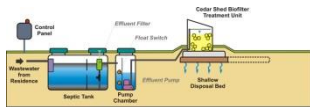
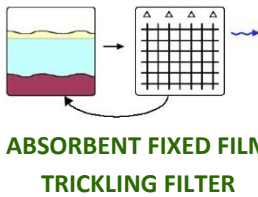


**PECONIC
GREEN
GROWTH
TECH INFO SHEET**

Firm: Waterloo Biofilter Systems, Inc.
www.waterloo-biofilter.com

System: **Waterloo Biofilter®**

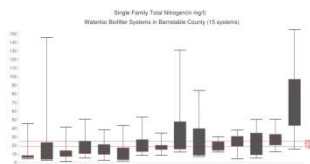
Category:



Cedar Shed



Subsurface Baskets



Actual usage, MASSTC
(without WaterNOx-LS)

Process:

Wastewater enters a septic tank for primary treatment before flowing by gravity through an effluent filter to a pump tank, which doses effluent to the Waterloo Biofilter™ unit. Effluent is sprayed over the filter media (engineered foam cubes), which provides both physical filtration and biological treatment. The absorbent filter media is designed to accept high loading rates without plugging and increase retention time, which improves treatment and moderates irregular flows typical of seasonal use. Passive aeration is used in the Biofilter unit, where nitrification occurs. Part of the nitrified effluent is recirculated back to the septic tank for denitrification and a portion passes through a WaterNOx-LS™ sulfur/limestone media filter to further reduce nitrogen levels before being dispersed back into the environment.

System:

A two-day retention septic tank with effluent filter is preferred for pretreatment, followed by a half-day, retention pump tank. The Biofilter treatment units are available in either below grade (Basket) or above ground (Shed) configurations. The WaterNOx-LS system is below ground. A Waterloo Smart Panel option is available for 24/7 monitoring of the system. The system does not replace the need for a dispersal system.

Flow Range: 300-2,500 GPD

Tests: EPA/ETV + ETI; Pending: Suffolk County Pilot 2

Cost: \$15-17,000, (includes septic tank, Waterloo Biofilter, and WaterNOx fully installed) with the option of a Smart Panel for another \$1,000 and a \$15 monthly monitoring fee.

Energy: 1 or 2 ½ HP pump(s), used intermittently; 470/kWh per year each, at a cost of \$ 7/month.

Waterloo Biofilter Systems, Inc.

PO Box 400
143 Dennis Street
Rockwood, ON
NOB 2K0
CANADA

Telephone:
1 866 366 4329



Installation: Shed



Installation: Basket

Tanks: Concrete and/or plastic

Venting: Passive venting through shed vents or basket tank lids

Footprint: Varies, 25-75 SF for treatment component

Depth: Shed configuration raises treatment above ground, allowing use in locations with high water tables or rocky terrain. The subsurface Basket concrete tanks are typically 6-7 ft. deep.

Life Cycle: 20 years +; Pumps: 5-10 years (\$200); WaterNOx-LS media 7-10 years (\$500)

Warranty: Foam filter media: 20 years

Maintenance: Annually; pump-outs of septic tank as needed. WaterNOx-LS media needs replacement every 7-10 years.

Notes: Waterloo has added the anoxic denitrification media filter WaterNOx-LS, which will further reduces nitrogen through autotrophic microbes (in submerged, anoxic environment). TN levels can be less than 5 mg/L with this feature. Options for remote monitoring and control with automatic alarm notification via email is available with the Waterloo Smart Panel.

Installations: Thousands in Canada, MA, MI, MO, NM, V, WV.

<i>Treatment</i>	<i>TN</i> 50%	<i>cBOD</i> 25 mg/L aver/mon	<i>TSS</i> aver/mon	<i>e-coli</i> /fecal	<i>pH</i> (6-9)
<i>mg/L</i>	14	8	4	22	7.3
<i>%</i>	59-65%	95%	95+%	99%	

Advantages:

- Shallow installations and small footprint
- Foam filter media warranty: 20 years
- Resilient to uneven/seasonal use
- Few moving parts
- Handles heavy organic loads well

Disadvantages:

- WaterNOx-LS media requires periodic replacement.