# LAKE GEORGE FACT SHEET



## ENHANCED ON-SITE WASTEWATER TREATMENT SYSTEM (OWTS) DESIGNS REMOVE NUTRIENTS AND BENEFIT WATER QUALITY

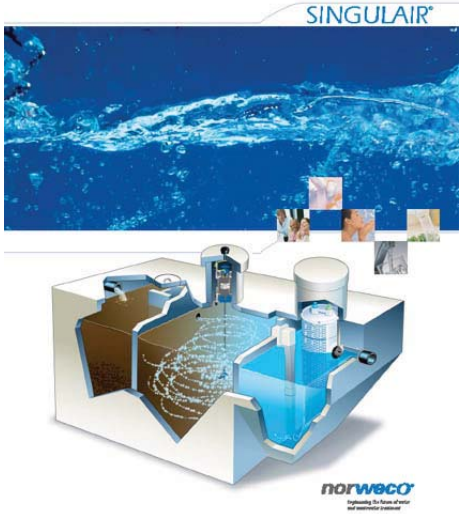
# ENHANCED OWTS DESIGN

Conventional on-site wastewater treatment systems (OWTS) consist of a standard septic tank, where primary treatment (solid settling) occurs, and an absorption field, where septic tank effluent is filtered and oxidized. These systems provide good treatment when designed and installed properly with good soil conditions and proper separation distances to wells, buildings and neighboring properties among other setbacks. However, when sites are compromised due to poor soil conditions, an inability to meet separation requirements, or when a homeowner is interested in heightening lake stewardship with an OWTS that removes nutrients, alternatives are available through enhanced treatment OWTS.

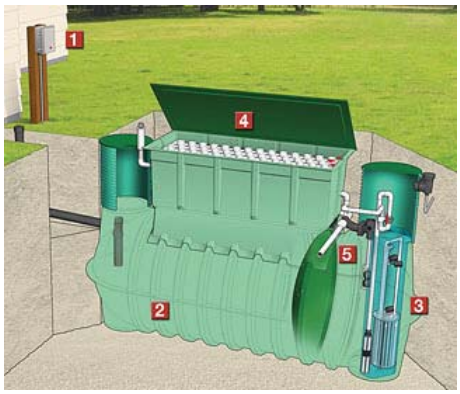
Enhanced treatment systems can greatly increase the quality of effluent prior to subsurface disposal discharge to soils. These systems provide additional treatment either within the septic tank structure (such as aerobic treatment units) or in filters that treat before the absorption field (peat or textile filters). These systems can be successful at reducing nutrient loading to Lake George.

**The following is a list of enhanced treatment on-site wastewater systems (OWTS) available on the market today:**

Singulair®: The Singulair treatment system, produced by Norweco, employs an extended aeration process and provides flow equalization, aeration, clarification and tertiary filtration within a single septic tank. Aeration is provided through a rotary aerator requiring electrical hookup and the patented Bio-Kinetic device provides flow equalization.




AdvanTex®: The AdvanTex treatment system, produced by Orenco Systems, utilizes a process tank where wastewater is separated into scum, sludge and liquid effluent that is dosed to an filter pod where effluent trickles over synthetic textiles. The textiles provide abundant surface area for microorganisms for treatment and a re-circulating pump is provided.




Advanced treatment OWTS can significantly improve performance and improve property stewardship to increase with quality protectons.

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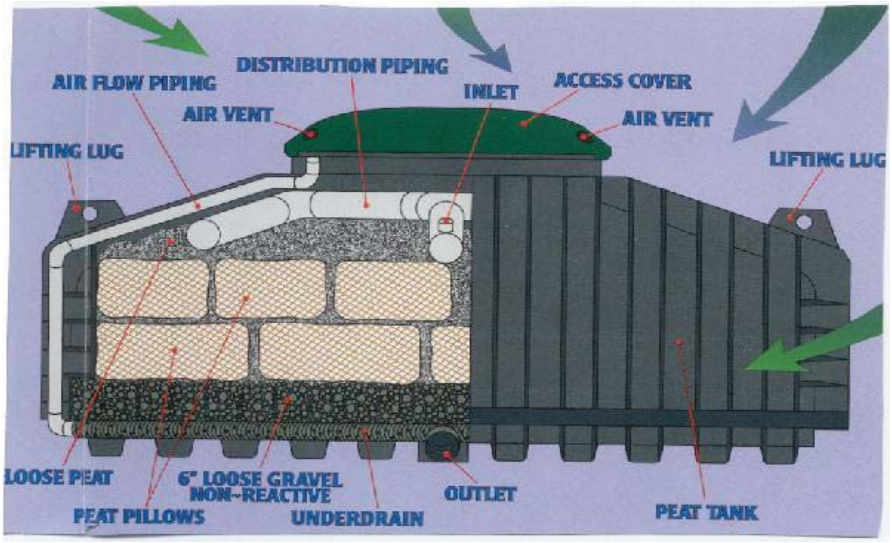
FAST®: The MicroFAST (Fixed Activated Sludge Treatment) treatment system, produced by Bio-Microbes, Inc., employs a unique hybrid combination of attached and suspended growth in an aerobic, packed bed bioreactor. Solids are separated from wastewater in the first compartment of the system and the wastewater flows into the treatment module. In the treatment module, microbial growth on a fast fixed film media provides a high surface area to volume ratio for treatment which is circulated through aeration from a blower unit.

Puraflo® Peat Biofilter: The Puraflow treatment system, produced by Bord na Mona Environmental Products US, Inc., utilizes a standard septic tank for primary treatment, the removal of solids. Effluent from the septic tank is pumped onto the peat biofilter media that are contained in modules where advanced treatment occurs due to physical, chemical and microbial processes. Typically, one module is required per bedroom.




Eco Pure Wastewater Treatment System: The Eco Pure treatment system utilizes a specially cultivated and harvested sphagnum peat moss for filtering and treating wastewater that is housed in a HDPE module. Septic tank effluent, which must pass through a effluent filter, can enter the module either through gravity or through pressure.

This is not a complete list of enhanced treatment OWTSs or technologies that are available, but are systems currently utilized in the Lake George watershed. Enhanced treatment systems are approved by New York State Department of Health when designed by a licensed professional and with National Sanitation Foundation (NSF) Standard 40 Class I classification.

It should be noted when mechanical components are added to a system, maintenance is required. Enhanced treatment systems require inspections, typically semi-annual, as per New York State Department of Health Regulations, which is provided through the manufacturer or approved representative. The installation of an enhanced treatment system does not eliminate the need for periodic pumping of solids from the septic tank and this should be included in the system inspection. Aerobic systems are not recommended for seasonal use because the bacteria require a constant food and oxygen source which would not be available when camps are closed.

For more information on enhanced treatment OWTS, contact the Lake George Waterkeeper at 518-668-5913.

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