

Appendix Y-2

Meeting Notes

MassDEP Progress Meeting March 20, 2009



**MassDEP PROGRESS MEETING
MassDEP HYANNIS OFFICE
MARCH 20, 2009**

Attendees:

Brian Dudley, MassDEP
Steve Hallum, MassDEP
Alan Slater, MassDEP
Robert Duncanson, Ph.D., Town of Chatham
William Redfield, P.E., Town of Chatham
Nathan C. Weeks, P.E., Stearns & Wheeler

Copies to:

All Attendees

The following items were discussed:

1. **MassDEP's proposed TOC Effluent Discharge Limit for Recharge into a Zone II Area.**

The following items are noted from the discussions:

- Revisions to the proposed regulation allows MassDEP to apply judgment on how the limit is imposed.
- Information on the Indian Hill Well Water supply was summarized.
 - There is more than 10 year travel time to the well at a recharge of 1.9 mgd which will be over 30 years from now when the whole Town is sewered.
 - The well has been inactive for many years due to low levels of PCE in the water (unrelated to the WWTF).
 - The Town wants to keep the Indian Hill Well water supply available in the event that is is needed for an emergency.
- It was decided that MassDEP will NOT require a discharge standard of 3 mg/l TOC for the WWTF in the future because the Indian Hill Well is inactive and its use as a production well is not planned for the future.
- If the Town wants to put the Indian Hill Well into production in the future, the Town and MassDEP may need to reconsider this decision.
- Space should be maintained at the WWTF site for additional facilities if they were needed to meet a future TOC limit.



- MassDEP indicated that they would consider installing GAC at the Indian Hill Well in the future if it was needed to address the TOC issue because both the water supply and wastewater treatment were controlled by the Town.
 - Disinfection in accordance with the regulation will still be required due to the recharge in open sand beds. MassDEP indicated they will not make an exception to this rule.
2. **Regarding conflicting model concepts on groundwater recharge to the Sulphur Springs salt marsh and estuarine system.**

The following items are noted from the discussions:

- Details of the USGS regional model for the Monomoy lens were reviewed as summarized:
 - 3 dimensional model.
 - 400' by 400' grid spacing.
 - This model was the basis for the MEP land use model.
- Details of the MEP land use model were reviewed as summarized below:
 - 2 dimensional model.
 - Several simplifying assumptions to allow a simpler hydraulic budget conceptualization.
 - It is a static model of the existing conditions.
- Details of the sub regional model developed by the Town of Chatham (as directed by MassDEP) to investigate mounding and fate and transport questions were reviewed as summarized below:
 - Based on USGS 3-dimensional model.
 - Grid sizing was refined to 200' by 200' in the outer portion of the model and 100' by 100' in the region of the WWTF
 - The model primarily covers Chatham but includes a portion of Harwich in the west.
 - It covers 21 square miles and extends from Nantucket Sound in the south, Chatham Harbor in the east, Pleasant Bay and Muddy Creek to the north, and Harwich in the west.
 - The model was calibrated with water level data from 17 monitoring wells in the model domain, and calibration and model set up was reviewed and vetted by USGS and MassDEP. A primary consideration of the set up was estimation of the hydraulic conductivity value (k value) of the clay layer that exists below the WWTF and extends to the south toward Nantucket Sound.
- The SMAST model runs of the water quality for the Phase I and Phase II plan implementation in the Sulphur Springs system were based on the following assumptions:
 - No groundwater under flow to Nantucket Sound.



- No nitrogen attenuation in a group of wetlands and cranberry bogs on the northeast side of Sulphur Springs.

These conservative assumptions resulted from the SMAST two dimensional representation of the USGS model that does not consider underflow to Nantucket Sound and did to map the sub watersheds to the wetlands and cranberry bogs.

- The SMAST model runs indicated that the Phase I recharge exceeded the nitrogen threshold by 0.02 mg/l and the Phase II recharge exceeds the threshold by 0.04 mg/l.
 - There was much discussion on the three groundwater models and how they should be interpreted for management purposes.
 - It was decided:
 - The Town should proceed with completing the CWMP with the current Phase I and Phase II plans.
 - MassDEP will convene a meeting with SMAST and USGS to gain clarification on the best way to interpret the models.
 - The Town will request a revised estuarine water quality model run from SMAST that estimates a more realistic nitrogen loading to the system based on:
 - The sub regional groundwater model output.
 - Quantities of under flow predicted by the groundwater model.
 - Estimated nitrogen attenuation through the freshwater wetlands and cranberry bogs.
3. **Regarding Chatham planned wastewater infrastructure implementation as allowed by Federal Stimulus.**

The following items are noted from the discussions:

- The stimulus fund grant opportunities were described based on discussions with Steve McCurdy and the CY 2009 UIP listing of \$55.6 M of infrastructure.
- The Town selectmen recently voted to increase the Town Meeting authorization from \$7.5 M to approximately \$60 M to take advantage of the opportunity.
- Designs for WWTF upgrade and sewer extension will be prepared by the stimulus deadlines.

Jeff Gregg

From: Slater, Alan (DEP) [Alan.Slater@state.ma.us]
Sent: Friday, March 27, 2009 9:02 AM
To: Nate Weeks; Robert Duncanson; wredfield@town.chatham.ma.us; Dudley, Brian (DEP); Hallem, Stephen (DEP)
Cc: Jeff Gregg; Bill Hall Jr
Subject: RE: Meeting Notes form the 3-20-09 MassDEP Progress Meeting for the Chatham CWMP and Initial Implementation

fyi. Two points:

1. There will be a permit condition, exact wording to be determined, such that the town will sit down with DEP to discuss what the next steps will be if the town decides to bring the Indian Hill well back on line.
2. DEP did not state that it would consider GAC at the well if it went on line. What we did say was that Chatham is in a unique position versus other communities because they control both the wastewater and water utilities and that will be a factor in any decision, but we didn't comment on specific options.

From: Nate Weeks [mailto:ncWeeks@stearnswheler.com]
Sent: Friday, March 27, 2009 8:45 AM
To: Robert Duncanson; wredfield@town.chatham.ma.us; Dudley, Brian (DEP); Slater, Alan (DEP); Hallem, Stephen (DEP)
Cc: Jeff Gregg; Bill Hall Jr
Subject: Meeting Notes form the 3-20-09 MassDEP Progress Meeting for the Chatham CWMP and Initial Implementation

Hello all,

Attached are the meeting notes from our meeting last week. I will mail the hard copies to you today.

Please review them and call or email with questions or comments.

Many thanks for your participation, Nate

<<Mttg Notes 3-20-09 Chatham Progress.pdf>>

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4/15/2009