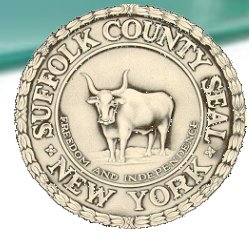


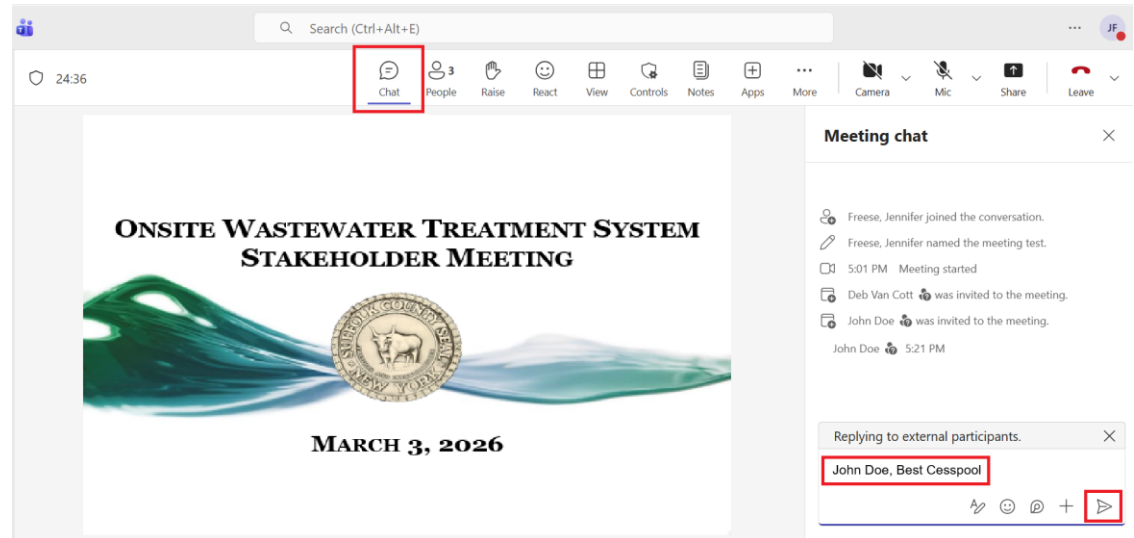
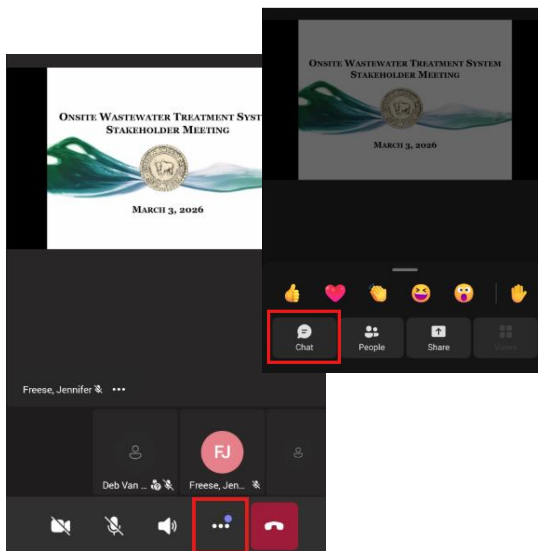
# **ONSITE WASTEWATER TREATMENT SYSTEM STAKEHOLDER MEETING**



**MARCH 3, 2026**



- ❑ **The primary purpose of this presentation is to review proposed revisions to the Office of Wastewater Management’s “Residential Construction Standards”**
  - All comments provided by stakeholders will be considered prior to the implementation of these revisions
- ❑ **Attendance at this stakeholders meeting has been approved by the Department of Labor, Licensing and Consumer Affairs for 2 contact hours toward the renewal of Liquid Waste Licenses**
  - To allow us to verify your attendance please ensure that you are identified on this meeting by inserting your **first and last name AND company name into the chat now**



- **Additional details on how to obtain your certificate will be provided at the end of this meeting**



**PROPOSED AMEMDMENTS TO:**

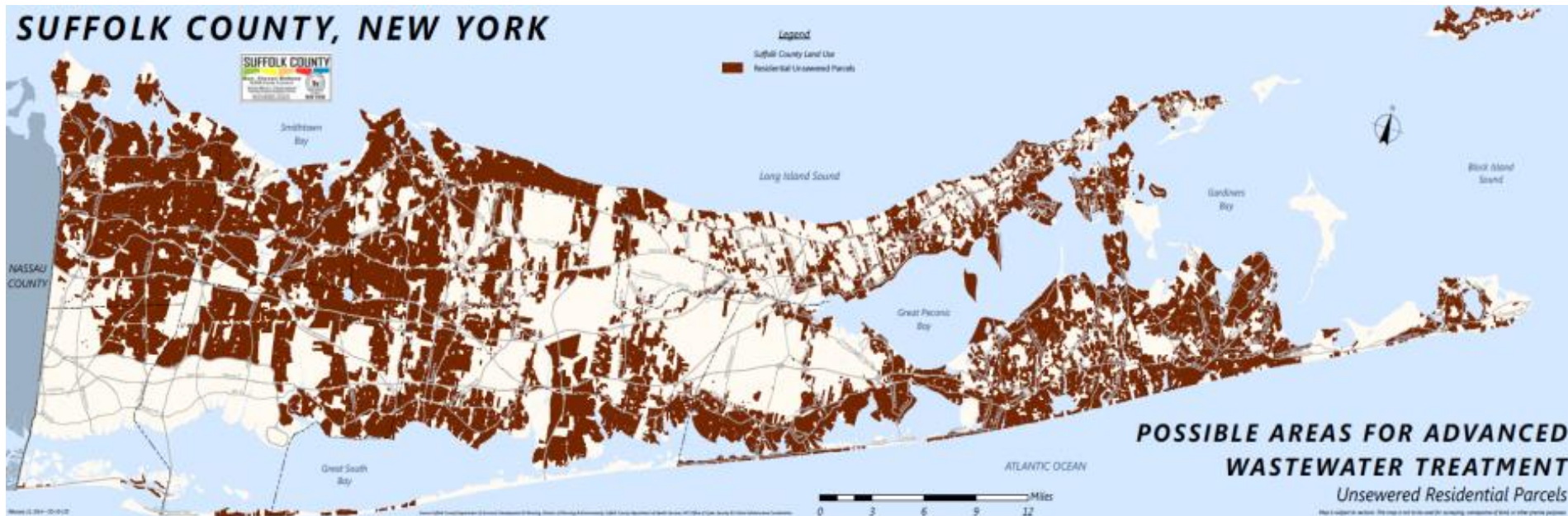
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**STANDARDS FOR APPROVAL OF PLANS  
AND CONSTRUCTION FOR  
SEWAGE DISPOSAL SYSTEMS FOR  
SINGLE-FAMILY RESIDENCES**



# WHAT DOES WASTEWATER DISPOSAL LOOK LIKE IN SUFFOLK COUNTY

- ~75% of parcels in Suffolk County are served by onsite wastewater disposal systems (other ~25% is sewerred) →
- Approximately 360,000 onsite sewage disposal systems →
- ~70% of onsite sewage disposal systems could pre-date requirement for septic tank





