth fertilizer management group regarding methods to manage fertilizer loads at a relatively low cost to the town.
- Fiscal management evaluations and capital improvements planning can be done by the town manager and staff.

- Enterococci source study for the Cockle Cove Creek area. Grant funding has been obtained to study the presence of Enterococci and to document source(s). It is important to determine the source of such bacteria and to ensure that they are not coming from the wastewater treatment plant and /or septic systems. Likely sources of pathogens are wildlife and waterfowl.
- Determining the appropriate Total Nitrogen TMDL for Cockle Cove Creek salt marsh. Additional work is needed to determine the amount of nitrogen attenuation in the watershed with a goal of determining a new TMDL by the end of the year. A new TMDL may indicate that the salt marsh has high nitrogen attenuation properties, allowing greater flow without negative effects.
- Preliminary evaluations to treat more flow at the wastewater treatment facility.

Jeff Gregg of Stearns & Wheeler provided information about preliminary evaluations regarding additional flow at the wastewater treatment facility (see attached PowerPoint slides).

The goal of this study was to estimate available nitrogen loading capacity in the Cockle Cove Creek Watershed through sewerage of the watershed and Bucks Creek/Sulphur Springs watersheds. If some or all of the Cockle Cove Creek Watershed is sewerage (and Bucks Creek/Sulphur Springs watersheds), the resulting lessened nitrogen load will allow more capacity to be added to the wastewater treatment facility. It also sought to determine how much additional flow can be added if the watershed is able to receive an additional 17% nitrogen load.

#### **Assumptions/Data**

- Calculations were based on 2001 water data (12 months)
- 35 mg/L total nitrogen discharged from septic systems
- Flows at the WWTF to be treated to an average of 5 mg/L total nitrogen
- Non-wastewater sources of nitrogen are assumed to remain the same
- Two future conditions were considered
  - Build-out with no change in average residential wastewater generation per property (future 1)
  - Build-out with a 50% increase in average residential wastewater generation per property (future 2)

#### **RESULTS:**

- If ALL of Cockle Cove Creek Watershed is sewerage, approximately 2,300 kg/yr of nitrogen can be added to the watershed through an equivalent flow (at 5 mg/L) of approximately 340,000 gpd.
- If ALL of the Cockle Cove Creek Watershed is sewerage **AND** DEP allows a 17% increase in nitrogen load, approximately 2,800 kg/yr of nitrogen can be added to the watershed through an equivalent flow (at 5 mg/L) of approximately 400,000 gpd.

Maps were provided to show existing watersheds and the existing sewerage properties in Chatham.

Tables were provided to show results using build-out figures for future 1 and future 2.

**FINDINGS:**

- Townwide wastewater flow projections (using 2001 water data) are between 1 million gpd (existing 2001 conditions) and 1.7 million gpd (build-out with using a 50% increase in water use).
- Approximately 10% of the town's existing wastewater flow goes to the treatment plant
- Three watersheds (Cockle Cove Creek, Buck's Creek, and Sulfur Springs) would sewer an additional 14% of the flows under existing conditions.
- An additional 10 to 40% of the remaining unsewered flow could be addressed under "No Net Increase."
- An additional 20 to 50% of the remaining unsewered flow could be addressed under the 17% increase scenario.

Following the presentation, Fred Jensen asked for questions from the committee and audience.

John Payson asked about water use data. Bob Duncanson explained that to provide consistency with the Pleasant Bay MEP the town is considering updating water data to August 2002 through July 2003. This period has been determined to be an "average" water use year based on average rainfall and water usage.

Fred Jensen asked about the study results as they pertain to additional capacity at the treatment facility. The figures showed a significant improvement from sewerage the subject watersheds, and treating to a high level at the treatment facility. Specifically, if we sewer Cockle Cove Creek watershed there could be an increase of 30 to 40% of the town's wastewater flow going to the treatment facility. Nate Weeks agreed, adding that it could be as high as 40 to 50%.

Bob Duncanson noted that we need to look at other watersheds to determine similar sewerage needs in those areas. The marsh evaluations need to be completed before we will know if the 17% estimate for additional nitrogen load is accurate. We need to run various scenarios through the estuaries model to ensure that the areas involved meet TMDL requirements.

The 17% figure being used was the result of DEP doing a cursory evaluation of the marsh information. They have not yet indicated that they will allow an additional 17% flow. We are awaiting an answer from DEP.

At this time, it is safe to say that sewerage of Cockle Cove Creek watershed will be likely. We should look at the need to sewer all of the watershed or only that part which is south of Route 28.

**Next Meeting: April 21, 2005**

The session ended at 5:40 pm.  
Recorder: Marie Williams