Reclaim Our Water

Overview of Provisionally Approved Technologies

What is Provisional Approval?

The Department of Health Services promulgated standards under Article 19 of the Suffolk County Sanitary Code that outlines the Approval Process of I/A OWTS Technologies. Systems provisionally approved in Suffolk County have a proven track record in other Eastern States such as New Jersey, Massachusetts, Rhode Island and Maryland. In addition, these systems have been rigorously tested in Suffolk County to ensure that they function as advertised. Suffolk County is one of the few jurisdictions that requires long term monitoring of the systems to ensure that homeowners are getting the best performance out of their water quality investment.

How do the Provisionally Approved Technologies Reduce Nitrogen?

Currently, all of the four Provisionally Approved Technologies in Suffolk County rely on biological processes to treat wastewater and convert and remove nitrogen. These systems use various methods to provide aerobic bacteria to convert organic nitrogen to nitrite and then use an anaerobic (without oxygen) environment to denitrify by stripping the oxygen molecule off of the nitrate, resulting in the release of gaseous nitrogen into our atmosphere.

Standard I/A OWTS Control Panel

Common Components on all I/A OWTS:

- Process tanks (including septic tank if required by the I/A manufacturer) with internal piping and valves
- Sewer piping between the dwelling and process tanks and between the process tanks and leaching structures
- Control Panel with electrical connection and high water alarms
- Conduit piping for electric wiring and junction boxes for electrical connections
- Active treatment component such as pumps, blowers, media or effluent filters.
- Risers/chimneys with covers to grade on all access openings
- Air vents with associated piping and carbon filter as required

Hydro-Action AN Series – Approved September 2016

The Hydro-Action® systems utilizes a suspended growth aeration system. The treatment occurs as wastewater enters the pretreatment tank and flows by gravity into the aeration compartment. Wastewater flows by gravity from the aeration chamber through a hole in the base of the cone-shaped clarifier, where final settling takes place. The hydraulic roll created by the aeration system helps draw settled solids out of the base of the clarifier and back into the aeration chamber. The aerobically-charged wastewater is then recirculated back to the pretreatment tank, where it further denitrifies. Treated wastewater exits by gravity through a tee structure located in the center of the clarifier, treated effluent is then discharged to a Department approved leachfield structure.

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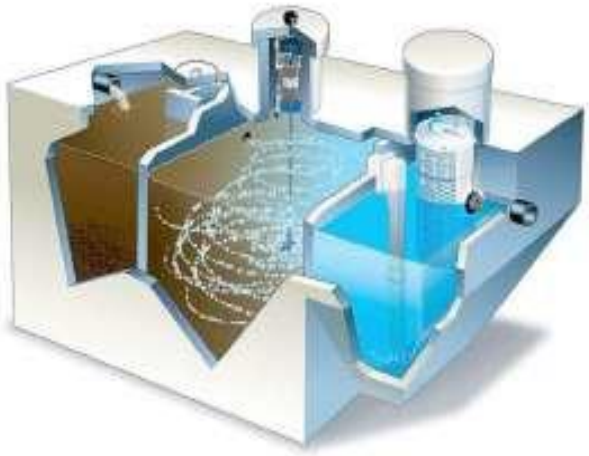
Hydro-Action AN Features

- Single unit fiberglass construction
- One air pump
- One recirculation pump (sends treated effluent back to the septic tank for additional treatment)
- One mixing pump (used for system start-up only)
- Three covers to grade

Photos of Hydroaction Systems from Suffolk County Septic Demonstration Program

Norweco Singulair TNT – Approved October 2016

The Singulair® wastewater treatment system is a self- contained three-chambered treatment system utilizing primary treatment (settling), mechanical aeration, clarification, and flow equalization to achieve treatment. Wastewater from the building enters the primary settling chamber through an inlet tee, then enters an aeration chamber. In the aeration chamber, an aspirator at the bottom of a shaft disperses air radially as fine bubbles provide oxygen for the biomass and vertically mix chamber contents. The wastewater in the aeration chamber passes through to the clarification chamber for final settling of solids. Treated wastewater passes through an effluent filter as it exits the system and is then gravity fed to the leachfield.