## Cesspools

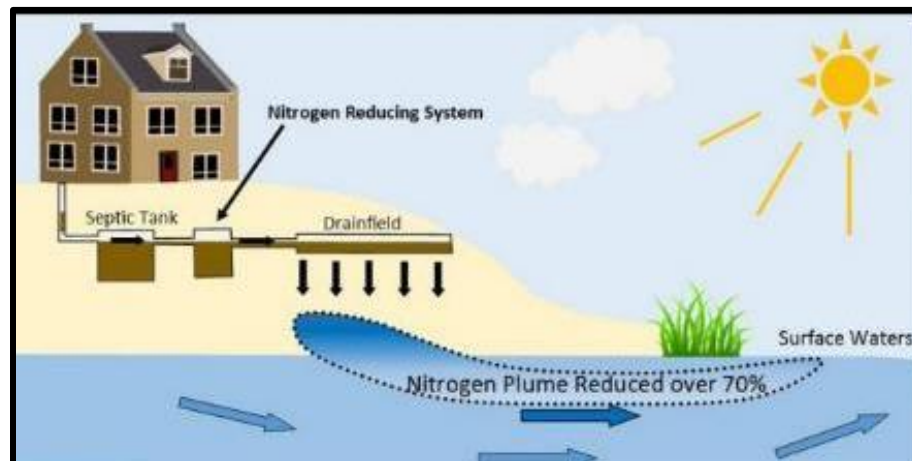
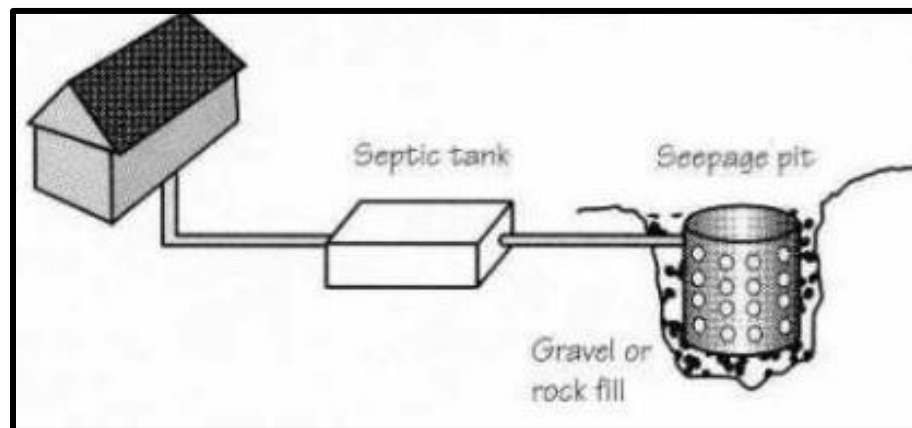
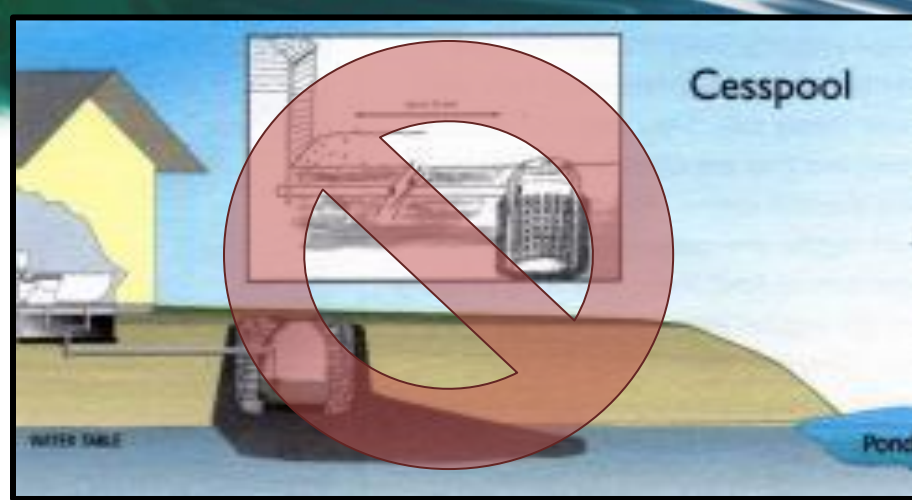
- Leaching structure(s) only
- ~250,000 in Suffolk
- Banned for new construction in 1973
- Banned for in-kind replacement as of July 1, 2019

## Conventional Septic Systems

- Septic tank and leaching structure(s)
- ~110,000 in Suffolk
- Required for new construction from 1973 to 2021
- Minimum code-compliant system for repair/replacement as of July 1, 2019

## I/A OWTS

- Active treatment that removes about 70% of Total Nitrogen, as well as reduces BOD and TSS
- ~7,500 in Suffolk
- Allowed on voluntary basis since 2016
- Required for new construction & major renovations as of July 1, 2019





# **GENERAL OVERVIEW OF MAJOR PROPOSED REVISIONS TO RESIDENTIAL CONSTRUCTION STANDARDS**

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## **1. Add 'Polishing Units'**

- Define
- Standardize design approval process, use, and construction

## **2. Update allowances and requirements for Sewer Pipes**

- Alignment/directional changes (i.e., bends)
- Joining sewer lines (i.e., wyes)

## **3. Update allowances and requirements for Sewage Ejector Systems**

- Pumps, basins, and piping specifications

## **4. Update allowances and requirements for Pressurized Shallow Drainfields (PSD)**

- New limitations for use
- Dual pumps or tank storage space
- Drainfield protection

## **5. Update design requirements for a leaching system when percolation test results exceed maximum rates**

## **6. Allow and standardize the construction of absorption trench systems**

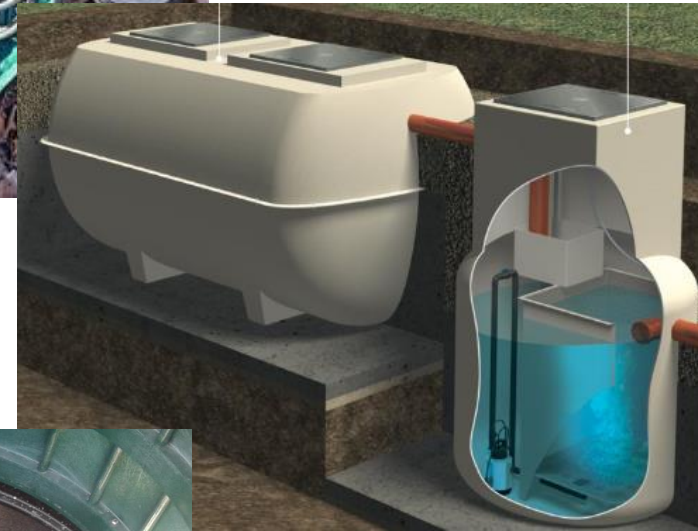
## **7. Clarify leaching galley requirements**

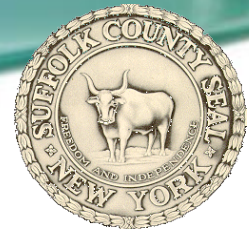
## **8. Other corrections and clarifications that will more accurately and concisely describe requirements, procedures, and protocols, without changing them**



# 1. POLISHING UNITS

- Not in **CURRENT** standards
- **PROPOSED**- A supplemental treatment component that is:
  - Installed externally on the outlet side of an I/A OWTS
  - Designed to reduce levels of targeted contaminant(s) → i.e., nitrogen, phosphorus, etc.
  - Not considered sewerage, Community Sewerage Systems, or Modified Subsurface Sewage Disposal → no density increase
- May be passive or active; proprietary or field-built





# 1. POLISHING UNITS



Stony Brook University

New York State  
Center for Clean Water Technology

## Engineering Report: Woodchip Box Polishing Units

NYS Center for Clean Water Technology (NYS CCWT)

Contributing authors:

Frank Russo, P.E.	NYS CCWT
Stuart Waugh, Ph.D. & CFA	NYS CCWT
Caitlin Asato, M.S.	NYS CCWT
Christopher Gobler, Ph.D.	NYS CCWT

The authors would like to acknowledge the contributions of Thomas O'Dwyer, P.E., Homeport Engineering PC; David Rhoades, P.E., TF Engineering PLLC and Drew Bennett, P.E., D.B.Bennett Engineering.

This work was funded by New York State's Environmental Protection Fund.



ACCEPTED BY THE SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES  
(DEPARTMENT) BASED ON INFORMATION PROVIDED BY VENDOR.

The Department has reviewed this submittal for completeness and is hereby approved for use in Suffolk County. This approval is solely for the model(s), size(s) and/or structure(s) included in the engineering report provided by the technology Vendor. Any changes or modifications to the approved design must be submitted for review and approval by the Department prior to its use in Suffolk County. The Department is not responsible for any errors, omissions, failures, construction defects or installation errors that may occur due to design professional, manufacturer, distributor or installer oversight or negligence.

9/9/2024

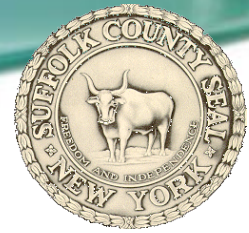
APPROVAL DATE

  
Ken Zeigel, P.E.



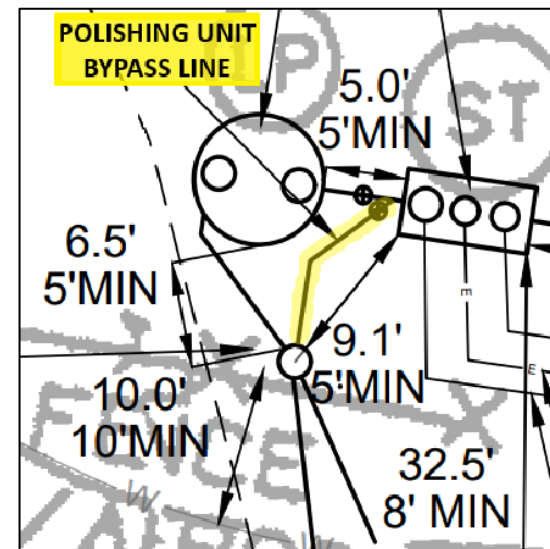
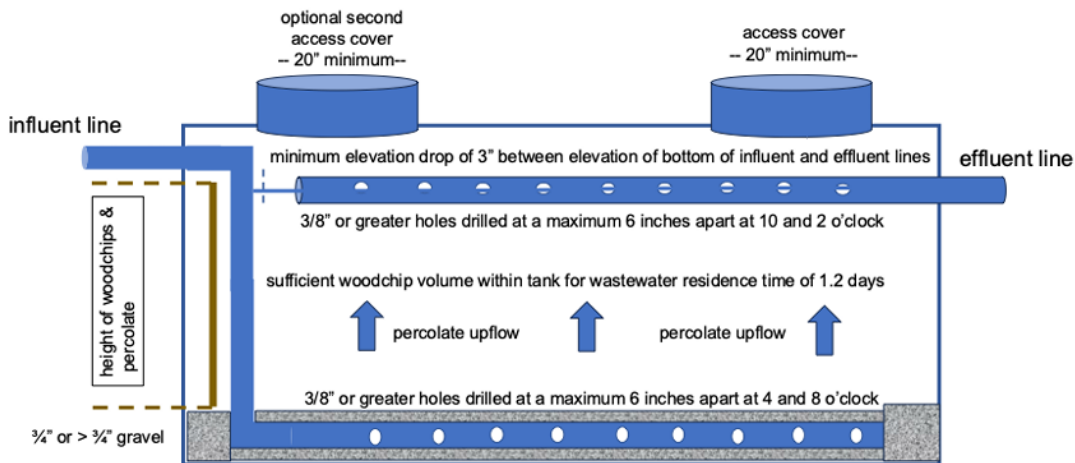
1000 Innovation Road  
Stony Brook, NY 11794-6044 Phone: (631) 216-7417

