





Nassau County's **S**eptic **E**nvironmental **P**rogram **T**o **I**mprove **C**leanliness (S.E.P.T.I.C.) Grant Program

Justin Jobin, Environmental Scientist Coastal Wastewater Solutions, LLC Justin@iaowts.com – 631-599-3321



Nassau's S.E.P.T.I.C. Program – Project Team

NCSWCD Board

- Tara Schneider-Moran Chair
- Meagan Fastuca- Vice Chair
- Eric Swenson Treasurer

NCSWCD Staff

- Derek Betts District Manager
- Olivia Calandra Conservation Technician
- Sean Rooney -- Conservation Technician
- Tom Parisi Conservation Technician

NCSWCD IA Consultant

Justin Jobin - Environmental Scientist





Nassau County Support

- Joe Cuomo- Nassau County DPW
- John Capece- Commissioner Consumer Affairs

Additional Support Provided from The Nature Conservancy and North Shore Land Alliance

Nicholas Calderon – Marine Scientist

Kat Coughlin – Water Quality Improvement

Coordinator





THE OPINIONS REPRESENTED IN THIS PRESENTATION BELONG SOLEY TO THE AUTHOR AND HIS DOGS & DO NOT REFLECT THE OPINIONS OF NOWRA, OR ANY OTHER COMPANY OR ORGANIZATION





Agenda

Background and Environmental Need for Nitrogen Reduction in Nassau County, NY

Incentivizing Upgrades to Nitrogen-Reducing Systems

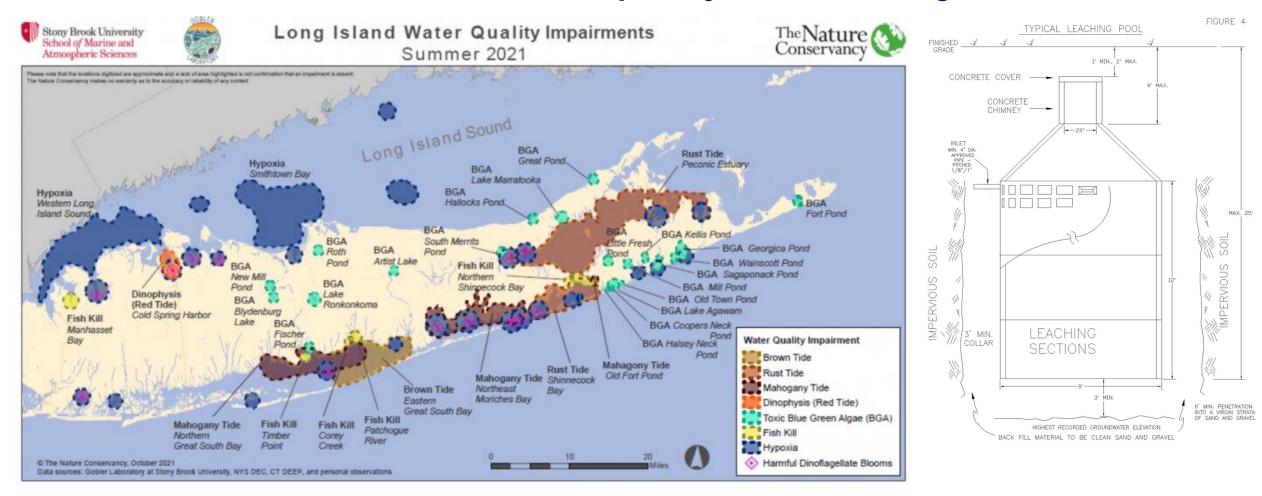
Lessons Learned & Next Steps

Questions



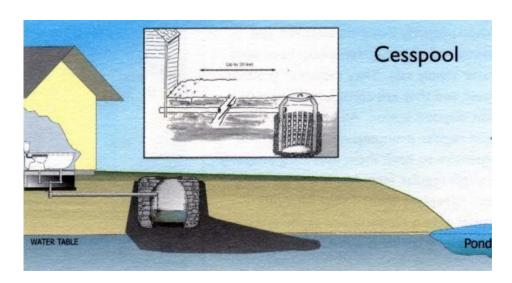


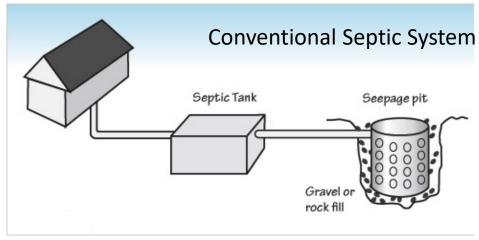
The Need for Clean-Water Septic Systems on Long Island



- Over 425,000 On-Site Systems on LI, Hundreds of thousands of cesspools
- 74% of Suffolk County is unsewered, 90 % of Nassau's North Shore is Unsewered
- HAB's, Shellfishing Impacts, Coastal Resiliency, Public Bathing Beaches

Typical Septic Systems and Cesspools Found on Long Island







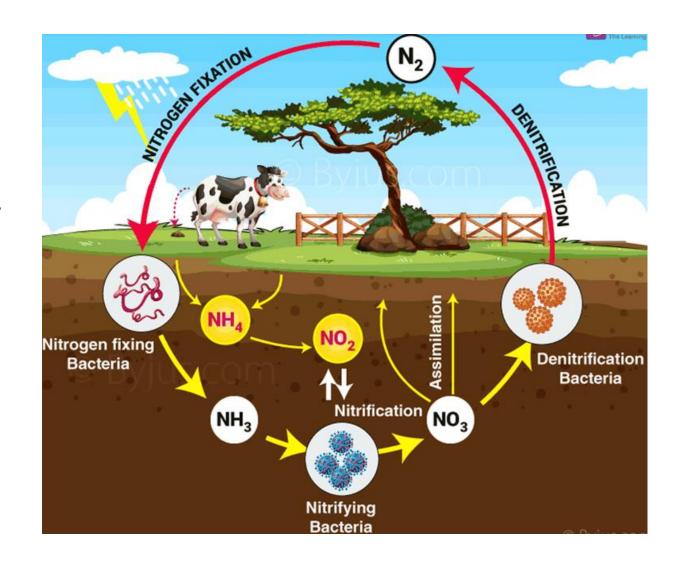
Collapsed Cesspool



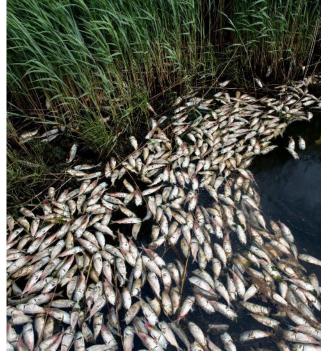
Failed Block Cesspool

What is Nitrogen Pollution?