Norweco Singulair Features

- Single unit concrete construction
- One mechanical aerator
- Three covers to grade
- Biokinetic Effluent Filter
- Gravity Flow Through

Manufacturer Information:

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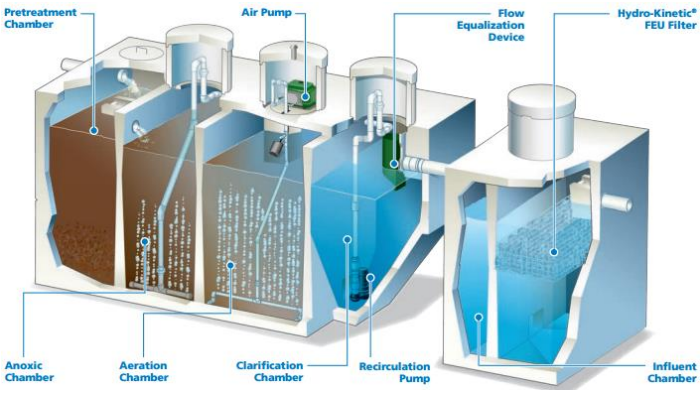
Photos of Norweco Singulair TNT installations from the Suffolk County Septic Demonstration Program

Norweco HydroKinetic – April 2017

The HydroKinetic utilizes suspended growth aeration. Pretreatment tank effluent mixes with nitrified recirculated liquid in the anoxic chamber via a mixing bar. The mixed liquor gravity flows in the aeration chamber where flow equalization maximizes biological oxidation and assures proper retention and treatment. The clarification chamber allows for settling and recirculation of nitrified liquid back to the anoxic chamber. Treated water passes through a flow equalization device to the FEU filter where it travels through the proprietary attached growth filtration media and is discharged to an approved leaching structure.



Norweco HydroKinetic Features

- Precast concrete construction
- Treatment unit is preceded by a separate primary tank
- One air pump
- One recirculation pump
- Six covers to grade

Manufacturer Information:

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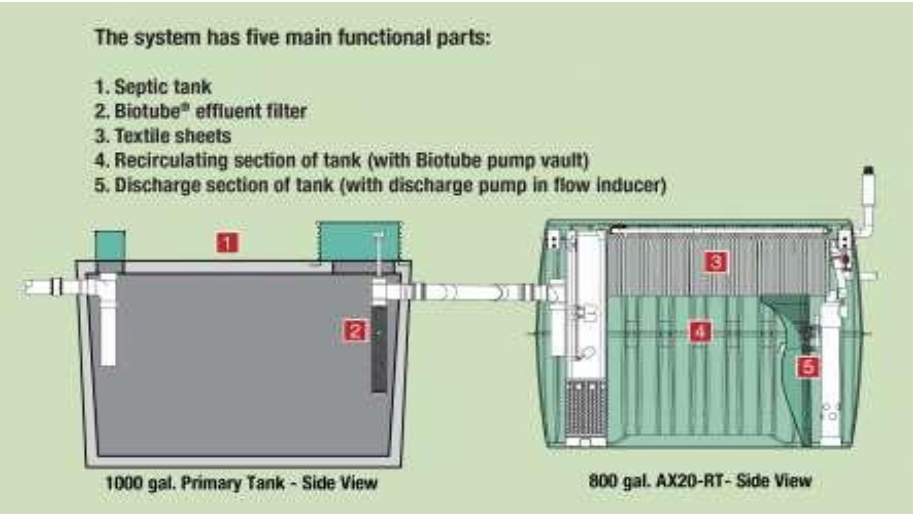
Photos of Norweco Hydrokinetic installations from the Suffolk County Septic Demonstration Program

Orenco Advantex AX20-RT – Approved March 2017

The AdvanTex® AX-RT Series is a recirculating textile filter treatment system. It is contained with a single fiberglass tank installed with the access panel at grade. It is preceded by a two-compartment septic tank and discharges to a leachfield. Raw sewage enters the septic tank through its inlet tee. In the septic tank, the raw sewage separates into three distinct zones – a scum layer, a sludge layer, and a clear layer. Effluent from the clear layer passes through a Biotube® effluent filter and is discharged by gravity to the recirculation treatment tank portion of the AX-RT unit, which contains a Biotube Pump Package.