- Department approval requires submission of a technical report, signed and sealed by design professional, that includes:
  - Technology description, drawings, treatment rates/sizing information
  - If applicable, media specifications, MSDS for chemicals/reagents, pressure loss calculations
  - O&M and installation requirements
  - Pretreatment requirements (i.e., max BOD, TSS, Ammonium, etc.), if applicable
  - Sample collection location and procedures
- To date, there has been one general approval of a polishing unit
  - Woodchip Box



# 1. POLISHING UNITS

- Design and construction standards are similar to those of I/A OWTS:
  - Proposed and certified by a design professional
  - Designated sampling ports or locations (before and after polishing unit)
  - Minimum daily treatment capacity and separation distances
  - Max burial depth, H-20 loading, watertightness, covers to grade, venting, etc.
- In addition, must have a valved bypass to divert flow around the polishing unit





# 1. POLISHING UNITS

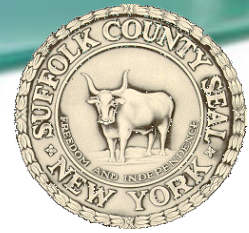


➤ Unlike I/A OWTS, polishing units do not have requirements for:

- Use
  - ✓ May be proposed and installed on a voluntary basis
- Sampling
  - ✓ Although sampling ports must be available, there is no minimum number of samples required for approval
- Treatment efficacy
  - ✓ Approval is not based on a technology's ability to reduce or remove contaminants

➤ Towns and villages may adopt more stringent requirements





## 2. SEWER PIPES- BENDS

### CURRENT (to be removed)

- No bends in the sewer line unless “unavoidable” or if “absolutely necessary”
  - ✓ *Some leniency given for replacement/retrofit*
  - ✓ *Very little leniency given for new construction*
- Manhole or cleanout required for directional change that is greater than 10 feet from foundation
- Bends within 10 feet of foundation must be constructed of cast-iron piping up to and including the bend

### PROPOSED

- *Recommend no bends in the sewer line*
  - ✓ *Bending of sewer pipe is at the discretion of the designer/installer*
- When a directional change is greater than 45° there must be at least 2 feet of piping between fittings
- Cleanouts must be installed prior to each total directional change of 90°

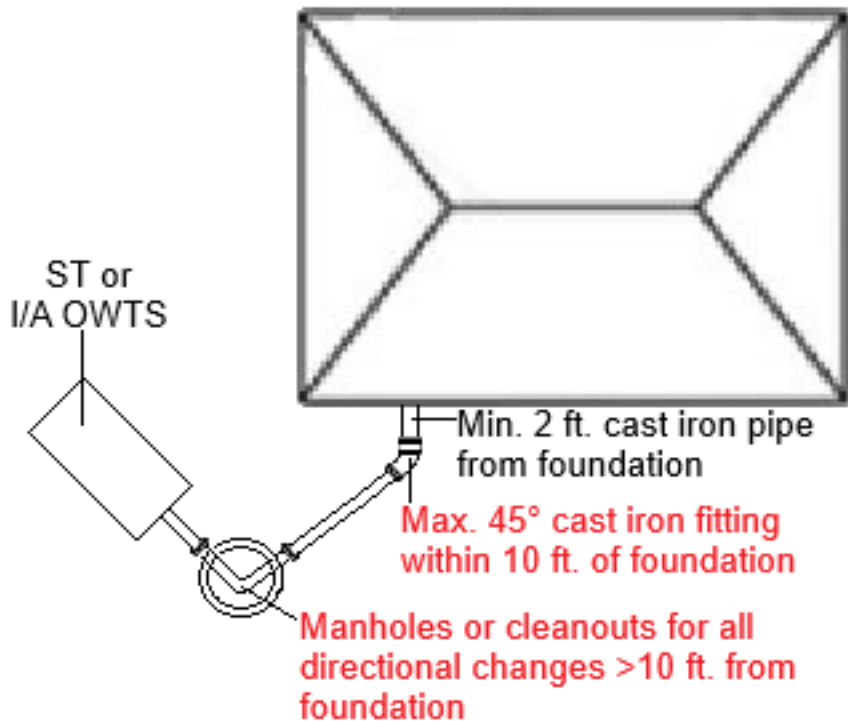
\*These requirements are for sewer pipe BEFORE/UPSTREAM of the ST or I/A OWTS; there are no regulatory limitations (current or proposed) on bends in the sewer pipe after/downstream of the ST or I/A OWTS.



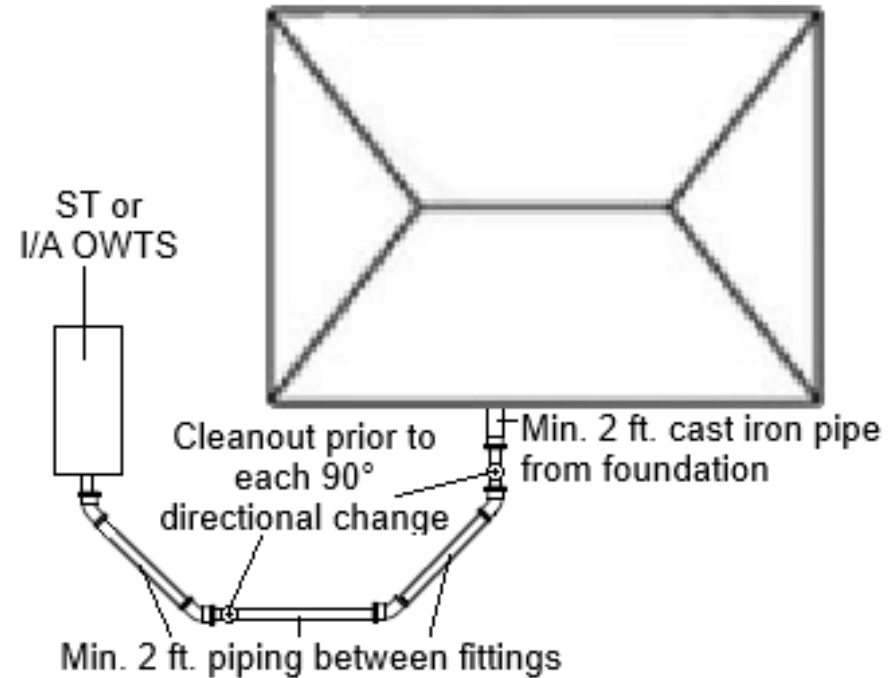
## 2. SEWER PIPES- BENDS

### CURRENT

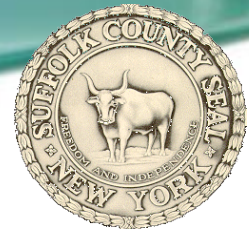
(red text is proposed to be removed from standards)



### PROPOSED



\*No single fitting may exceed 45°

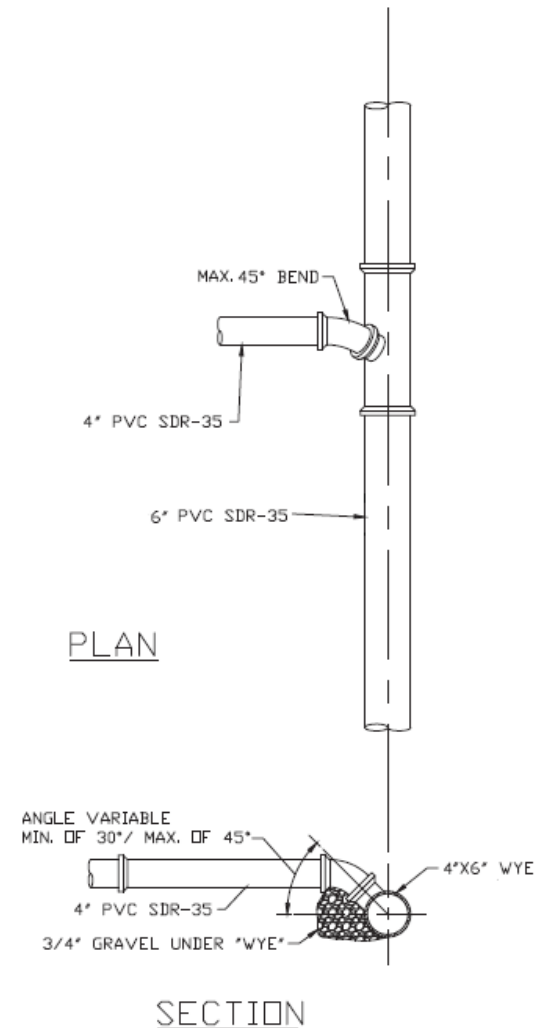


## 2. SEWER PIPES- JOINING

### ➤ CURRENT Standard/Protocols:

- Joining of sewer lines is not explicitly addressed in residential construction standards
  - ✓ *i.e., detached garage and main house*
- OWM protocols have allowed the use of wye fittings to join sewer lines in certain circumstances on residential properties in the past based on commercial and DPW sewer standards
  - ✓ *One buildings sewer line is considered the “main sewer” and the joining sewer line is considered the “branch or lateral sewer”*