- 78% of atmosphere comprised of harmless, unreactive N₂ gas
- Excess reactive nitrogen:
 CH₄N₂O, NH₃, and NO₃
- Too much of a good thing









Effects of Excess Nitrogen on the Long Island Sound

- Fish Kills
- Harmful Algae Blooms (HAB)
- Invasive Seaweed
- Paralytic Shellfish Poisoning (PSP)

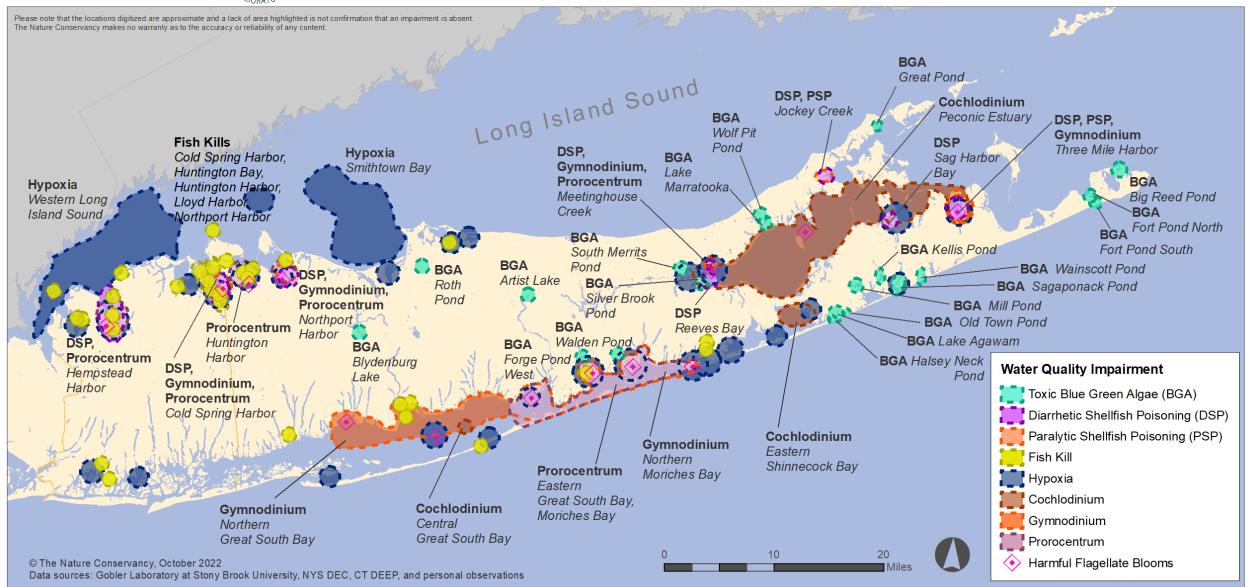




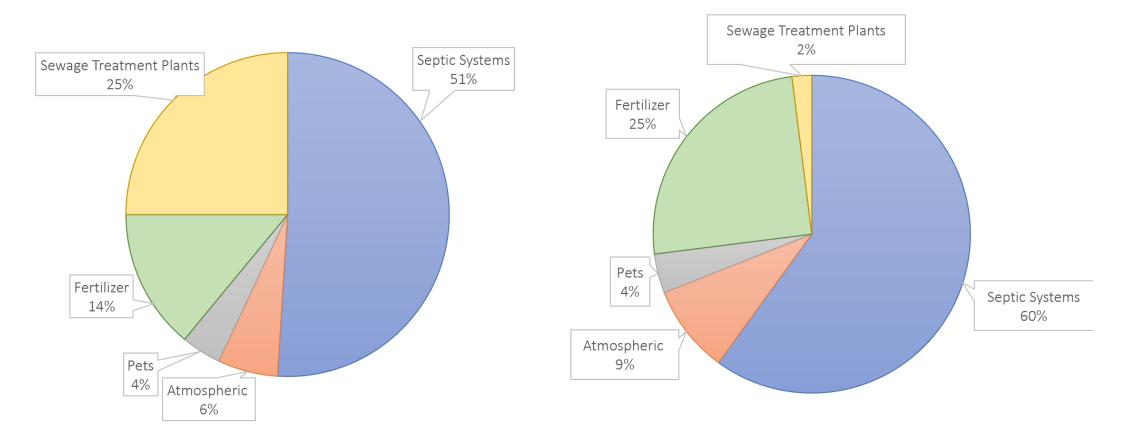


Long Island Water Quality Impairments Summer 2022





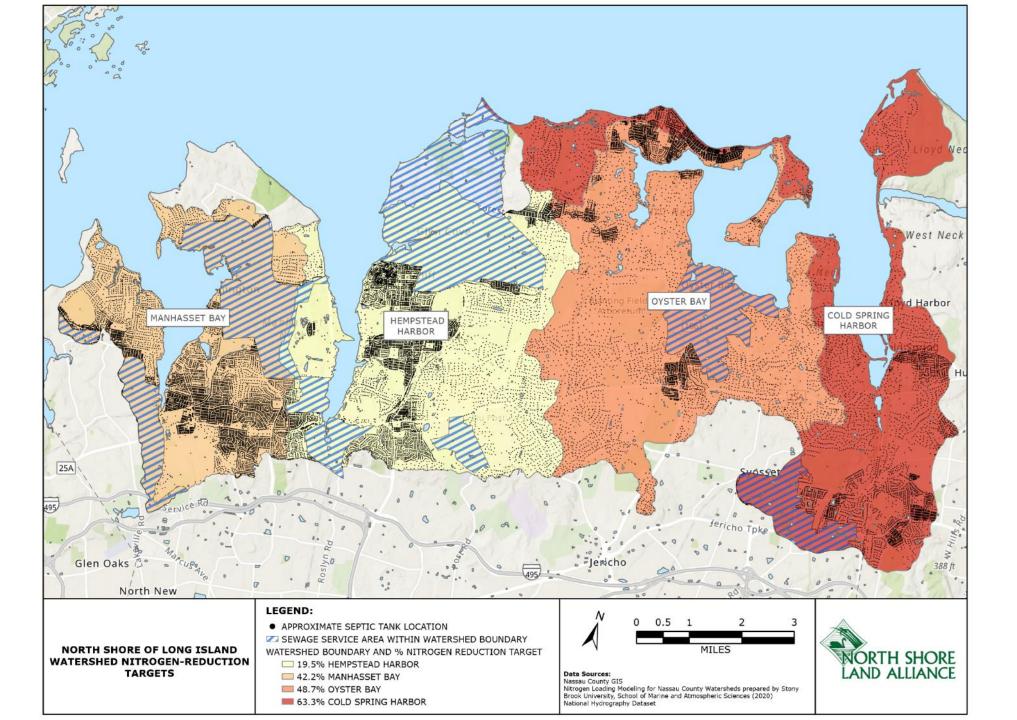
Distribution of Nitrogen to North Shore of Long Island

