

Septic Improvement Program FAQs

Where does our waste go after we flush the toilet?

Thanks to the simple push of a lever, waste remains out of sight and out of mind. According to the US EPA, about one-third of Americans have a septic system treating the waste in their homes. The wastewater from your toilet, shower, sinks and washing machine leave your house and is deposited into an underground septic tank or cesspool. The heaviest particulate matter in the waste, called sludge, sinks to the bottom. At the top of the tank, fats, oils and proteins form the floating scum layer. In the middle is the comparatively clear liquid layer called effluent or gray water. Combined, these components are called septage. Septic systems are designed so that only the effluent is discharged from the tank into the drain field (also called the leach field) or in most cases in Suffolk County, a leaching pool.

Where does our drinking water come from?

All the drinking water in Suffolk County is withdrawn from porous underground sand and gravel formations known as aquifers. There are three major aquifers found beneath Suffolk County. The deepest aquifer is the **Lloyd Aquifer**, and it contains water that is up to several thousand years old. The middle aquifer is called the **Magothy Aquifer**, and it contains water that is up to 1,000 years old in its deepest layers underlying the south shore. The shallowest aquifer is called the **Upper Glacial Aquifer**. Most of the wells that draw from this aquifer serve individual households.

Why the concern? Has water quality diminished significantly in Suffolk?

While our water is safe to drink, nitrogen has adversely affected groundwater, and has caused impairments of all three major estuaries and numerous freshwater lakes and streams, resulting in eutrophication, hypoxia, and harmful algal blooms. The result has been fish kills and the demise of a once nationally significant shellfish industry. Nitrogen has also decimated submerged aquatic vegetation and fragile wetland ecosystems diminishing coastal resiliency in the face of storm events. This is largely due to the fact that 74% of Suffolk County residents rely on antiquated cesspools and septic systems to dispose of their household waste which were never designed to remove nitrogen. The average residential septic system discharges approximately 40 pounds of nitrogen per year which, for homeowners close to surface waters, rapidly reaches surface waters.

What is a cesspool?

Cesspools are antiquated structures that receive raw waste from the house and allow the untreated household effluent to leach into the surrounding soil, ultimately leading into ground and surface waters. The solid portion is contained in the cesspool interior that requires intermittent pump-outs.

What is a conventional septic system?

Conventional septic systems on Long Island consist of a septic tank and leaching structure(s) such as a leaching pool. Household waste enters the septic tank where wastewater is stored while solids settle to the bottom and fats, oils, and greases float to the top, forming a “clear zone” of effluent in the middle of the tank. This “clear effluent” is what is discharged to the leaching pool for final disposal, providing minimal treatment of nutrients such as nitrogen, pharmaceuticals, personal care products, and volatile organic compounds.

What conditions should be considered in replacing the existing system?

Has there been a history of trouble? Do you experience slow-draining, gurgling toilet and occasional rank odors? Does your system get pumped out two times or more per year? When was the last time it was pumped? How old is the system and when was it permitted? Is the existing system constructed of blocks?

Why opt for Innovative and Alternative Systems?

When properly designed, sited, installed, managed, and maintained, Innovative and Alternative Onsite Wastewater Treatment Systems (I/A OWTS) provide a cost-effective and environmentally sound alternative to sewers in portions of Suffolk County that are outside designated sewer areas. These systems significantly reduce nitrogen and, in many instances, reduce or eliminate levels of other contaminants of concern such as pharmaceuticals, personal care products, and volatile organic compounds found in traditional cesspools and septic systems. I/A OWTS can provide greater reliability for performance and reduce the number of pump outs for homeowners that currently pump out their wastewater systems more than once a year.

How do the provisionally approved technologies reduce Nitrogen?

All of the provisionally approved technologies in Suffolk County rely on biological processes to treat wastewater and remove nitrogen. These systems use various methods to provide aerobic bacteria to convert nitrogen to nitrite and then apply an anaerobic (without oxygen) environment to denitrify by stripping the oxygen molecule off of the nitrate nitrogen, resulting in the release of gaseous nitrogen into the atmosphere. The nitrogen cycle is one of Earth’s most important biological processes, second only to photosynthesis.

How does an I/A OWTS benefit the homeowner?

In addition to providing environmental benefits and reducing the nitrogen load to ground and surface waters, homeowners receive many other benefits from these state-of-the-art technologies. I/A OWTS can be more cost effective than conventional systems on lots with significant site constraints such as high groundwater, poor soils, small restrictive lot size, and coastal area. In addition, I/A OWTS consist of separate components, all of which are replaceable if something goes wrong. A homeowner may have to replace a pump or blower after 10 years, but they should not have to dig up and replace the system as is common with conventional systems. In some jurisdictions, I/A systems are said to increase property value.

What are the Septic Improvement Program eligibility criteria?

Suffolk County homeowners residing in targeted, high priority areas and satisfy the following:

- The residence must be single family, owner-occupied year-round and the owner's primary residence.
- The residence must be served by a septic system or cesspool, which is not connected to a public sewer or located, within any sewer district.
- Property is not a rental property.
- New construction is not eligible; however construction projects for existing residences may be eligible.
- No in-home business (other than a personal home office that does not require additional kitchen use or customer access).
- No resident is a current employee of Suffolk County, elected official or office holder of any political party (including official political party committee members).
- Availability of valid Certificates of Occupancy (CO) or Certificate of Zoning Compliance for the residence. Must be current of payment of property tax.
- Income verification (Provide a copy of owner(s) most recently filed federal income tax return).

