

# Septic System Information

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## for Rhode Islanders

### FREQUENTLY ASKED QUESTIONS

#### *About Enhanced Individual Sewage Disposal Systems (ISDS) in Rhode Island*

#### What are enhanced treatment septic systems?

Enhanced (or alternative, or innovative) septic systems provide additional treatment to your household wastewater. These systems include an additional component such as a sand filter. Each component plays a different role in treating the effluent. One component may reduce waste strength or remove pathogens, another may remove nitrate-nitrogen, while others, working in combination, do all three. The type of treatment system that you install will depend upon the water resource you are interested in protecting.

#### When should an enhanced treatment system be installed instead of a conventional septic system?

When enhanced treatment is desired to protect a critical water resource and the desired outcome is greater nutrient or pathogen reduction. For example, conventional systems do not reduce nitrate-nitrogen from wastewater and sandy soils may not adequately treat pathogens. Also, enhanced treatment is used when an existing repair site cannot accommodate a conventional technology or when new construction would require extra fill material being hauled on site, the construction of a retaining wall, or extensive mounding.

#### How much does an enhanced system cost?

Costs range from \$10,000 - \$20,000 or more for a complete system. Keep in mind, however, that in some repair situations on small lots there is only enough room for an enhanced system. Also, the cost of a conventional system in some applications (very wet or stoney lots) can far exceed the cost of an enhanced system, especially if fill and retaining walls are required.

#### Does the property owner need a variance or special permit?

If a certain type of enhanced system is not approved for general use by the Rhode Island Department of Environmental Management (RIDEM), a special variance will be required.

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For More Information: Technical Assistance, training programs and information. URI Cooperative Extension's On-Site Wastewater Training Center George Loomis, Program Director, (401) 874-5950, [gloomis@uri.edu](mailto:gloomis@uri.edu) David Dow, Program Manager, (401) 874-5950, [dbdow@uri.edu](mailto:dbdow@uri.edu) Website: [www.uri.edu/ce/wq](http://www.uri.edu/ce/wq)



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*Part of this single pass sand filter is exposed at URI's On-Site Wastewater Training Center for demonstration purposes. It is one example of an enhanced treatment component approved for use in Rhode Island.*



*A peat filter is an enhanced treatment option.*



*The shallow, narrow drainfield design is a typical component of the enhanced treatment system.*

## How do I know if an enhanced system is approved for general use?

You can find a list of currently approved technologies not requiring a variance at RIDEM's ISDS section website at <http://www.state.ri.us/dem/regs/water/isdsnew.htm>.

## How does an enhanced system improve treatment to protect water quality?

The additional component(s) built into these systems put the wastewater through aerobic or a combination of aerobic and anaerobic treatment before effluent is released to the environment. Based on the system design, this increases the removal of nitrogen, pathogens, or both from the wastewater. Many of these systems also incorporate a shallow, narrow drainfield design. This design uses the existing upper-level soil to provide additional treatment of the wastewater.

## What kind of site constraints can be overcome with these systems?

Sloping sites, high groundwater, soils with either slow or very rapid percolation rates, and sites close to wetlands, coastal ponds, drinking water supplies or other critical water resources.

## Will an enhanced ISDS allow development of land that otherwise could not be developed with a conventional ISDS?

Not according to present RIDEM policy. In Rhode Island, all new development sites must meet existing requirements for conventional systems before being granted a permit to install an enhanced treatment system.

## Can multiple homes or businesses be hooked up to a single enhanced ISDS?

Yes, in some situations.

## How long does an alternative ISDS last?

When properly engineered, installed, and maintained, the overall system (i.e. tank, drainfield, treatment zone) should last indefinitely. Individual components such as pumps, electrical components, and filter media may require eventual replacement.

## How much does an alternative ISDS cost to run and maintain?

Annual costs vary depending upon the type of system and its configuration. For example, a single-pass sand filter costs approximately \$15 per year in electricity, whereas a system that utilizes an aeration system that operates 24-hours a day can cost \$300 or more a year. Maintenance providers offer service contracts. These can range from \$150 - \$400 per year depending on the type of system and frequency of maintenance.

## Who will maintain and repair the system?

A service and maintenance contract can be established with a septic service professional similar to that of your heating system maintenance.

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