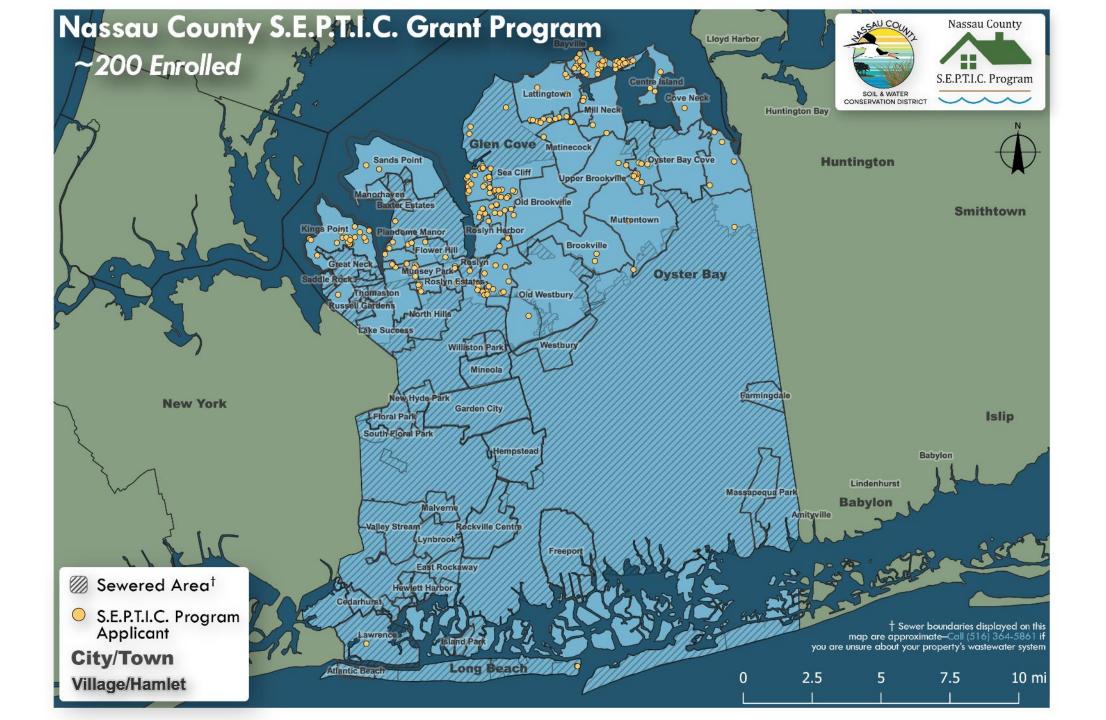


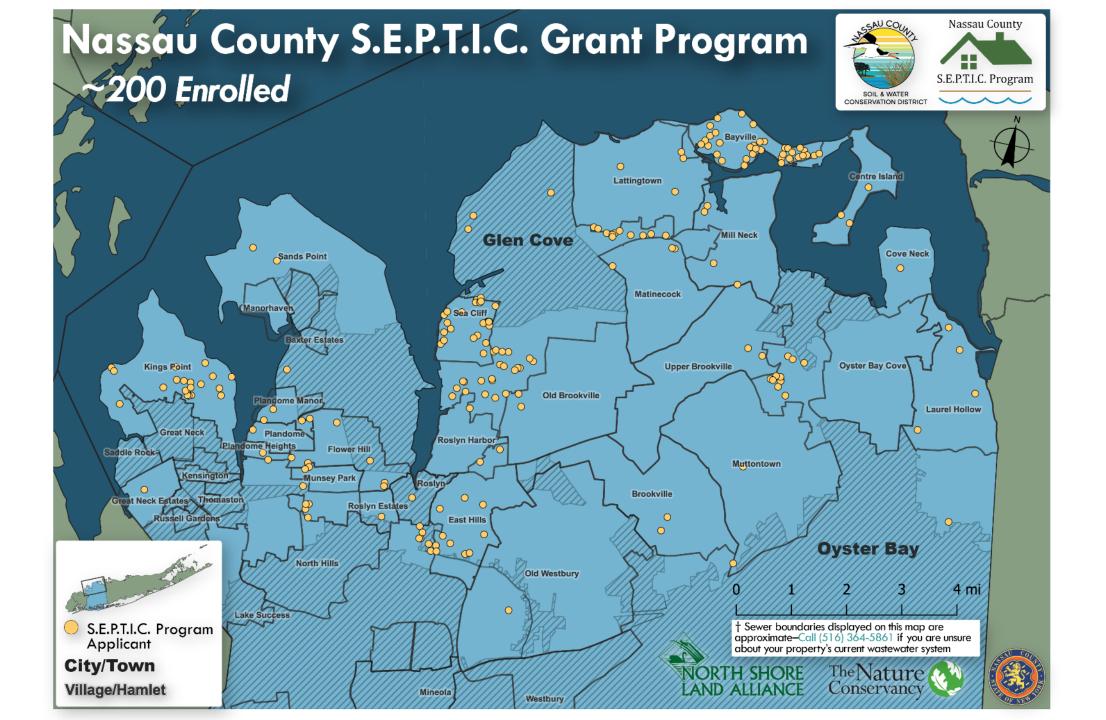
Hempstead Harbor, Manhasset Bay, and Little Neck Bay

Cold Spring Harbor, Oyster Bay, and Long Island Sound

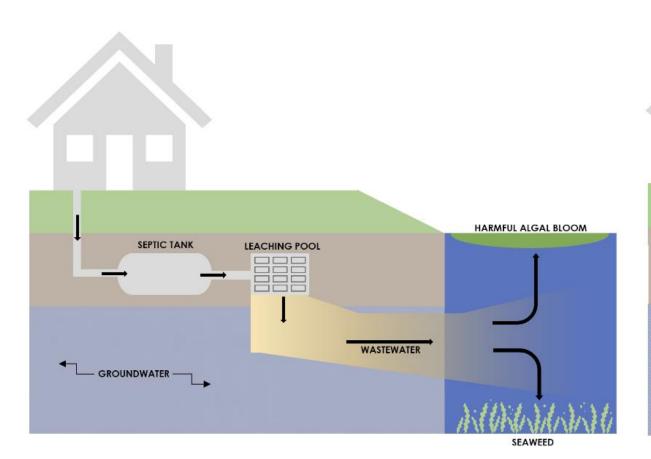
Data from Stony Brook University's Nitrogen-Loading Modeling for Nassau County Subwatersheds.