### DPW Sewer Standards



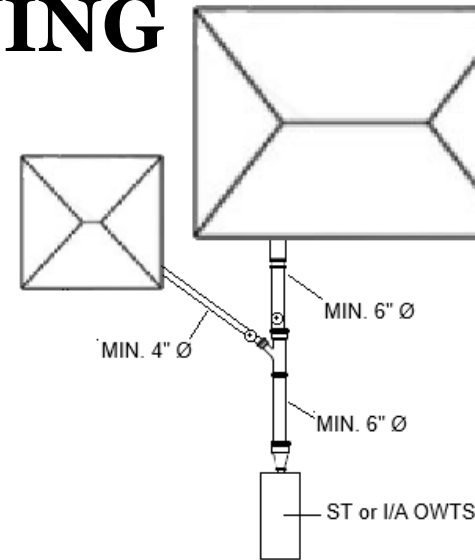


## 2. SEWER PIPES- JOINING

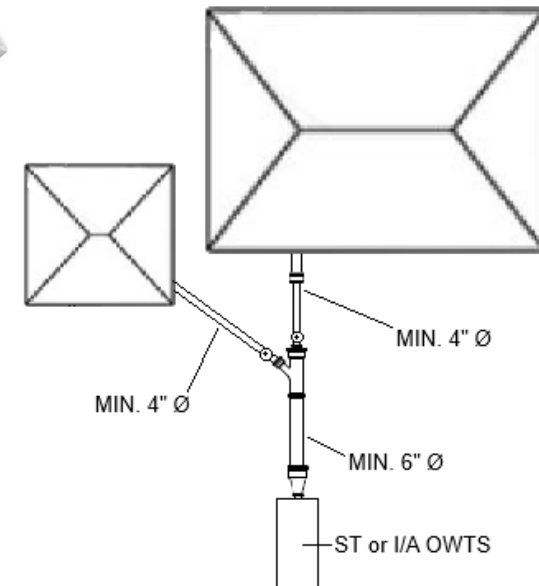
### ➤ PROPOSED Standard:

- Single or double wye fittings with maximum angle of 45° and minimum hub diameter of 6 inches
- New construction → main sewer line must be a minimum of 6 inches to utilize a wye
- Existing 4-inch sewer lines → reducer coupler must be used preceding the wye to increase the main sewer line's diameter to at least 6 inches, which must then be maintained to the septic tank or I/A OWTS
  - ✓ An eccentric reducer may be used directly preceding an I/A OWTS that requires an inlet pipe that is less than 6 inches
- Installation of a cleanout on each sewer line and within 10 feet preceding the wye fitting

### New Construction



### Existing/Retrofit





# 3. SEWAGE EJECTOR SYSTEMS

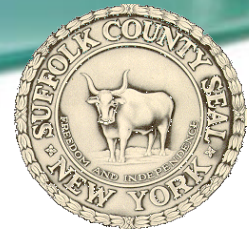
## CURRENT (to be removed)

- “All systems should be designed to flow by gravity. Only when absolutely necessary should pumps be used.”
- All sewage ejector systems installed before the ST or I/A OWTS must be:
  - ✓ Duplex
  - ✓ Grinder Type
  - ✓ Explosion-Proof



## PROPOSED

- When possible OWTS should be designed to flow by gravity.
- For all pump systems:
  - ✓ Single or duplex pumps may be approved based on tank size.
  - ✓ Pump type (grinder, centrifugal, impeller, etc.) to be determined by design professional with some minimum requirements.
  - ✓ *Recommend* that all electrical components be explosion proof and conform to the requirements for Class I, Division 1, and Group D of the National Electric Code.



# 3. SEWAGE EJECTOR SYSTEMS

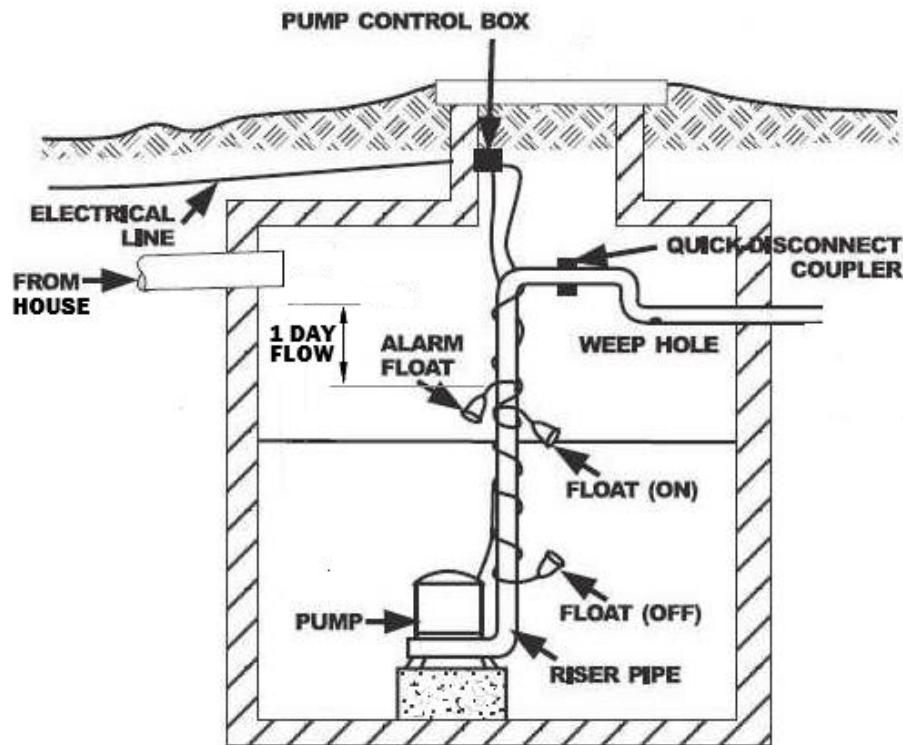
## ➤ PROPOSED Standard:

### ● Pump type minimum requirements:

- ✓ Pumps must be rated for sewage and capable of handling at least 2-inch spherical solids.
- ✓ No grinder pumps prior to an I/A OWTS.
- ✓ When grinder pumps are used they must have a minimum discharge opening of at least 1 1/4 inch.

### ● Pump redundancy requirements:

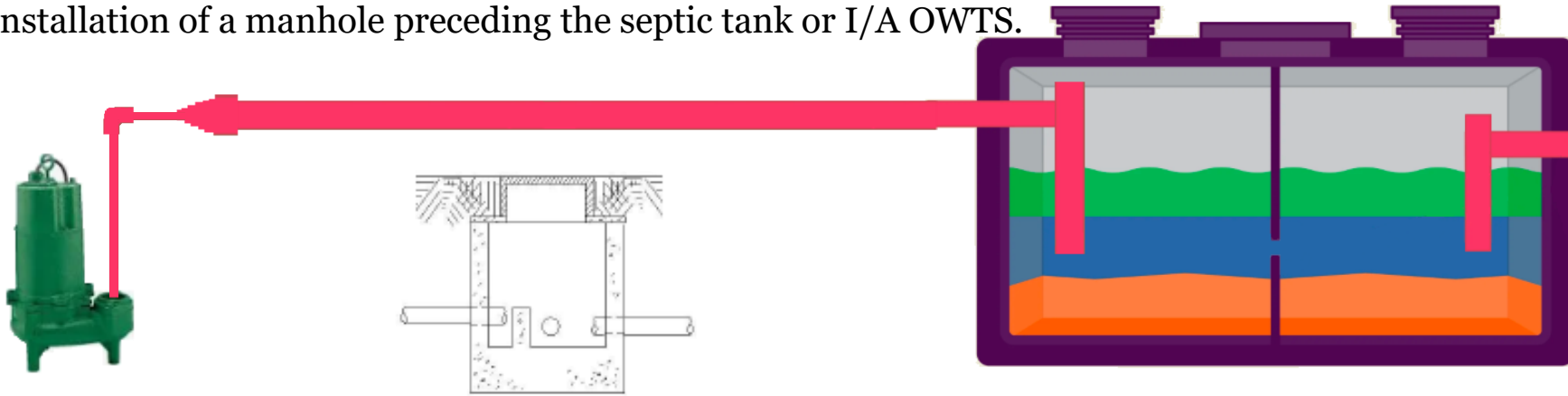
- ✓ Dual pumps are required
- ✓ If the sewage ejector system tank is sized to provide a minimum of one day's design flow storage between the high-water alarm level and 3 inches below tank inlet invert a single pump may be used





# 3. SEWAGE EJECTOR SYSTEMS

- Pressure and settling disturbance in the septic tank or I/A OWTS must be reduced to the greatest extent possible by:
  - transitioning to a larger-diameter, gravity pipe at a point as far from the septic tank or I/A OWTS inlet as possible; OR
  - installation of a manhole preceding the septic tank or I/A OWTS.



