

SeptiTech's UV Drip Hose System Summary

SeptiTech's UV Drip Hose System is a simple and highly effective method of disposing of pretreated wastewater from the company's patented and approved biological trickling filter pretreatment system.

SeptiTech's Standard Process

This system uses a suspended hydrophobic media with a high surface area to volume ration to provide highest purity treatment. SeptiTech routinely achieves BOD₅ and TSS reductions to single digit levels (≈ 97% reduction) and achieves E. Coli reductions in excess of 99%. A Programmable Logic Controller (PLC) assures consistent treatment and controls all system functions such as discharge pump function which pumps treated effluent in small, frequent doses to maximize leachfield absorption capacity. With an optional auto-dialer and modem for off-site system monitoring capability and very rapid start-up, the system is ideal for seasonal home applications.

SeptiTech's Drip Hose System

SeptiTech's UV Drip Hose System couples SeptiTech's standard biological trickling filtration technology with an enhanced UV disinfectant system to render wastewater clean, sterile and able to pass through drip hose in a safe and efficient manner.

A typical residential system arrangement includes a 1000-gallon two-compartment septic tank which gravity feeds the SeptiTech M400UV processor. Wastewater is treated in the processor, and then fed through the UV disinfection unit before being pumped into the drip hose for final discharge.

Upon being discharged from the drip hose, treated wastewater will evaporate or be absorbed into the organic layer (duff or manmade) and upper soil horizons where plant roots are present and most of the biologic activity is present.

Advantages offered by this system as compared to conventional systems:

- less cost
- easier to fit on tough sites
- preserves aesthetic integrity of site (no mounds, no cut trees, no disturbance at all)
- disperses effluent in most biologically active zone (plant roots)
- ideal for flowerbed irrigation
- effluent remains completely aerobic
- small, frequent doses over large area maximize absorption/evaporation
- Less risk of construction related failures
- Environmentally superior. (Less potential for groundwater contamination).

The SeptiTech Drip Hose UV System. Commonly Asked Questions:

Drip hose? Why should I be interested in a drip hose system?

SeptiTech drip hose disposal system represents a potent new tool to help you design systems for seasonal wastewater disposal locations with poor drainage, shallow ledge, difficult access or sites where your client doesn't want to disturb the aesthetics of a site. Remote sites where access to fill is difficult and expensive are also ideal candidates for this system. No mounds. No fill. No need to cut trees. Significant cost savings. Environmentally superior.

Exactly what do you mean by "drip hose?"



We're talking about 5/8" garden type soaker (or "weep") hose that diffuses water over its entire surface. You can buy such hose at your local hardware store (although we recommend one particular high quality model). Discharge cycle consists of small doses pumped approximately every 45 minutes to most effectively disperse treated water throughout the entire length of the hose. A small section of this hose is enclosed for your inspection.

Exposed drip hose. Approval calls for hose to be covered with duff, sawdust and/or bark chips.

How is a soaker hose leachfield installed? Is it expensive? Can it be installed by hand?

That's the beauty of this system. You can literally carry your leachfield to your site in a shopping bag. (One foot of hose per gallon flow). A 3-bedroom house with 270 gpd flow will require around 270-feet of drip hose. Cost: approximately \$54. (Cost of SeptiTech processor discussed below). Installation can be accomplished by hand rake and simple garden hose connectors. The hose is hidden from view under duff, sawdust and/or bark chips.

Why is this system only approved for seasonal sites?

Since the soaker hose rests just under the duff layer, the system is subject to freezing.

What tanks are associated with this system? Must they be buried?

A typical residential installation includes a 1000-gallon 2-compartment septic tank followed by a SeptiTech M400UV Processor – also in an 1000-gallon tank. Cost of this Processor is \$8,976.

Tanks do not have to be buried. Many times this system is the best solution where shallow ledge is prevalent and tanks are most easily sited above ground. Tanks are sealed and odorless. There is an assortment of strategies available to cover or camouflage above ground tanks.



Tanks above ground but hidden from view under deck

What experience does SeptiTech have with this system?



Crew carrying tank into place

Testing of this system began in 1998. In early spring of 1999, we installed 34 drip hose systems on thirty-four seasonal properties on MacMahan Island, Georgetown, Maine. We also installed a 2,500 gpd commercial system on Malden Island (Five Islands) and are currently installing a 4,000 gpd commercial unit for Haystack School of Crafts on Deer Isle using the same drip hose technology

Systems on MacMahan and Malden Islands were monitored closely by residents, island managers, SeptiTech personnel, State Soil Scientist, David Rocque and Georgetown C.E.O., Dave Foster.

Multiple field inspections and testing throughout the summer of 2000 found all systems operating very effectively in treating and disposing wastewater and provided the basis for General Use Approval being granted.

Is the ground wet around this soaker hose? Can it be used to irrigate gardens?

During inspections we never found any visible water on the surface of the ground. Removing the duff layer covering the soaker hose found moist soil and no odor except that of moist earth. Vegetation thrives around this hose and is suitable for flower garden irrigation.

What about winter shut down? Does the system have to be drained?

SeptiTech offers a seasonal shutdown package that can be built into each system. The package consists of a pump installed in the septic tank and shutdown operation software programmed into its controller. One simple switch triggers the winterization program.

Can the system be designed to recycle treated water back into the blackwater system?

Yes. We've designed one system for Five-Islands that recycles a certain portion of the treated water back into a separate black water system to recharge toilets. The remainder uses drip hose discharge for disposal. The same can be done for a residential system in cases where water supply is limited.

Airlifting Five-Islands commercial system into place. System incorporates both drip hose disposal and water recycling.



What if someone were to come in contact with the drip hose?

This system has been approved by the DHE which means that it is equal to or exceeds their minimum standards for protecting the public health and welfare. Discharge pipes are covered by an organic duff layer (or wood chips) so discharge is below the surface and rapidly disperses and/or evaporates in the shallow duff layer. Multiple tests indicate that treated effluent from this system typically contains zero fecals and is always much cleaner than the standard for water the State classifies as “swimmable.” (State “Standard for Classification of Lakes and Ponds” Title 38, Chapter 3 and Chapter 1, Article 4A.).

How much electricity does the UV draw?

The SeptiTech residential system uses a 40-watt UV bulb, which continuously disinfects treated effluent. This bulb draws approximately 1 kW (\approx \$0.12) per day. We recommend that the bulb be replaced once per year.

How do I design such a system? How should I fill in the HHE-200?

A sample HHE-200 is attached for your review. You’ll note that if organic duff is not available, bark mulch, sawdust or wood chips can be specified to cover the hose. A SeptiTech M400UV is the residential system model used in conjunction with this system.



SeptiTech Model 400UV systems heading to MacMahan Island