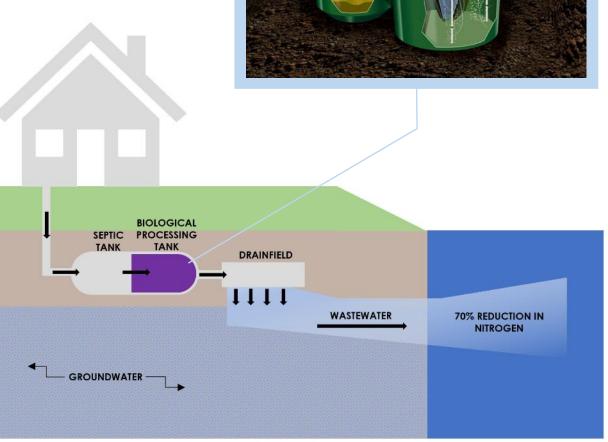






"Innovative Advanced (I/A) OWTS" can reduce nitrogen outputs into groundwater by up to 80%.





CONVENTIONAL SEPTIC TANK

NITROGEN-REDUCING IA SEPTIC TANK



Value of Nitrogen-Reducing Septic Systems

- Restore commercial fishing, boating, and recreation.
- Can last more than 30 years after installation.
- Improve overall property value.



Fuji Clean IA Septic System During Installation



Hydro-Action IA Septic System Prior to Installation







Nassau County's **S**eptic **E**nvironmental **P**rogram **T**o **I**mprove **C**leanliness (S.E.P.T.I.C.) Grant Program

Derek Betts, District Manager – Nassau County Soil and Water Conservation District Justin Jobin, Environmental Scientist – Coastal Wastewater Solutions, LLC



Nassau's S.E.P.T.I.C. Program – Overview

- Nassau County Septic Environmental Program to Improve Cleanliness (S.E.P.T.I.C.)
- Provides State and County grant funding of up to \$20,000 to eligible property owners
- Program is administered by the Nassau County Soil and Water Conservation District
- Provide support and program modifications to incentivize and streamline the upgrade from traditional Cesspools and Septic Systems to nitrogen reducing IA OWTS
- The Nature Conservancy and North Shore Land Alliance have secured a grant to provide staff assistance to Property Owners who may need additional help

State Funding

- ✓ The Clean Water Infrastructure Act of 2017 established the "State Septic System Replacement Fund" and allocated \$75 million to support a multi-year program.
- ✓ \$2,000,000 has been awarded to Nassau
 County as of the date of these Rules and
 Regulations. If the SEPTIC Initiative is
 successful, the County is hopeful to receive
 additional SSRP over the next several years.



Nassau County's S.E.P.T.IC. Grant Program – Funding Breakdown

Item	Amount
Total Amount of funds allocated to Nassau County	\$4,000,000.00
Total amount of funds Reimbursed as of 9/01/2022	\$380,000.00
Total Amount of pending payments as of 9/01/2022	\$200,000.00
Total Amount of Funds Allocated as of 9/01/2022	\$1,080,000.00
Total Amount of Unallocated Funds Allocated as of 9/01/2022	\$2,492,000.00
Average Grant Award	\$20,000.00





- ➤ On June 14, 2021, the former Nassau County Executive proposed additional funding as part of her Economic Recovery and Community Investment Plan.
- ➤ The plan was approved on July 12, 2021 and provides for an additional County grant of up to \$10,000 that could be coupled with the \$2,000,000 in SSRP funds previously awarded to Nassau County.
- ➤ The hope is that this additional funding will provide further incentives and a streamlined process to property owners looking to upgrade their existing cesspools and septic systems

Nassau's S.E.P.T.I.C. Program – Qualifying Properties

- Single family or two-family homes, not-for profit organizations, and small businesses
- Organizations with a sanitary design flow less than or equal to 1,000 gallons per day (GPD)
- Replacement of an existing septic system or cesspool with a new nitrogen reducing IA OWTS
- The IA OWTS must have been installed after March 1, 2018
- Determinations of eligibility will be made by the District based on the criteria in Program Rules
- Both design and construction of any rehabilitation or replacement must have been approved by the local permitting authority.

Nassau's S.E.P.T.I.C. Program – Eligible Costs

Costs must be reasonable and necessary, and include but are not limited to:

- the total cost of the purchase of I/A OWTS materials and necessary components;
- the purchase of electrical components;
- Site access restrictions
- labor costs incurred in connection with the installation of the I/A OWTS and any necessary leaching fields and structures;
- a three-year warranty for the I/A OWTS;
- excavation and backfilling;
- Design costs are eligible, limited only to work needed to complete an approved design, including needed site investigation, as-built drawings, and inspections.