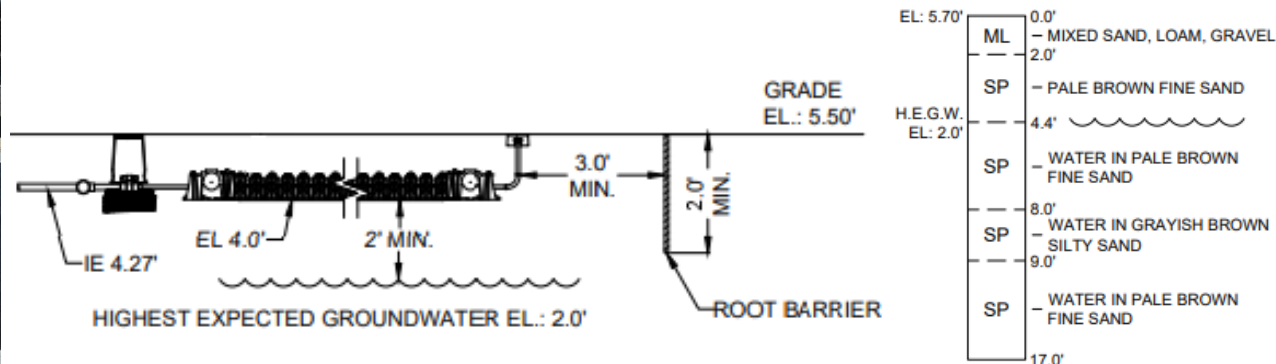
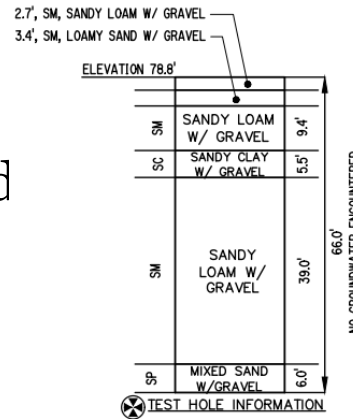
- Recommend planning of backup power (i.e., control panel with portable generator connection or connecting to an in-place generator with automatic transfer switch).
- The design, location, capacity, and construction details for the pump systems discharging into a municipal sewer system shall be determined by the appropriate sewer authority.



# 4. PRESSURIZED SHALLOW DRAINFIELDS (PSD)

➤ Limit the use of PSD to sites where the installation of other leaching methods is demonstrated by the design professional to be impractical, such as:

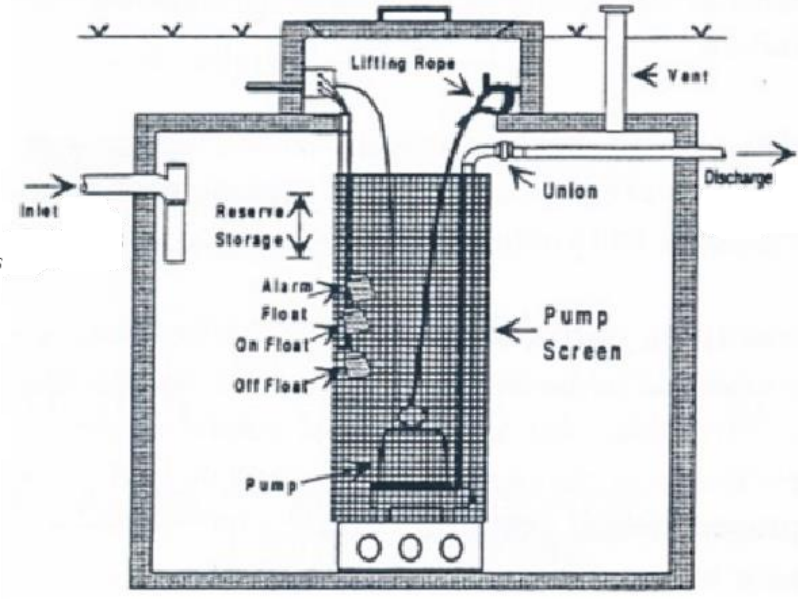
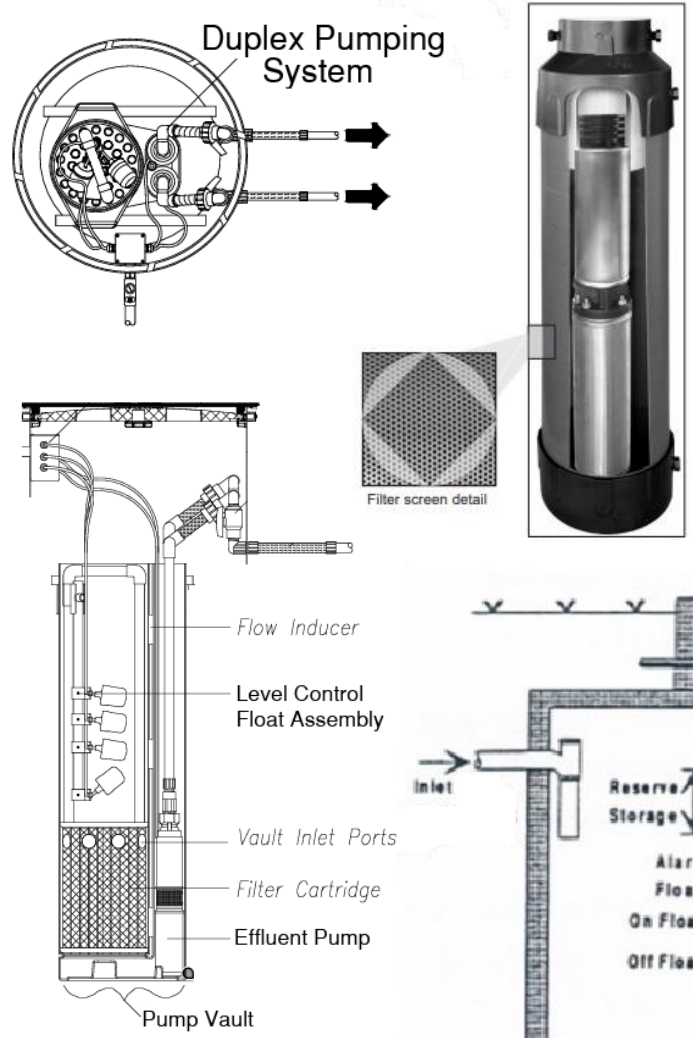
- sites with a groundwater depth less than five feet below grade
- absence of a 6-foot strata of SP/SW within 25 feet from grade





# 4. PRESSURIZED SHALLOW DRAINFIELDS (PSD)

- New minimum design requirements:
  - A dosing tank and pump that is fully independent of the treatment process of the preceding I/A OWTS.
  - Dual pumps, unless the dosing tank is sized to provide a minimum of one day's design flow storage between the high-water alarm level and the 3 inches below the inlet invert of the tank.
  - Screened pump vault/basket or inline effluent filter at pump tank.



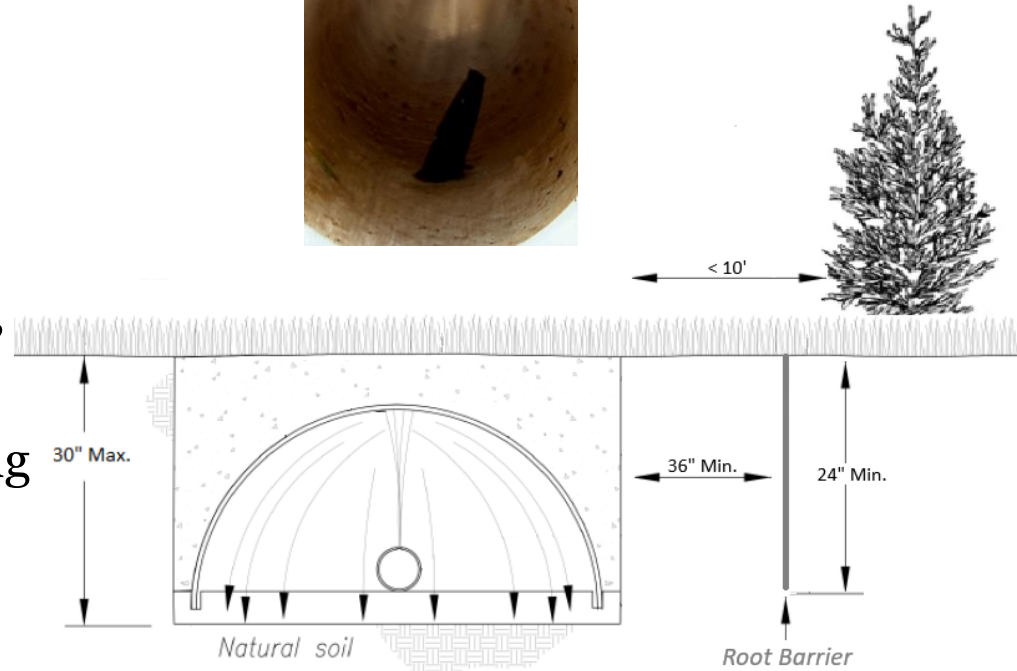


## 4. PRESSURIZED SHALLOW DRAINFIELDS (PSD)

➤ Allow the use of root barrier when unable to meet minimum separation distance of 10 feet between PSD and widest point of trees/shrubs

- Minimum 2 feet vertically from grade
- Minimum 3 feet horizontally from trench edge

➤ Update requirements for PSD configuration and material substitutions to be based on Department or NYSDOH Approval, and compliance with Department trench width and distribution piping requirements, as opposed to “piloting” technology.





