

Approved Minutes of the Technical Advisory Committee Meeting
July 14, 2015

Attendees: Roger Thompson
Gunner McCain
Chris Russo
Brian Parker (Eljen)
Ken White
Peter Boemig
Mary Clark
Darlene Autery
Ernest Christianson
Craig Heindel

Scheduled meetings:

September 15, 2015 1-4 PM Annex Building, 190 Junction Road – Montpelier
October 13, 2015 1-4 PM Annex Building, 190 Junction Road – Montpelier
November 17, 2015 1-4 PM Annex Building, 190 Junction Road – Montpelier

Agenda:

The agenda was accepted.

Minutes:

The draft minutes of the June 16, 2015 meeting were accepted.

Review of the Eljen Mantis System:

Brian Parker attended the meeting representing the Eljen Corporation. The issue under review by the TAC is whether the Mantis System operates in a manner that eliminates the need for pressure distribution when the Mantis System is used in a mound system. Mr. Parker said that the requirement to use a pressure distribution approach is very costly in comparison to the dosing system approach allowed with the Enviro-Septic® and the ADS GEO-Flow® Systems. In previous discussion the TAC expressed concerns that the Mantis System with many small modules may not function in the same manner as the other systems that consist of lengths of pipe which rapidly develop a ponded level over the length of the pipe. Mr. Parker submitted additional information (Eljen letter dated 6/2/2015) related to sand moisture levels collected near the proximal and distal ends of a 26' section Mantis M5 containing 5 modules by the Massachusetts Alternative Septic System Test Center (Test Center). The system was loaded at 1.0 gpd/sq.ft., one-half the maximum allowed under the Vermont Wastewater System and Potable Water Supply Rules (Rules). The reported moisture levels were relatively close from one location to another which Mr. Parker believes demonstrates equal distribution of wastewater into the many small modules. Roger asked if there is any information that the soil moisture level would vary proportionately with the amount of water flowing through the soil. No one is aware of such information. Gunner and Craig asked about the installation at the Test

Center. Mr. Parker said that the system was installed in sand that met Eljen specs for Mantis installations and that it was compacted with vibration. The system was dosed with the standard domestic-strength wastewater used by the Test Center.

Mary asked if the Test Center Director, George Heufelder, agreed with the test approach used for measuring soil moisture and Mr. Parker said that it had been reviewed and accepted. Mary asked if Mr. Heufelder had reviewed the data and commented on its meaning. Mr. Heufelder has not reviewed the data.

Peter asked about the configurations that might be allowed under the Rules noting that while the test data is for a 26' system the Rules would allow for a 90' long system with a design flow of 560 GPD at the maximum loading rate of 2 gallons/day/square foot. Ernie said that a design manual for use in Vermont would need to be reviewed as part of the approval process. Craig felt the test results showed that each module was quickly forming a mat that facilitates equal distribution of effluent over the 26 feet of the test system similar to pipes wrapped in fabric. Gunner asked about requiring the use of timed dosing versus demand dosing and Mr. Parker said that the design manual would push the designers towards time dosing. Also there was a discussion regarding careful design of the dose volume and flow rates in order to not overwhelm the d-box or modules. Gunner and Peter strongly recommended a central distribution box location as a means of promoting even distribution and minimizing the length of the individual sections. Brian agreed to a maximum 100' length if fed from the center with a distribution box. The system could be fed from the end when 50' or less in length. These limitations are for mound designs. The TAC also discussed situations with more than 500 linear feet of distribution piping which in the Rules requires dosing of the system. One other suggestion was to limit the approval of pump to D-box designs to a maximum of 2000 GPD of residential use. Commercial uses would require pressure distribution. It was also suggested that more detailed installation instructions be provided regarding compaction of the fill to prevent settling under the modules. Mr. Parker said he could work with these limitations.

Draft Rules:

Ernie gave a status update with a timeline to complete the internal review of draft rules. The TAC will have a chance to review the Department's final draft after Chris Thompson completes her review. Ernie also noted that he was planning to return to review of the draft WS Rule at our September meeting.

Executive Committee: Steve Revell, Ernest Christianson, Roger Thompson
Alternates – Chris Thompson, Spencer Harris, Claude Chevalier, Craig Heindel

Subcommittees:

Hydrogeology

Craig Heindel, Bill Zabiloski, Mark Bannon, Scott Stewart, Steve Revell, Mary Clark, Roger Thompson, Peter Boemig, Ernie Christianson, Spencer Harris

Bottomless Sand Filters

Peter Boemig, Mark Bannon, Cindy Parks, Mary Clark, Denise Johnson-Terk, Craig Heindel, Ernie Christianson

Seasonal High Water Table Monitoring

Craig Heindel, Steve Revell, Roger Thompson, Ernie Christianson, Bill Zabiloski, Dan Wilcox, Mary Clark