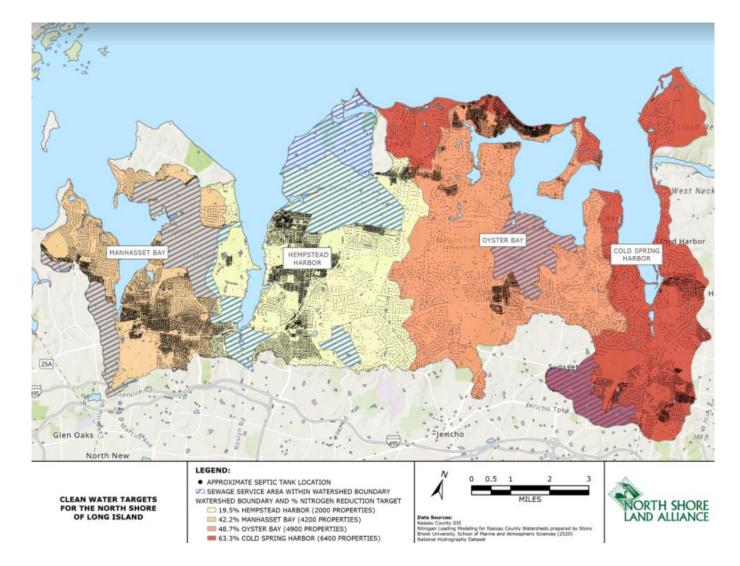


Nassau's S.E.P.T.I.C. Program – Ineligible Costs

- Irrigation repairs & non-essential site beautification
- Improvements unrelated to the I/A OWTS (i.e. plumbing &electrical)
- Administrative Work, Taxes, Interest, Fees, Fines, or Penalties (includes Permit fees)
- Pumping, Decommissioning, Inspection, and Maintenance expenses
- Any expenses that are not appropriately documented
- Government permit fees, including but not limited to fees assessed for building permits, zoning permits, construction compliance certifications, and floodplain disturbance permits.



Nassau's S.E.P.T.I.C. Program – Qualifying Properties



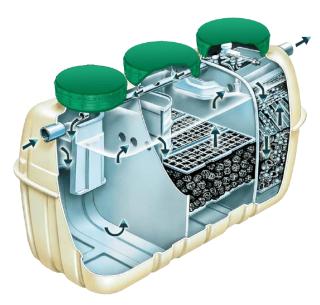
✓ In addition, participating properties MUST:

- ✓ Have a valid certificate of occupancy or existing use issued by the pertinent city, town or village.
- ✓ Be served by an existing septic system or cesspool and not be connected to a public or private sewer or located within an existing or proposed sewer district.
- ✓ If the property is located in an existing sewer district but is unable to connect due to site constraints documented by the Sewer District in question, the property may be eligible, provided the applicant meets all other eligibility requirements.
- ✓ Not have any outstanding or open real property tax liens.

Nassau's S.E.P.T.I.C. Program – Accepted Technologies



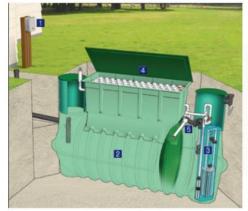
Hydro-Action AN Series



Fuji Clean CEN Series



Norweco HydroKinetic



Typical backyard configuration of an AdvanTex® Treatment System.

The system has five main functional parts:

- VeriComm® web-based monitoring system*
- 2 Processing tank
- 3 Biotube® pumping package
- 4 AdvanTex filter
- 6 Recirculating splitter valve † MVP digital programmable panels available as ar option in some markets.

Other configurations and models available.



SeptiTech STAAR

Orenco Advantex AX-20

Developing a Request for Expression of Interest

List of Septic System Designers and Installers who expressed interest to participate in the S.E.P.T.I.C. Grant Program

Designers:

• Curtis Taufman Design Group: 516-427-1602

• East End Coordinates: 631-591-1488

Hayduk Engineering: 631-476-0600

• Nelson & Pope: 631-427-5665

M.B. Mansouri Architect: 631-848-2769

Misiurski Architecture PLLS: 646-831-8110

Northcoast Civil Engineering: 516-922-3031

Pacifico Engineering: 631-988-0000

• Sodano Architecture: 631-400-9173

Installers:

Affordable Cesspool: 631-588-8400

Cesspool Pros LLC: 631-254-1234

Clear River Environmental Service Corp: 631-238-3684

• Discount Cesspool: 631-258-9890

Izzo Excavation: 631-427-2454

SND: 516-457-2910

Tru Tek Construction: 516-785-2261

Notes:

- The District reserves the right to amend and/or terminate this list at any time
- Inclusion on this list does not constitute an endorsement from the District.



Average S.E.P.T.I.C. Installation Costs

Note: these numbers are representative of all installations completed within our program to date.

Average Cost - \$24,115.03

NOTE:

- this reflects only eligible reimbursable costs for the program. Does not include post installation landscaping or other site beautification.
- Grants are meant to offset and incentivize IA systems over conventional systems and cesspools.
- There will be out-of-pocket expenses

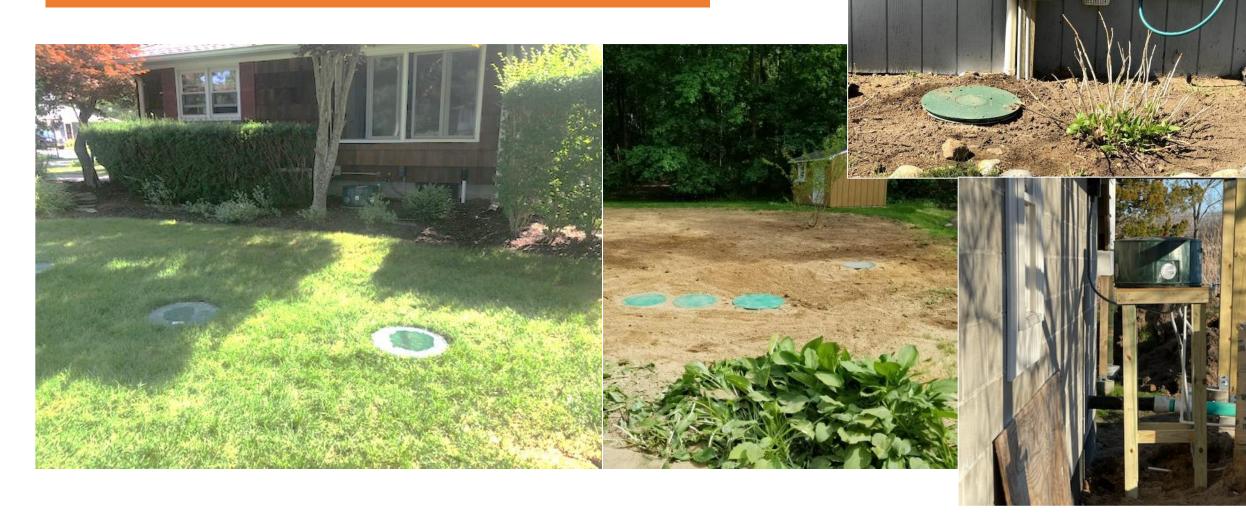


Site Constraints & Costs

- Cost Range -\$20,850.00 \$40,950.00
- Individual costs are subject to site-specific challenges such as:
 - Deep Line Systems
 - Type of Leaching System
 - High Groundwater
 - Site Access
 - Plumbing, Electrical, or Utility Upgrades & Relocation
 - Town or Village Permitting Requirements
 - Driveway or Traffic Bearing Installations
- Property Owners could have significant out-of-pocket costs for these types of sites and should reach out to Designers and Installers to get a better cost estimate before deciding to move forward



Visible System Components Control Panels, Air Vents, & Lids



Nassau's S.E.P.T.I.C. Program – Operating Costs

Maintenance Costs Associated with Clean-Water Septic Systems

ANNUAL SERVICE DETAILS

- **√** \$300 \$400.00 a year
- ✓ Site Visit every 6-months
- First 3-years included with Project Participation
- Check Controls and Panel Function
- Inspect and Clean filters, floats, and pump intake
- ✓ Inspect tank compartments and measure solids accumulations.