# 5. EXCEEDANCE OF MAXIMUM PERCOLATION RATES

TABLE 7

Percolation Rate (MPI)	Application Rate Trench System (gal/day/sq.ft.)	Application Rate Absorption Bed (gal/day/sq.ft.)
0-5	1.20	0.95
6-7	1.00	0.80
8-10	0.90	0.70
11-15	0.80	0.60
16-20	0.70	0.55
21-30	0.60	0.45
31-45	0.50	Not Acceptable
46-60	0.45	Not Acceptable

➤ When percolation tests exceed maximum rates (60 min/in for trench and PSD systems; 30 min/in for bed systems):

TABLE 13

Soil Type	Percolation Rate (min/in)	Application Rate (gal/day/sf)	
		CATEGORY 1 I/A OWTS	CATEGORY 2 I/A OWTS
Sand and loamy sand	1 – 5	3.0	1.9
Sandy loam	6 – 15	2.0	1.3
Fine sand, very fine sand, loam	16 – 30	1.5	.9
Silt and silt loam	30 – 45	1.2	.8
Clay loam, sandy clay, silty clay loam	45 – 60	1	.75
Clay	60 - 120	NOT ALLOWED	

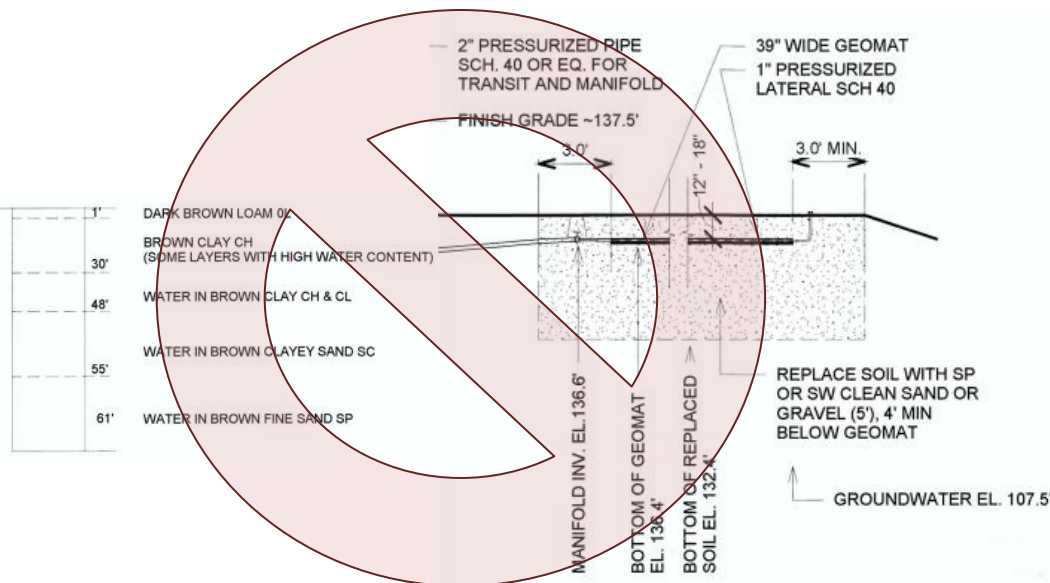
- **CURRENT** standard (to be removed):

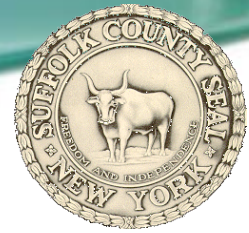
Excavate 4 feet of unsuitable soils below the bottom of the leaching system and replace with SP/SW and size field using lowest application rate.

- **PROPOSED** standard:

Require alternative configurations of leaching systems to be proposed by a design professional, including a technical report.

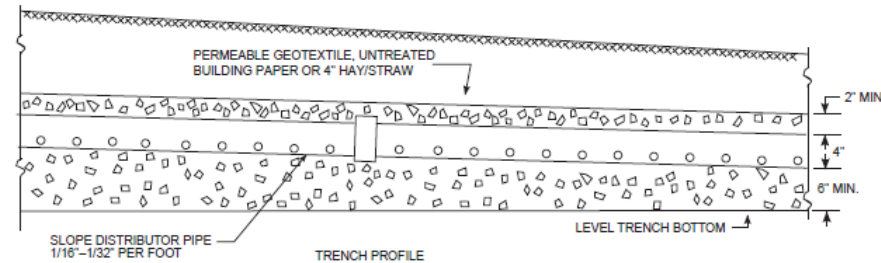
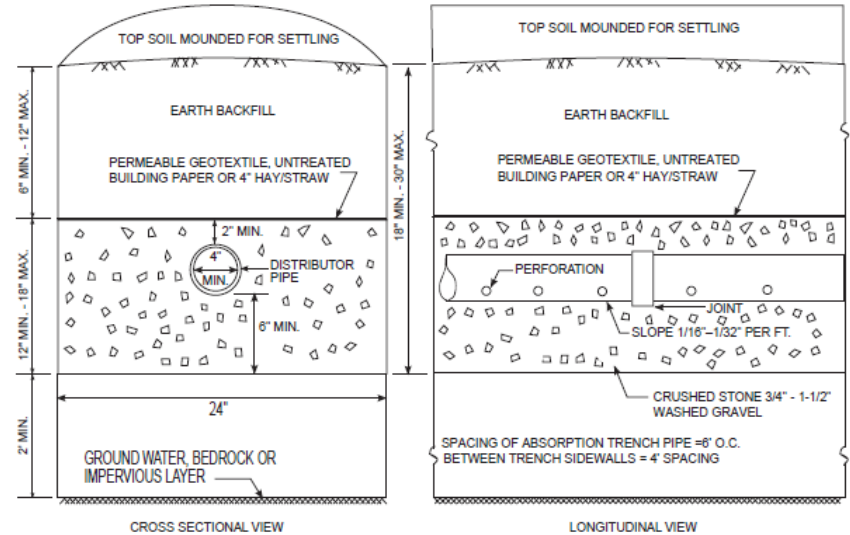
- ✓ Recommend consulting with alternative product manufacturer.





# 6. ABSORPTION TRENCH SYSTEMS

- Not in **CURRENT** standards
- **PROPOSED:** Add absorption trench system (a.k.a. “Pipe & Stone”)
  - 110 gallons per bedroom per day
  - 2 ft. wide trenches
  - 4 ft. between trenches
  - Table 7 application rates
- Must be designed in accordance with NYSDOH Appendix 75-A
  - Commonly used system in other parts of New York
- Not recommended to be installed under paved/compacted surfaces
  - If required, then use of a preceding I/A OWTS is recommended
- Requires preceding effluent filter and/or I/A OWTS

