COMMONWEALTH of VIRGINIA
Department of Health
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KAREN REMLEY, MD, MBA, FAAP
STATE HEALTH COMMISSIONER

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March 15, 2012

Mr. Sean McGuigan, President
Presby Environmental
sean@3secoinc.com
143 Airport Rd.
Whitefield NH 03598

Dear Mr. McGuigan:

You requested that the Virginia Department of Health (VDH) consider the study entitled "Raw Data Report Presby Enviro-Septic and Advanced Enviro-Septic" dated September 2011 and generated by the Massachusetts Alternative Septic System Test Center (MASSTC) as a basis for extending General Approval for Treatment Level 2 (TL-2) to the Advanced Enviro-Septic (AES) unit in the configuration tested. Treatment Level 2, or TL-2, is equivalent to a 30 mg/l BOD_5 and 30 mg/l TSS effluent standard.

The AES unit is a treatment unit that utilizes a patented dispersal piping that both controls loading and provides media for biological growth which is surrounded and underlain by sand. Currently the AES unit as tested under NSF 40 has been accepted by VDH for General Approval as a TL-2 treatment device. The configuration tested by NSF required 12 inches of system sand below the media/dispersal piping. The MASSTC study was run with only 6 inches of system sand below the media/dispersal piping.

The MASSTC study on the new configuration of 6 inches of system sand below the dispersal piping was conducted from 7/2/09 through 7/27/11. The BOD_5 and TSS data are summarized below.

		Influent	**Effluent**
BOD_5	n	74	224
	Average (mg/L)	216.1	5.2
	Median (mg/L)	200.0	4.0
TSS	n	75	224
	Average (mg/L)	134.7	6.5
	Median (mg/L)	87.0	5.0

During the above MASSTC testing, the daily schedule of influent dosing to the AES systems was similar to that used during NSF Standard 40 Class I testing, but the "stress" periods (wash day, working parent, power failure, and vacation) applicable to NSF certification testing did not occur. Since the AES system is a passive system with no moving parts, however, temporary changes in influent flow patterns, durations, or volumes seems unlikely to do more than temporarily increase the depth of stored influent within the AES piping – influent that will be slowly treated by and released through the surrounding media layers and system sand. With no electrical components, a power failure would be a non-issue.

General Approval for TL-2 is extended to the AES system underlain with 6 inches of system sand as tested in the MASSTC study. This approval is based on (1) a maximum septic tank effluent loading rate of 150 gallons per day per 70 linear feet of AES piping; (2) 6 inches of specified system sand below the AES piping; (3) trench bottom or soil dispersal area requirements being provided in accordance with the approved *"Virginia Design and Installation Manual; Treatment Level 2; Six Inches of System Sand"* (dated February 2012); and (3) vertical separation to a limiting feature being measured from the bottom of the 6 inch system sand layer. The General Approval only extends to systems with a rated capacity less than or equal to 1,000 gallons per day.

This approval replaces the original approval dated March 7, 2012.

If you have additional questions on this issue, please feel free to contact me at (804) 387-1883 or by email at Marcia.Degen@vdh.virginia.gov.

Sincerely,

Marcia J Degen

Marcia J. Degen, Ph.D., P.E.
Technical Services Administrator
Division of Onsite Sewage, Water Services,
Environmental Engineering & Marina Programs

Cc: Allen Knapp, Division Director
Kemper Loyd, Technical Service Engineer