SYSTEM MANUFACTURERS ARE RESPONSIBLE FOR IDENTIFYING, TRAINING, AND CERTIFYING SERVICE PROVIDERS IN NASSAU COUNTY, NY

NOTE: FAILURE TO MAINTAIN AN ACTIVE SERVICE CONTRACT
MAY RESULT IN THE VOIDING OF THE SYSTEM WARRANTY



Electric costs range from approximately \$60 - \$200 per year depending on the technology

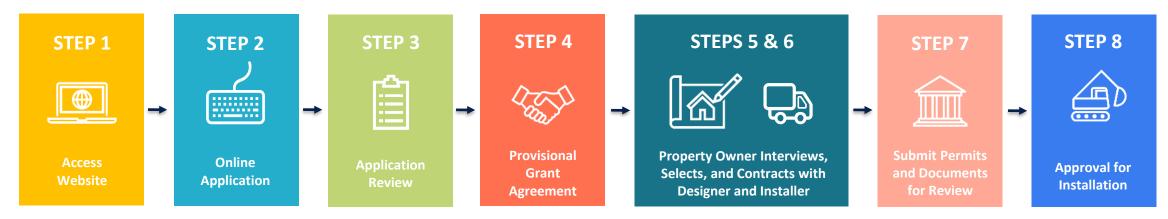
Approximate Repair and Replacement Costs

It is also important to note that the complete replacement of a control panel is very rare and usually associated with lightning strikes or power surges. The typical control panel cost is \$1,200 if it needs to be replaced.

Item	Cost	Life Expectancy
Blower / Aerator Replacement	\$400.00	10 years
Blower / Aerator Rebuild	\$150.00	10 years
Float Replacement	\$100.00	5 - 10 years
RecirculationPump Replacement	\$700.00	10 years

Nassau's S.E.P.T.I.C. Program – Workflow

Part 1: Application Process



Part 2: Payment Process



Types of Payment:

- 1. Reimbursement
- 2. Two-Party-Authorization

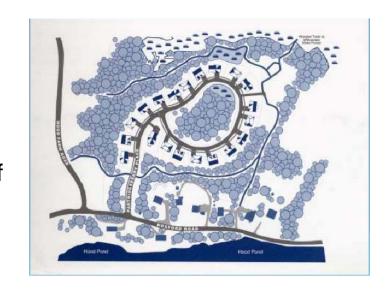
Property Owner's Checklist



tep#	1 - Program Prerequisite Qualifications
	Applicant must be the owner of the property
	Must have no liens on the property (this does not include mortgage)
	Must not be in a sewer district (whether current or proposed)
	Property cannot produce more than 1000 gallons per day (to approximate, multiply 110 gallons by the number of bedrooms)
Click: docur today	meet all of the above criteria, you can apply for the program at www.nassaucountyny.gov/septicreplace. the link on the left side menu titled "Apply Here". This application portal will be where you upload all nents required throughout the process. You may not be able to answer all questions on the application, only the questions with red asterisks (*) are required to enroll in the program. There may be additional rements based on local regulations/application type—Call (516) 364-5861 to discuss.
tep#	2 - Application Review & Provisional Approval
	Once you have submitted your application, you'll recieve a welcome email with a temporary password—Follow the link from that email to change this. OT forget to write down your new username & password! This system ensures that your personal nation is secure. Once this is updated, you will receive another email with a Grant Agreement. Review & Sign District provided Grant Agreement (this contract with the county is neccessary for the allocation of grant funds)—Upload this signed document to the portal
ten #	3 - Designer Selection & Project Blueprints
	Review our list of designers—You must sign a designer contract within 60 days of application approval
	Upload Designer Contract and Project Blueprints to the application portal
tep#	4 - Installer Selection & Permit
	Review our list of installers—You must sign an installer contract within 90 days of signing your Grant Agreement
	Upload Installer Contract to the application portal
	Apply for a permit with your town/village—Upload this to the portal
	Schedule an installation date
tep #	5 - Finalizing Payment IF you opted for Two-Party Authorization, see the Reimbursement Work Flow document to organize payment directly to the installer IF you decided to pay out of pocket, please call (516) 364-5861 to ensure all documents are in order to receive your refund

Regulatory Jurisdiction

- The Nassau County Department of Health has jurisdiction over septic systems for developments (realty subdivisions) of 5 lots or more.
- For properties not part of a realty subdivision, or for repairs and retrofits of existing systems, the local city, town, or village has jurisdiction
- The New York State Department of Health (NYS DOH) Design Handbook for Residential Onsite Wastewater Treatment Systems, of which includes Appendix 75-A, identifies the need to develop an "approval and management program" for these IA OWTS that includes the following:
 - Define program goals and requirements
 - Educate engineers, contractors, and public on IA OWTS and Codes
 - Oversee site evaluation, design, construction, and maintenance
 - Provide system tracking, maintenance verification and record keeping
 - Confirm availability of service providers for products to be used to establish adequate authority, enforcement, and compliance incentives.
- The District is engaging with individual Towns and Villages to provide requested IA Guidance