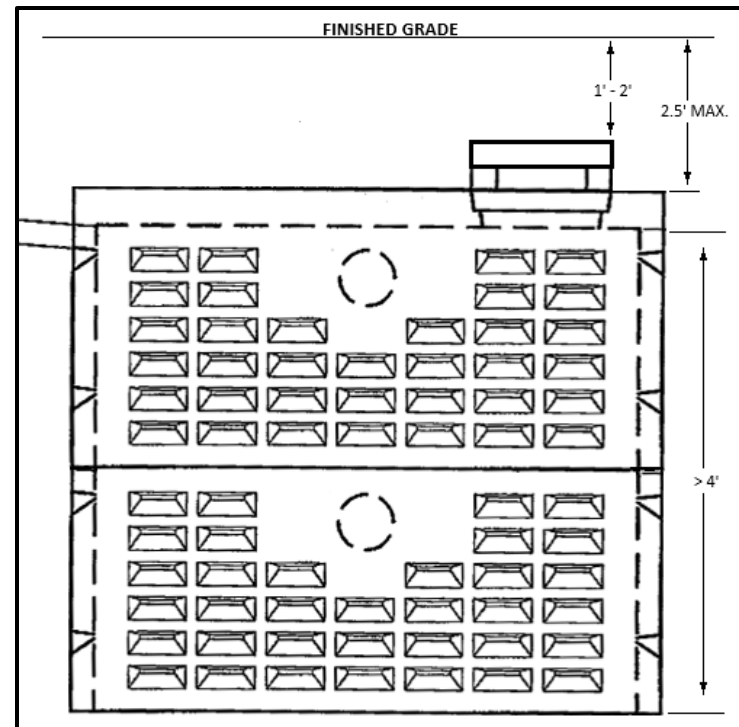
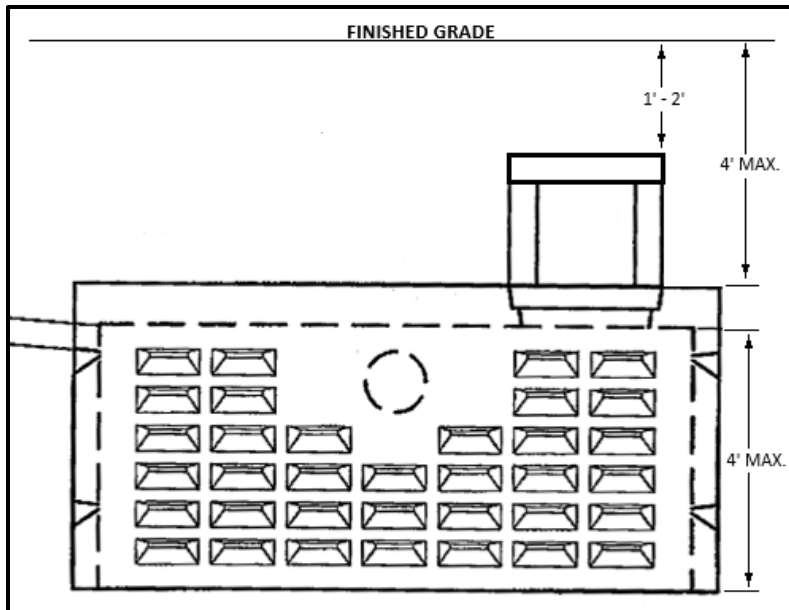


Percolation Rate (MPI)	Application Rate Trench System (gal/day/sq.ft.)
0-5	1.20
6-7	1.00
8-10	0.90
11-15	0.80
16-20	0.70
21-30	0.60
31-45	0.50
46-60	0.45



# 7. LEACHING GALLEYS

- LG with effective depths of 4 feet or less
  - Maximum burial depth to top of galley = 4 feet
- LG with effective depths greater than 4 feet or stacked LG
  - Maximum burial depth to top of galley = 2.5 feet
- Clarify that the interior shall be open and not filled with any material (i.e., stone, wood chips, etc.)





## 8. CORRECTIONS AND CLARIFICATIONS

*Revisions to language that will more accurately and concisely describe requirements and current procedures and protocols without changing them*

- Defining SP/SW and making it equivalent to what was formerly termed “clean sand” or “sand and gravel” throughout the document.
- Removal or updating of language in conflict with or described within the associated *STANDARDS FOR PROCEDURES FOR THE REPLACEMENT AND RETROFITS OF EXISTING SEWAGE DISPOSAL SYSTEMS FOR SINGLE-FAMILY RESIDENCES AND OTHER THAN SINGLE-FAMILY RESIDENCES (a.k.a. SHIP)*.
- Simplifying description of maximum leaching rates under various soil conditions when utilizing percolation testing in conjunction with test hole data for leaching systems other than leaching pools or galleys.
- Specifying that I/A OWTS are approved based on the *Standards Promulgated Under Article 19 for the Approval and Management of Innovative and Alternative Onsite Wastewater Treatment Systems*.



## 8. CORRECTIONS AND CLARIFICATIONS

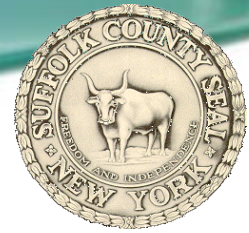
- Requiring that leaching structures be installed level in all directions with a max. tolerance of  $\pm 1/4$  inch.
- Correcting that the maximum dome for a plastic cover is referencing slope, not vertical measure.
- Removing sampling port design and installation requirements from I/A OWTS section to create new independent section, as sampling ports are also required for Polishing Units.
- Update all references to licensed and/or Professional Engineers/Designers within document to “design professional,” as is defined within these standards.
- Clarify that the minimum leaching pool height is 2 feet and the interior shall be open and not filled with any material (i.e., stone, wood chips, etc.).
- Recommend the house connection have a cleanout on the exterior face of the building but alternatively allow the cleanout to be located on the building’s interior plumbing provided it is accessible.
- Other minor grammatical and formatting corrections and updates.



**Suffolk County's  
SEPTIC IMPROVEMENT  
PROGRAM**

---

**Grant Funding for Residential I/A OWTS Upgrades**



## Suffolk County SIP and NYS Grant

- **Suffolk County Septic Improvement Program (SIP)**
  - \$15,000 base grant
    - Additional \$5,000 for installation for LMI eligible applicants
  - *Soon to change to \$20,000 based on SC Legislature Local Law under IR 1829-25*
- **NY State Septic System Replacement Program (SSRP)**
  - Up to \$10,000 grant to cover up to 50% of eligible costs
  - *Soon to change to up to \$25,000 to cover up to 75% of eligible costs based on NYS Legislation S8241-A/A8807*
- **New Grant for Long Island Sound Septic System Replacement Program Coming Soon**
  - Up to \$10,000 grant to cover up to 50% of eligible costs
- **Town Community Preservation Funds**
  - Southampton, East Hampton & Shelter Island
- **Low Interest Loan Program with CDLI**
  - Up to \$10,000 loan



## Suffolk County SIP and NYS Grant

### Streamlining of the Septic Improvement Program

#### ➤ Changes to the Septic Grant Programs

- Grant Funding Amount Updates
- Combined County and State grant agreements are now issued via e-mail and are signed electronically
  - NYS SSRP only grant contract electronic template soon to be launched
- Less documentation will be required for homeowners to submit
  - CO, insurance, **and soon, tax returns for LMI designation**
- New staff members
- Continuous updates to internal application processing database to streamline grant processing
- Development of a new grant application portal for applicants



## Suffolk County SIP and NYS Grant

- Apply online at [ReclaimOurWater.info](https://ReclaimOurWater.info)
- Required documents include:
  - tax bill
  - proof of system failure, if applicable,
  - **if applying for LMI, recent tax return\*\* (soon will *not* be required)**
  - if property is owned by Trust, LLC, or Corporation, additional documentation is required
- Property cannot be in foreclosure or have tax liens.
- Existing sanitary disposal system must be replaced with an I/A OWTS
- Grant Awardees must select a Vendor on the County's Approved List.
- Applicants assign their grant payment directly to the Vendor. Payments are then made by the County to the Vendor.
- County SIP is not designed as a reimbursement program. Applicants must apply for and receive a grant prior to installation.
- Where an applicant is only applying for a NYS SSRP grant, grant may be processed as a reimbursement.





## Grant Funded I/A OWTS Installations

**Total of 2,860+ SIP & SSRP Grant Funded I/A OWTS Installations Completed & Paid Out**

Town	Grant Funded I/A OWTS
Babylon	42
Brookhaven	415
East Hampton	743
Huntington	146
Islip	185
Riverhead	47
Shelter Island	141
Smithtown	70
Southampton	878
Southold	193

Grant-Funded Installations/Year

2017: 8  
 2018: 51  
 2019: 257  
 2020: 426  
 2021: 295  
 2022: 476  
 2023: 468  
 2024: 466  
 2025: 405+



The **average** cost for materials and installation of a nitrogen-removing treatment unit, leaching system, and removal of existing system from 2023-2025 was approximately:

- \$36,500 within the five east end towns
- \$30,700 within the five west end towns
- current average cost of an O&M contract renewal for 3 years is approximately \$1,500 (\$500/year)



