



Factsheet: Advanced OWTS

Advanced Onsite Wastewater Treatment Systems (OWTS)

Improved treatment of pathogens, nutrients and/or other wastewater contaminants

Advanced onsite wastewater treatment systems (OWTS; sometimes referred to as Innovative & Alternative (I&A) or Alternative/Experimental (A/E) systems) are a special type of septic system engineered to provide enhanced treatment of wastewater. There are different kinds of advanced systems, which can be designed to remove pathogens (disease-causing organisms), nutrients like Nitrogen or Phosphorus, and other contaminants found in wastewater. Some advanced systems can remove multiple contaminants, while others are intended to treat for a single type.



Advanced systems have become more common over the past three decades. Most advanced systems in RI are designed to remove Nitrogen



Advanced systems are required by regulations in nutrient and pathogen-sensitive areas, like along the coast or near drinking water sources



Advanced systems can have a smaller footprint than conventional systems on sites with many constraints, which makes them popular in some inland regions



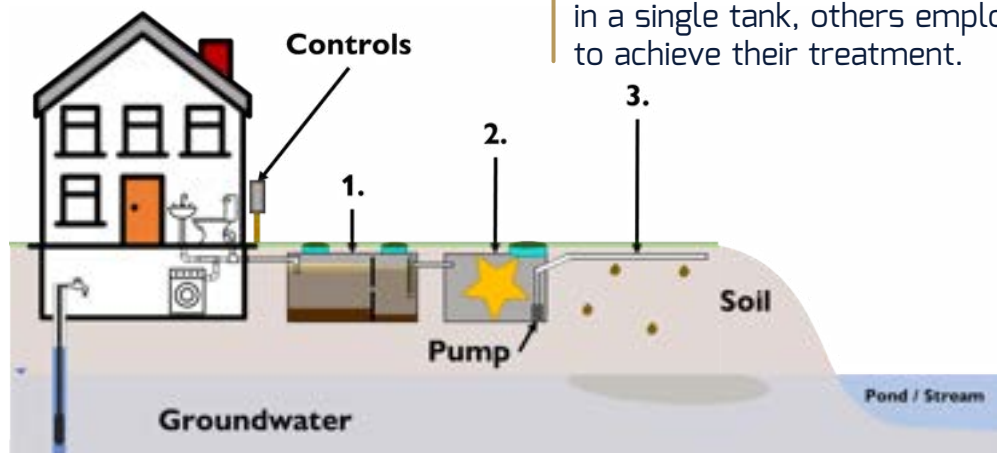
Maintenance is critical to system function, performance and longevity. Advanced systems should be serviced at least twice a year



How advanced systems work

1. A primary treatment tank or zone allows solids to settle out of the wastewater from the house. This is the same process that happens in a conventional septic tank.

2. In the secondary treatment tank or zone, specialized conditions enable microbes to provide additional treatment. Depending on the treatment goals, this may involve adding air, and/or moving wastewater to different components with different conditions, treatment media and/or microbes. All systems require controls, and some include pumps. Some advanced system technologies contain all the treatment steps in a single tank, others employ multiple tanks or components to achieve their treatment.



3. Advanced-treated wastewater still contains some contaminants hazardous to human and/or environmental health, so it still needs additional polishing before it trickles into groundwater. Shallow drainfields close to the ground surface maximize final treatment of the wastewater, protecting local ground and surface water.

Protect your investment

- Advanced wastewater treatment systems are more expensive than conventional septic systems, but they do a better job of protecting your family and environment from harmful contaminants in wastewater
- These systems are an important part of your property's utilities/infrastructure. Like your other highly engineered systems and assets, they require ongoing preventative maintenance and service to perform at their peak over their lifespan
- Caring for your system proactively can save you headaches and costs over time

✓ DO'S

- ✓ **Ensure your advanced treatment system and drainfield are serviced by a licensed professional twice a year** (typically covered by advanced wastewater treatment system service contracts)
- ✓ **Follow best practices for conserving water** and basic **septic system care** to protect your system
- ✓ If you have a **private drinking water well**, get your water **tested annually**

✗ DON'TS

- ✗ Flush anything except toilet paper and human excrement
- ✗ Flush or rinse toxic or poisonous substances into your system
- ✗ Allow water softener system backwash water into your system
- ✗ Use an in-sink garbage grinder
- ✗ Allow stormwater to pool near or run into your system
- ✗ Use any system component as a footing or structural support