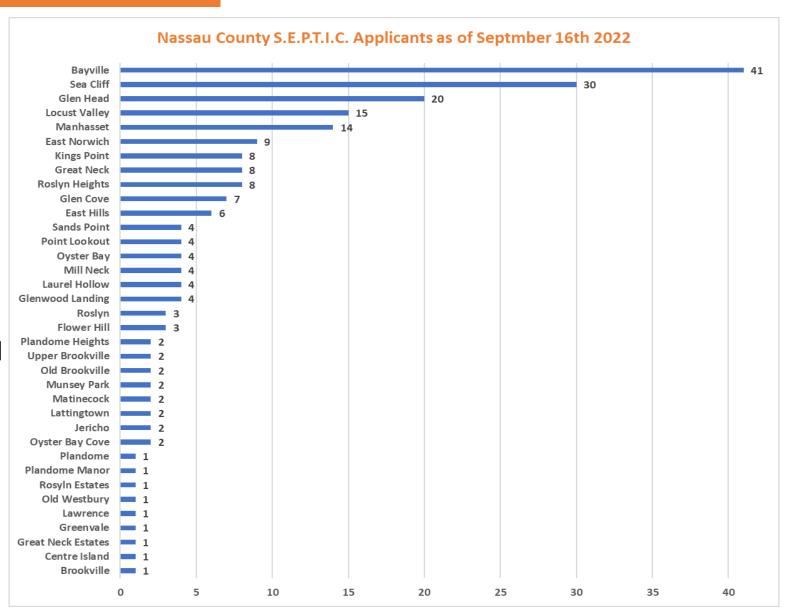




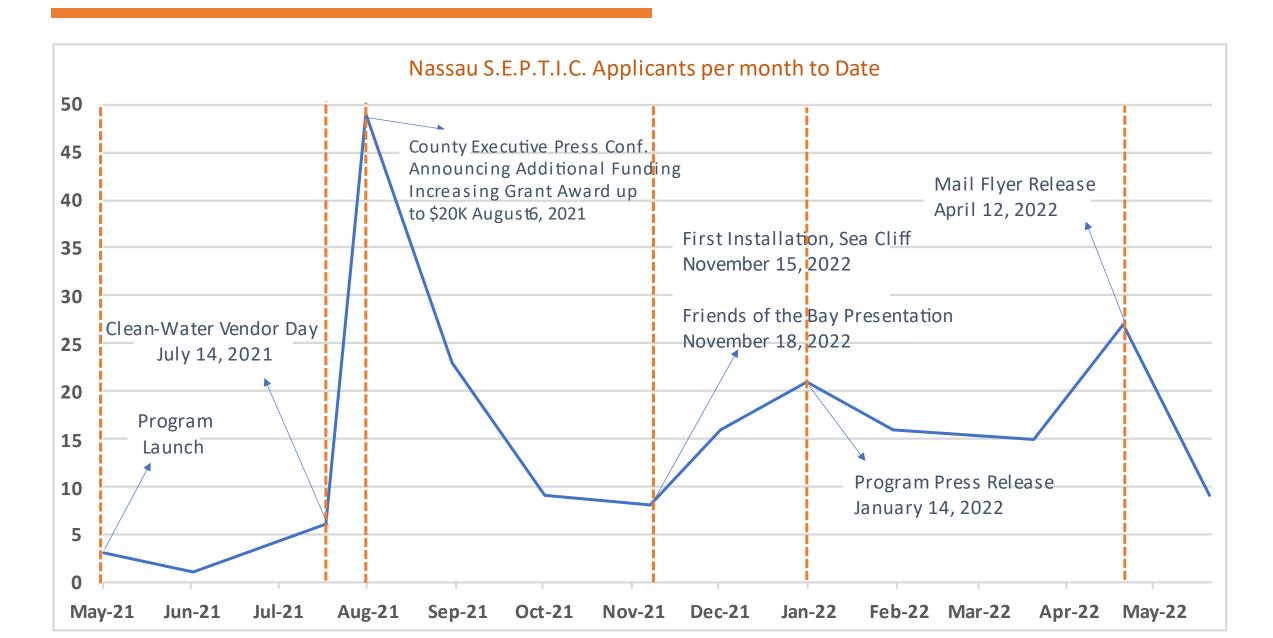
Nassau's S.E.P.T.I.C. Program – Program Statistics

NCSWCD started accepting applications in May 2021

- 316 Applications Received
- 184 Active Applicants
- 116 Grant Agreements Issued
- 57 Grant Agreements Executed
- 29 Installations
- 11 Pending Installations

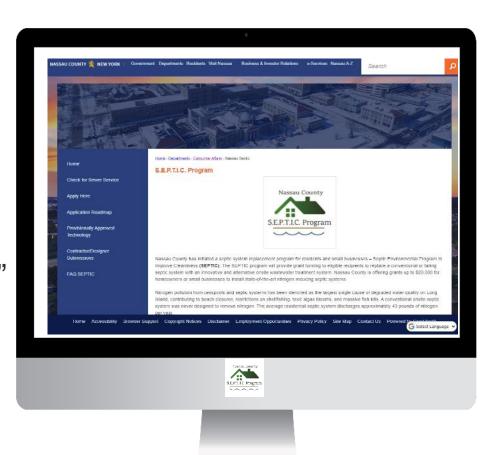


Nassau's S.E.P.T.I.C. Program— Program Statistics



Nassau's S.E.P.T.I.C. Program – Lessons Learned

- ✓ Need to increase grant amount
- ✓ Need adequate staffing
- ✓ Need management / RME component
- √ Focus on applicant assistance
- ✓ Manage expectations
- ✓ Minimized out-of-pocket expenses by revamping process for "Provisional Approval" and Two-Party Authorization Process
- ✓ Simplified the online application
- ✓ Consolidated into one online Grant Agreement for both grants
- ✓ Online Request for Expression of Interest (RFEI) Portal
- ✓ Streamlined Permitting Process



Lessons Learned – Streamlined Permitting & Guidance

- Guidance Memo #1 Program Rules for Administration of IA Grant Program
- Guidance Memo #2 Guidelines for the Acceptance,
 Use and Management of IA OWTS in Nassau County
- Guidance Memo #3 Guidance for relaxing NYS 75-A Setbacks in Certain Instances when Utilizing IA OWTS Tech.
- Recommended Minimum Guidelines Relating to Location, Design, and Construction of Innovative and Alternative Onsite Wastewater Treatment Systems (I/A OWTS) in Nassau County, NY (Nassau County / Soil and Water Conservation District)
- IA OWTS Installation Certification Packet (Nassau County Soil and Water Conservation District)