Note: Grant assistance is based upon the following Income Criteria:

Adjusted Gross Income less than or equal to \$300,000/year 100% of grant;

Household income between \$300,000-\$500,000/year 50% of grant; and

Adjusted Gross Income of \$500,000 or more will not be eligible for a grant.

If I have an I/A-OWTS installed with a grant from the Suffolk County Septic Improvement Program, can I remove the unit or make it inoperable?

No, the conditions of funding do not allow for removal or deactivation

How will Suffolk County ensure that I properly maintain my system?

The recently adopted Article 19 of the Suffolk County Sanitary Code establishes a framework for the Department of Health Services to act as the Responsible Management Entity with the responsibility to evaluate, approve, register, oversee, and facilitate the use of I/A OWTS. [<http://www.reclaimourwater.info/Portals/60/docs/SCSanCodeArt19.pdf>]

Must a homeowner maintain service in perpetuity of the grant-funded I/A OWTS?

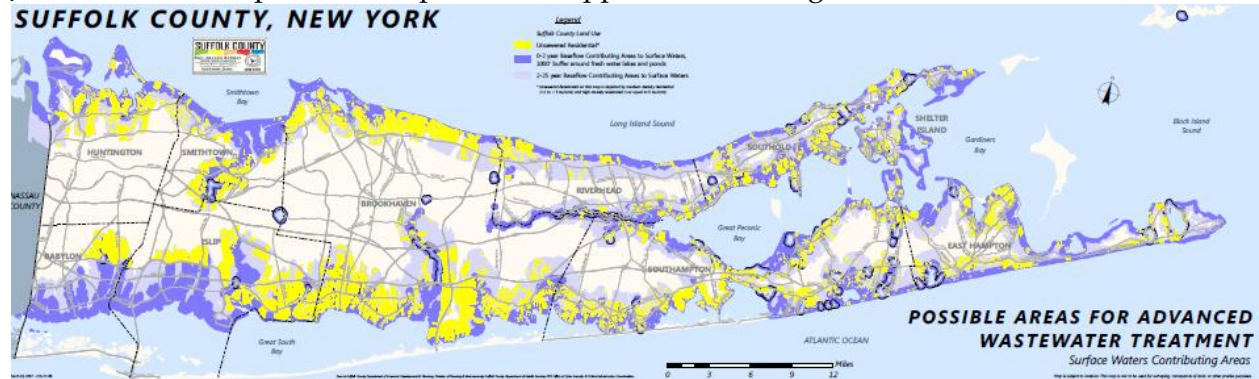
Yes, the homeowner is responsible for ensuring that their system is maintained at least once per year by a licensed service provider.

If I have a problem with my service provider who can I call?

You can call the I/A hotline in the Suffolk County Department of Health Services.

How do I find out if my home is in a priority area?

Just link to this map and it will provide an approximate, though not definitive idea.



Are mobile home parks eligible? Can mobile park homes utilize a cluster system instead?

Not at this point, though the County is working on a pilot cluster system with a mobile home park in Riverhead.

Does the process require any approvals at the Town level? Does the Town Code play a role?

Design professionals (engineer or architect) should help homeowners understand if permits other than Suffolk County Department of Health Services permits would be required for electric, plumbing, wetlands, or dewatering.

It is recommended that a homeowner’s selected design professional check with the local town/village building department to verify if a permit is required for the I/A OWTS electrical work or for any internal plumbing modifications if required.

For homeowners in close proximity to surface waters and/or wetlands, their selected design professional should check with the NYS DEC and/or Town/Village to determine if a permit is required for the installation of and I/A OWTS due to setbacks to surface waters or wetlands.

What are the electrical demands? Does the system run on demand, or continuously?

I/A OWTS electrical consumption vary from system to system due to different treatment processes with different pumps and blowers required to treat the wastewater.

Depending on the treatment process and manufacturer, the system either runs continuously or on-demand. Of the systems that have been provisionally approved, annual electric costs range from \$57 to \$266 per year.

What happens if power is lost?

The system will still work like a conventional septic system, unless there is a back-up generator.

Can the systems operate on solar?

The Suffolk County Department of Health Services would be open to exploring the use of solar to operate the I/A OWTS in conjunction with the main PSEG power feed.

Which pollutants, other than nitrogen, does the system treat for, if any?

I/A OWTS are designed to reduce wastewater nitrogen, biochemical oxygen demand (BOD), and total suspended solids before being discharged below grade to leaching structures. Studies have shown that certain types of I/A OWTS treatment processes and leaching structures have the ability to reduce bacteria, viruses, and contaminants of emerging concern such as certain types of compounds/chemicals found in pharmaceuticals and personal care products that are present in wastewater. The Suffolk County Comprehensive Water Resources Management Plan Chapter 8 has a section dedicated to contaminants of emerging concern and wastewater treatment for further information.