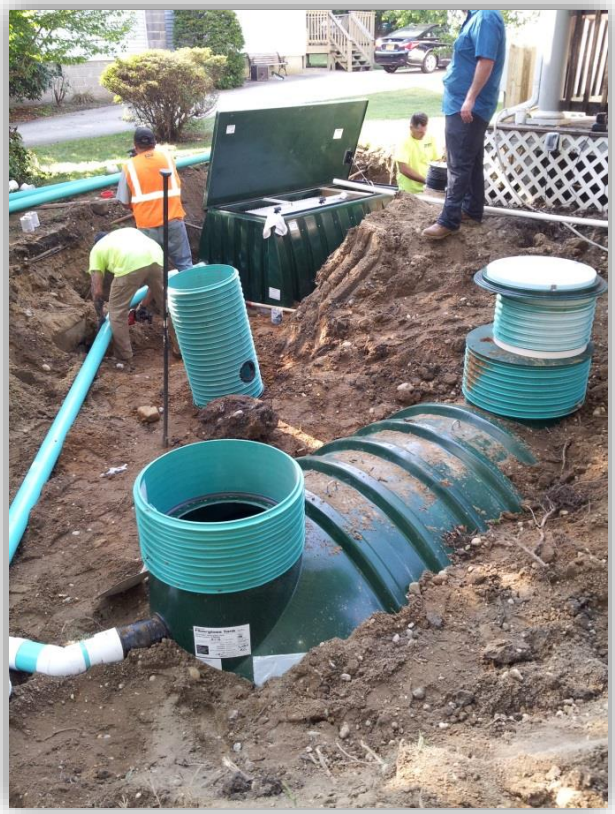
The recirculation pump is timer controlled to ensure that small, intermittent doses (micro-doses) of effluent are applied to the textile sheets throughout the day. This ensures an aerobic, unsaturated environment for optimal treatment to occur. Effluent is sprayed over the textile sheets. The effluent then percolates down through the textile sheets and is distributed between the recirculation and discharge chambers by means of the AX-RT baffle. Periodically, a pump in the discharge chamber doses effluent to the dispersal system.



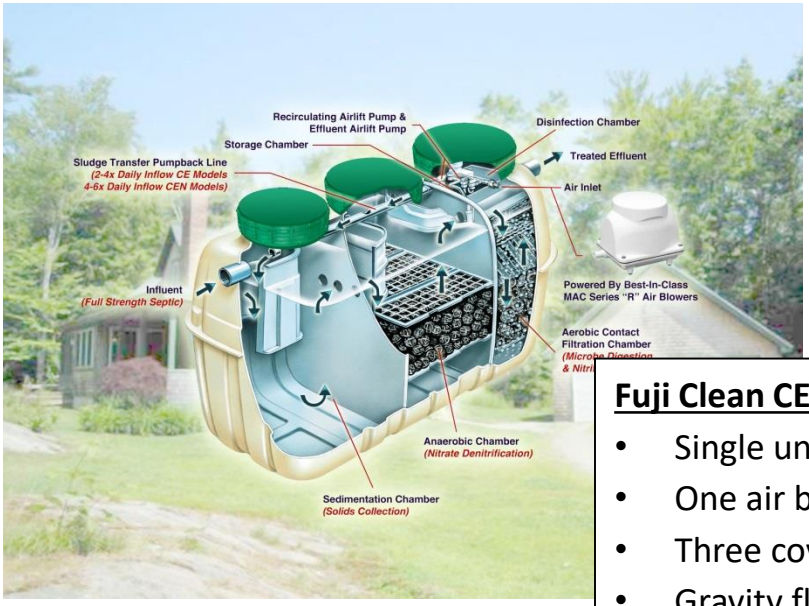
<u>Orenco Advantex RT Features</u>

- Fiberglass construction
- Treatment unit is preceded by a separate primary tank
- Two pumps utilized for recirculation/media dosing and effluent dosing.
- Two covers to grade for primary tank
- One large rectangular cover to grade for treatment unit

Photos of Orenco Advantex AX20-RT installations from the Suffolk County Septic Demonstration Program



Fuji Clean CEN Series – Approved January 2018



Fuji Clean CEN Series Features

- Single unit polyethylene construction
- One air blower
- Three covers to grade
- Gravity flow through