Nassau's S.E.P.T.I.C. Program – IA Certification Form



Leaching Structure(s) Installed:		
Leaching Pool(s):		
Precast Manufacturer:		
# of Pools: Diameter:	feet	Depth:fe
Other Leaching Structure:		
Type of Leaching Structure:		
Manufacturer:		
Number of Trenches	Width	of Trenches:
Total Linear Feet of Leaching Trenches:		
Installer Certification:		
State, County, City, Town, or Village Requirements plan shown above were approved by the Design Pi installation.	rofessional of record	and were necessary to complete the
Installation Company Name:		
Installers Name:		
Installers Signature:		
Nassau County Consumer Affairs License #:		
Date Signed:	Date Installed:	
Designer Certification (if required by permitting in As the Licensed Professional Engineer or Architect inspected the work specified above in accordance that all material and work conforms to approved professional material and work addendum.	, I or qualified persor with the New York S	tate Education Law, and I hereby certify
INDICATE BELOW IF THIS PROJECT INVOLVED THE DISPOSAL SYSTEM	BEST-FIT REPLACEME	ENT/RETROFIT OF AN EXISTING SEWAGE
	vith the appropriate S vironmentally feasibl n priority over all othe	Standards to the greatest extent possible, le. I also certify that the protection of pub- er considerations, and this OWTS
Engineer's / Architect's signature:		License Number:
Print Name		Date:
CERTIFICATION OF NEW IA OWTS AND LEACHING STRU	JCTURE	PAGE 2 of 3

INSTALLER CERTIFICATION OF NEW IA OWTS AND LEACHING STRUCTURE SKETCH FORM
Description of Work:
System Sketch:
Sketch Checklist:
North arrow and street location Building in area of installed IA OWTS Measurements from Building to IA Unit
Measurements from Building to Cleanouts Measurements from Building to Distribution Structure (if applicable) Measurements from Building to Leaching Structure(s)
Location of utilities (water, electric, underground propane) if different from the approved plan
Company Name:
Installers Signature:
Nassau County Consumer Affairs License #:
Date Signed: Date Installed:
CERTIFICATION OF NEW IA OUTS AND FRACHING STRUCTURE BACK and a

Next Steps

- Secure additional funding in 2023 for an additional 200 installation
- Implement Industry Training Rules and Regulations
- Implement Training for Building Officials and Inspectors
- Continue targeted outreach in priority areas
- Implement technology performance standards
- Implement additional management & tracking procedures
- Increase number of accepted technologies
- Continue to work with permitting jurisdictions to:
 - Continue to streamline permitting & Reduce overly burdensome permit requirements
 - implement a universal online permit and review process for upgrades
 - Change outdated practices (stop allowing cesspools, focus on soil treatment areas over deep leaching, eliminate low-line systems)

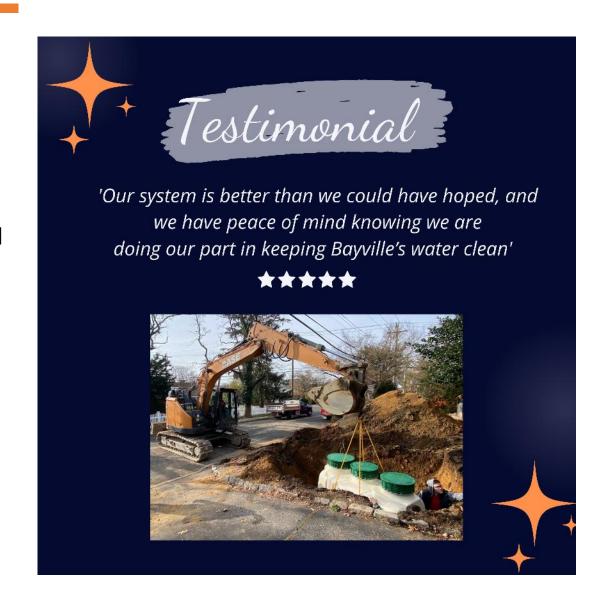


S.E.P.T.I.C. Installation Success Stories and Testimonials

Nassau's S.E.P.T.I.C. Program – Testimonial

- Conventional septic system would have cost a minimum of \$16,000.00
- The total Design, Material, and Installation costs of the FujiClean CEN Series Clean-Water septic system was \$21,867.31.
- The Property Owner received \$20,000 in combined grants from Nassau County and New York State
- 'out-of-pocket' cost to Property Owner was \$1,867.31





Hydro-Action AN Series

Locust Valley, NY 11560 Installed 03/31/2022

Project Budget

Design Costs ²	\$2,500
Permits & Other Fees ¹	\$110
Total Installation Costs	\$19,825
Abandonment Fee ¹	\$750
Operation & Maintenance Contract ¹	\$900 (\$300/yr)
Total Cost Before Grant Funding	\$24,085
County & State Grant Contribution	- \$20,000
End Cost to Homeowner	\$4,085

- 1. Fee not covered by grant funds
- 2. The \$20,000 grant award first goes towards your installation cost, if any money is remaining, we will retroactively reimburse your design fee.



Designer: Curtis Taufman

Installer: Affordable Cesspools and Drains Inc.





Fuji Clean CEN Series

Bayville, NY - *Installed 01/26/2022*

Project Budget

Design Costs ²	\$2,500
Permits & Other Fees ¹	\$50 (+\$400 Fill)
Total Installation Costs	\$17,100
Abandonment Fee ¹	\$0
Operation & Maintenance Contract ¹	\$1,200 (\$400/yr)
Total Cost Before Grant Funding	\$21,250
County & State Grant Contribution	- \$20,000
End Cost to Homeowner	\$1,250

1. Fee not covered by grant funds

2. The \$20,000 grant award first goes towards your installation cost, if any money is remaining, we will retroactively reimburse your design fee.

Designer: Curtis Taufman

Installer: Discount Cesspools, Inc.





Norweco Singulair

East Norwich, NY 11732 - *Installed 07/25/2022*

Project Budget

_	_
Design Costs ²	\$2,500
Permits & Other Fees ¹	\$185
Total Installation Costs	\$21,600
Abandonment Fee ¹	\$700 + \$2,000 Soil Disposal
Operation & Maintenance Contract ¹	{Included in Install Cost}
Total Cost Before Grant Funding	\$26,985
County & State Grant Contribution	- \$20,000
End Cost to Homeowner	\$6,985

1. Fee not covered by grant funds

2. The \$20,000 grant award first goes towards your installation cost, if any money is remaining, we will retroactively reimburse your design fee.

Designer: Curtis Taufman

Installer: Clear River Environmental Service Corp













Questions?

For more information, please contact

NassauSeptic@iaowts.com

https://www.nassaucountyny.gov/5191/Nassau-Septic

516-364-5861





<u>Justin@iaowts.com</u> 631-599-3321

