



PINELANDS ALTERNATE DESIGN TREATMENT SYSTEMS PILOT PROGRAM

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Background

In August 2002, the Pinelands Commission implemented the Alternative Design Treatment Systems Pilot Program, an important initiative to further protect Pinelands water resources. As a result of the pilot program, Pinelands Area residents are able to significantly reduce water pollution by using high performance septic systems to pretreat wastewater before it is discharged to Pinelands aquifers that supply water to area wells, streams and rivers.

The pilot program is the culmination of a two-year effort which involved the formation of an Ad Hoc Committee on Alternative Septic Systems. The Committee, comprised of members of the Pinelands Commissioner, the Pinelands Municipal Council, the Pinelands Preservation Alliance and the New Jersey Builders Association, was tasked with identifying advanced onsite wastewater treatment technologies that are capable of removing appreciable amounts of nitrogen from domestic wastewater. The Committee received assistance from the New Jersey Department of Environmental Protection, professional engineering consultants, university researchers and other state and national experts.

As a result of the pilot program, residential development can meet the Commission's two-milligrams-per-liter nitrogen water quality standard on lots smaller than 3.2 acres (down to a minimum of 1 acre) provided a high performance septic system, authorized for use through the pilot program, is used. These systems are capable removing more than 65% of total nitrogen from domestic wastewater.

To date, the pilot program has granted permanent approval to three advanced treatment technologies when used on minimum one-acre parcels and to one technology when used on minimum 1.4-acre parcels

The three technologies permanently approved for use on one-acre parcels include the Amphidrome, Bioclere and SeptiTech systems. The FAST technology has been permanently approved for use on 1.4 acre parcels. The Ashco RSF III, Cromaglass, Busse GT and BioBarrier technologies were removed from the pilot program due to the failure to install systems in the Pinelands Area (Ashco and Busse) or the failure to meet Pinelands water quality standards (Cromaglass and BioBarrier). Currently the Hoot ANR system is being piloted on one-acre parcels.

Each of the high-performance septic systems use microbiological treatment processes to remove total nitrogen from wastewater, employing the same physical and biological treatment methods that are used in large scale wastewater treatment plants. Removing excess nitrogen from wastewater helps to prevent eutrophic conditions from developing in surface water bodies and also prevents the proliferation of invasive plant species in aquatic and wetland habitats. Moreover, these systems can protect aquifers used for drinking water from developing excess levels of nitrate-nitrogen which can cause methemoglobinemia or “Blue Baby Disease” in infants.

Pinelands Pilot Program and NJDEP Advanced Pretreatment Device Requirements

- As with all septic systems in New Jersey, engineering plans for Pinelands alternate design wastewater treatment systems must be prepared by a NJ licensed professional engineer. (NJDEP @ N.J.A.C 7:9A-7.1(a));
- Design engineers must certify that they possess sufficient knowledge of the technology to design systems in a manner that meets the systems manufacturer’s minimum specifications and recommendations. (NJDEP @ N.J.A.C 7:9A-8.3(b));
- All systems must be installed under the direct supervision of an individual meeting NJDEP’s requirements for an “authorized installer”. The authorized installer shall be physically present at all times during the installation of a Pinelands alternate design wastewater treatment system. (NJDEP @ N.J.A.C 7:9A-8.3(c));
- Upon installation, the system manufacturer and a New Jersey licensed professional engineer must certify to the Commission and the local board of health that the system has been properly constructed and must provide as-built drawings of the system to the Pinelands Commission and the local board of health. (Pinelands Commission @N.J.A.C 7:50-10.22(a)6.v and NJDEP @ N.J.A.C 7:9A-3.13(a));
- All pilot program systems are covered under a five year parts and labor warranty to ensure that all necessary repairs are covered during the warranty period without additional cost to homeowners. (Pinelands @ N.J.A.C 7:50-10.22(a)6.viii);

- For five years from the time of purchase, all pilot program systems are covered under a pre-paid, renewable, non-cancelable five year operation and maintenance contract. Pinelands rules require a minimum of one service call annually. NJDEP rules require that the system be inspected by an individual meeting NJDEP's "authorized service provider" requirements once within 30 days of startup, twice per year during the first two years of operation and once per year thereafter. (Pinelands Commission @N.J.A.C 7:50-10.22(a)6.viii and NJDEP @ N.J.A.C 7:9A-12.3(e)2);
- All Pinelands alternate design wastewater treatment systems shall be equipped with alarm dialing capability and shall be covered under a service contract with an authorized service provider for the life of the system. (Pinelands Commission @ N.J.A.C 7:50-6.85(b) and NJDEP @ N.J.A.C 7:9A-12.3(a) and N.J.A.C 7:9A-8.3(b)6);
- Treatment system vendors are required to ensure that samples of treated wastewater are collected and analyzed during the initial three years of system operation to determine each system's nitrogen removal efficiency. Testing is performed by NJDEP certified laboratories and lab results are provided to the Pinelands Commission. The Amphidrome and Bioclere systems are no longer subject to this effluent testing requirement. (Pinelands Commission @ N.J.A.C 7:50-10.22(a)6.iv);
- The property owner upon which a Pinelands alternate design system is installed needs to record a notice with the deed to the property that identifies the treatment system technology, acknowledges the owner's responsibility to operate and maintain the system in conformance with the manufacture's and the Pinelands Commission's requirements and grants access to the property for the purpose of system monitoring.

For more information on the Alternate Design Wastewater Treatment System Pilot Program, visit the Pinelands Commission's website at www.nj.gov/pinelands/ . For information on the New Jersey Department of Environmental Protection's rules related to advanced wastewater pretreatment devices, visit the NJDEP website at <http://www.state.nj.us/dep/dwq/pdf/njac79a.pdf>