The Fuji Clean system treats wastewater through a process of contact filtration, flow equalization and recirculation, all within one tank consisting of three sequential chambers, “Sedimentation,” “Anaerobic” and “Aerobic.” Influent first enters the Sedimentation Chamber, where sludge settles to the bottom, scum and grease float to the top and the relatively clear liquid in the middle flows through a baffle into the bottom of the 2nd chamber. In this chamber, plastic media provides for upflow filtration as well as surface area on which microbes can grow Filtered flow from the upper portion of the Anaerobic Chamber then flows into the oxygen rich Aerobic Chamber where two different types plastic media provide surface area for aerobic microbe digestion activity, solids filtration and additional nitrification. Oxygen is introduced into the sides of this chamber from one linear diaphragm blower. Air from this same blower is also used to power a recirculation loop 24/7, in a controlled manner, back to the sedimentation chamber. Finally, air from this same blower powers an effluent airlift line that meters cleaned effluent to a Leaching Structure

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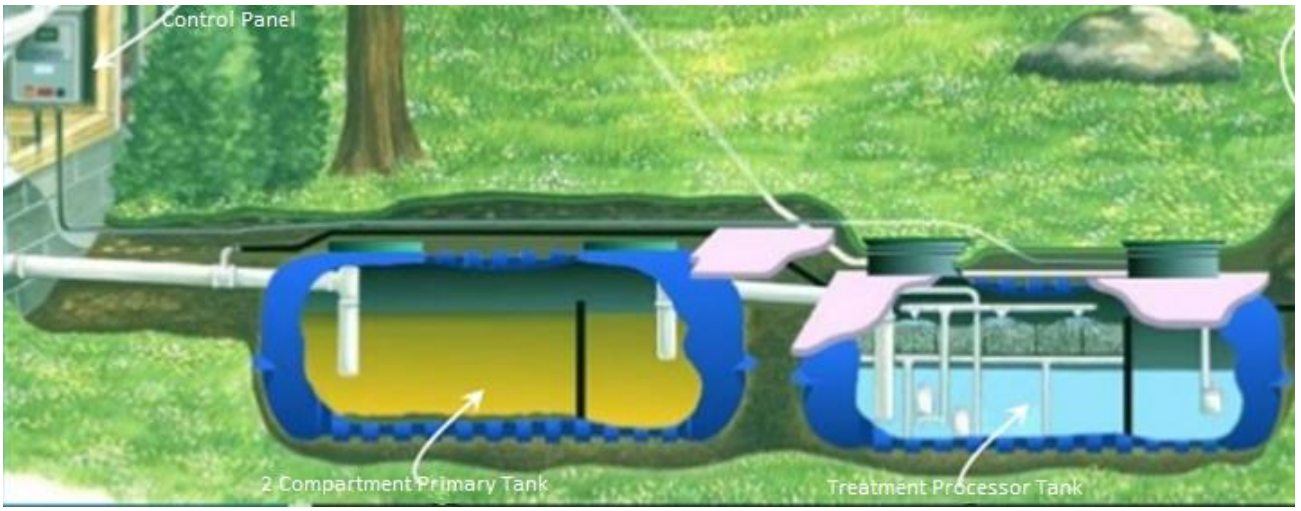
Photos of Fuji Clean CEN Series installations from the Suffolk County Septic Demonstration Program

SeptiTech STAAR – Approved July 2018

The simple, automatic and reliable equalization and clarification process of the SeptiTech® STAAR™ (Smart Trickling Anaerobic/Aerobic Recirculation) System treat high organic loads by utilizing biological trickling filter technology. Influent first enters a two-compartment, settling tank to allow separation of solids from liquids. Effluent from the primary settling tank flows through an effluent filter into the treatment tank at the bottom of the trickling filter mixing with the treated wastewater. Wastewater is then pumped up into the trickling filter. The pump simultaneously draws a robust amount of air. The air combines with the uniform spray providing efficient treatment as the water and air combination trickles down through the filter media. Systematically, wastewater is pumped back to the settling tank to remove sludge from the trickling filter. This localizes sludge management into the settling tank. After treatment, a pump will send small, frequent time doses to the leaching system to ensure optimal soil absorption. The SeptiTech® STAAR™ Filter Panel Senses “surge flow” and “low flow” activity; automatically adjusting the discharge rate as needed.



SeptiTech STAAR Features

- Concrete, plastic or fiberglass construction available
- Treatment unit is preceded by a separate primary tank
- Three pumps- recirculation, filter media dosing and discharge
- Four covers to grade

Distributor Information:

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Photos of SeptiTech STAAR installations from the Suffolk County Septic Demonstration Program

For More Information visit www.ReclaimOurWater.info
or call (631) 852-5811

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ROW Reclaim Our Water