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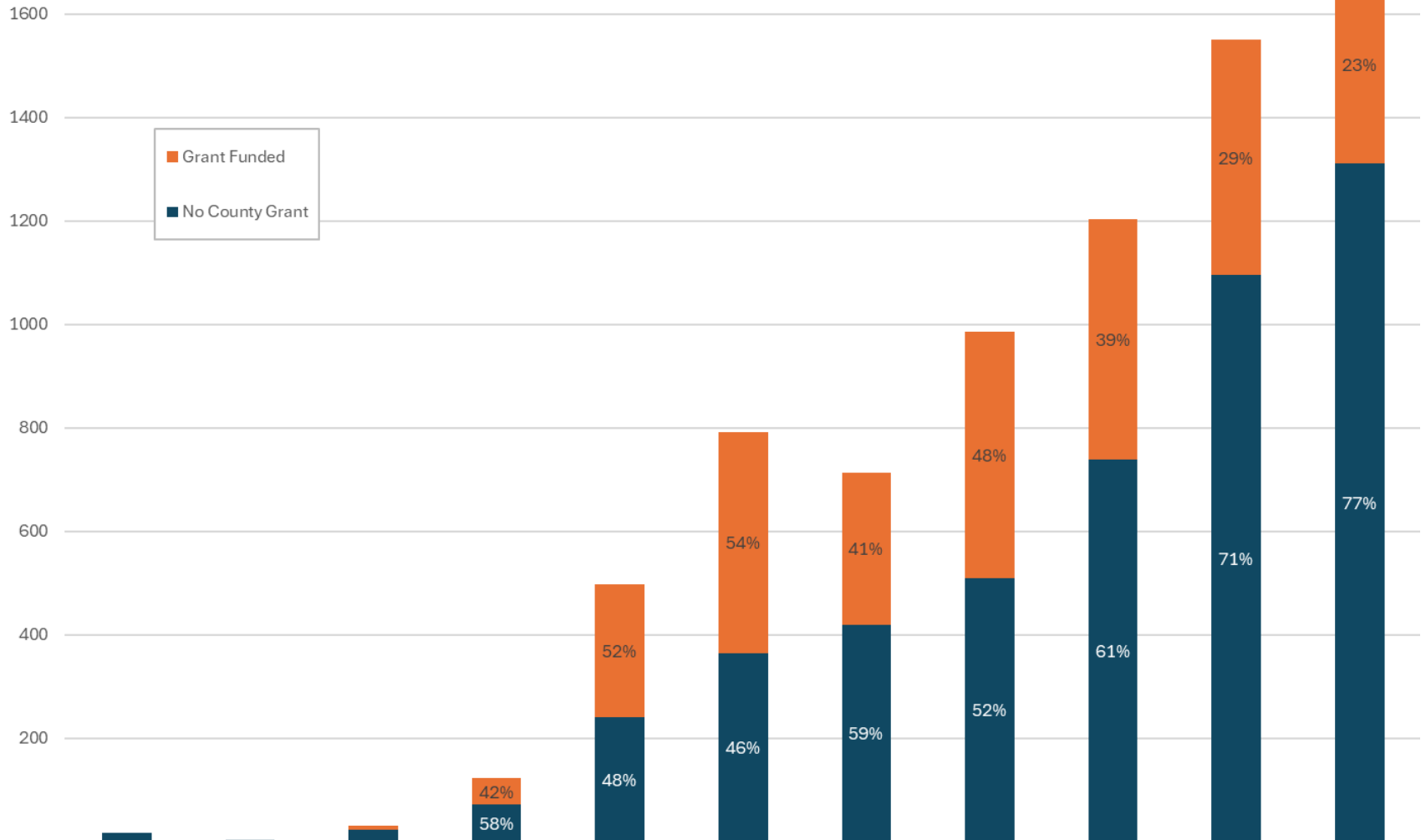
**Innovative and Alternative  
Onsite Wastewater  
Treatment System  
Performance**

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# SUFFOLK COUNTY I/A OWTS INSTALLATIONS

as of January 2026

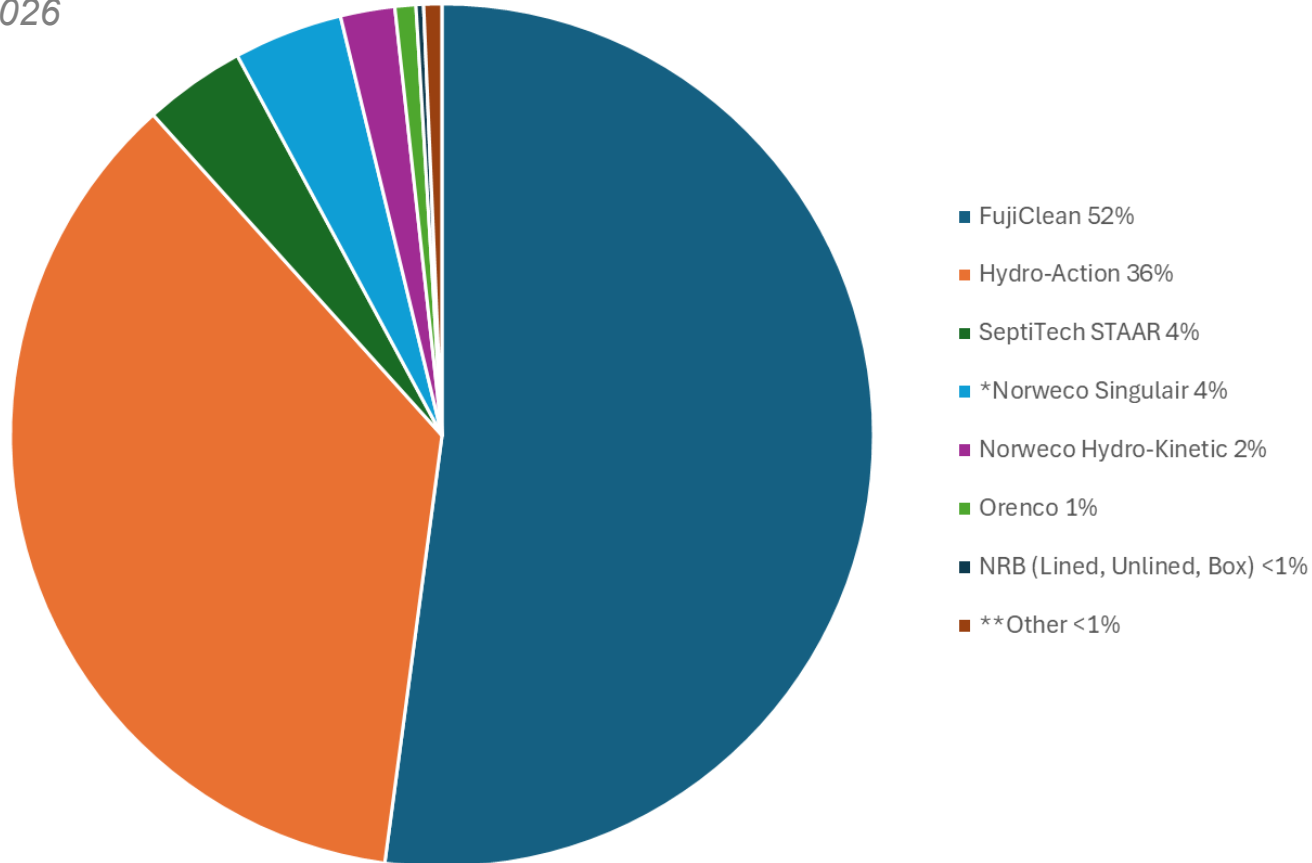


Year	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cumulative Installs	17	21	51	173	670	1461	2175	3161	4365	5916	7608



# SUFFOLK COUNTY I/A OWTS TECHNOLOGY MARKET SHARE

*as of January 2026*

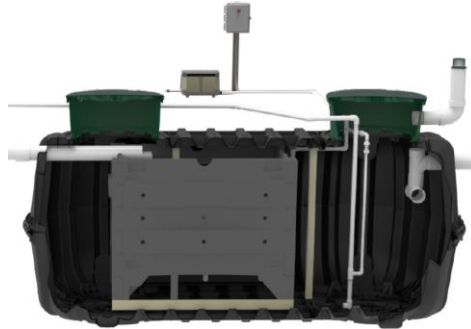


\*In November of 2024 Norweco requested that the Singulair TNT be removed from Suffolk County's I/A OWTS approval list following issuance of a minor violation by the Department for exceeding 19 mg/L average TN and early implementation of a remedial action plan by the Vendor. There are approximately 300 Singulair TNT systems installed in Suffolk County.

\*\*'Other' includes all technologies that did not advance from Septic Demonstration Program, Constructed Wetlands, Experimental and Pilot system, except NRBs.

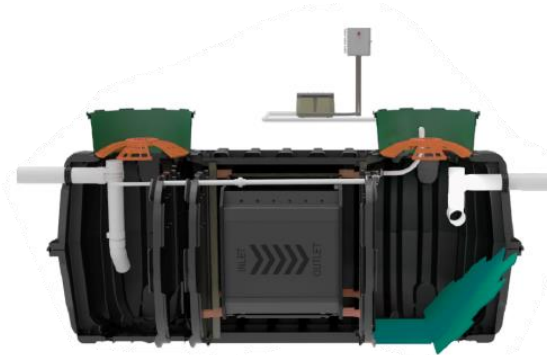


# OTHER PILOT TECHNOLOGIES INSTALLED IN SUFFOLK COUNTY



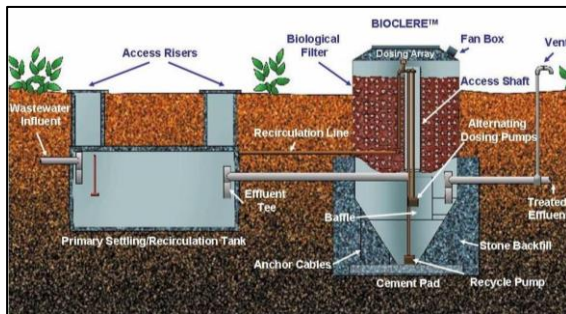
## ECOPOD-NX

- Approved 5/30/2025
- 7 Installations



## ECOPOD Edge

- Approved 5/30/2025
- 7 Installations



## AquaPoint BioClere

- Approved 7/30/2018
- 1 Installation



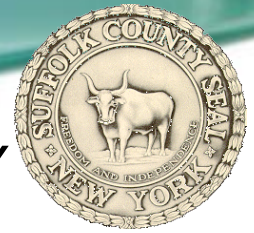
## Anua BioCoir

- Approved 8/6/2020
- 1 Installation



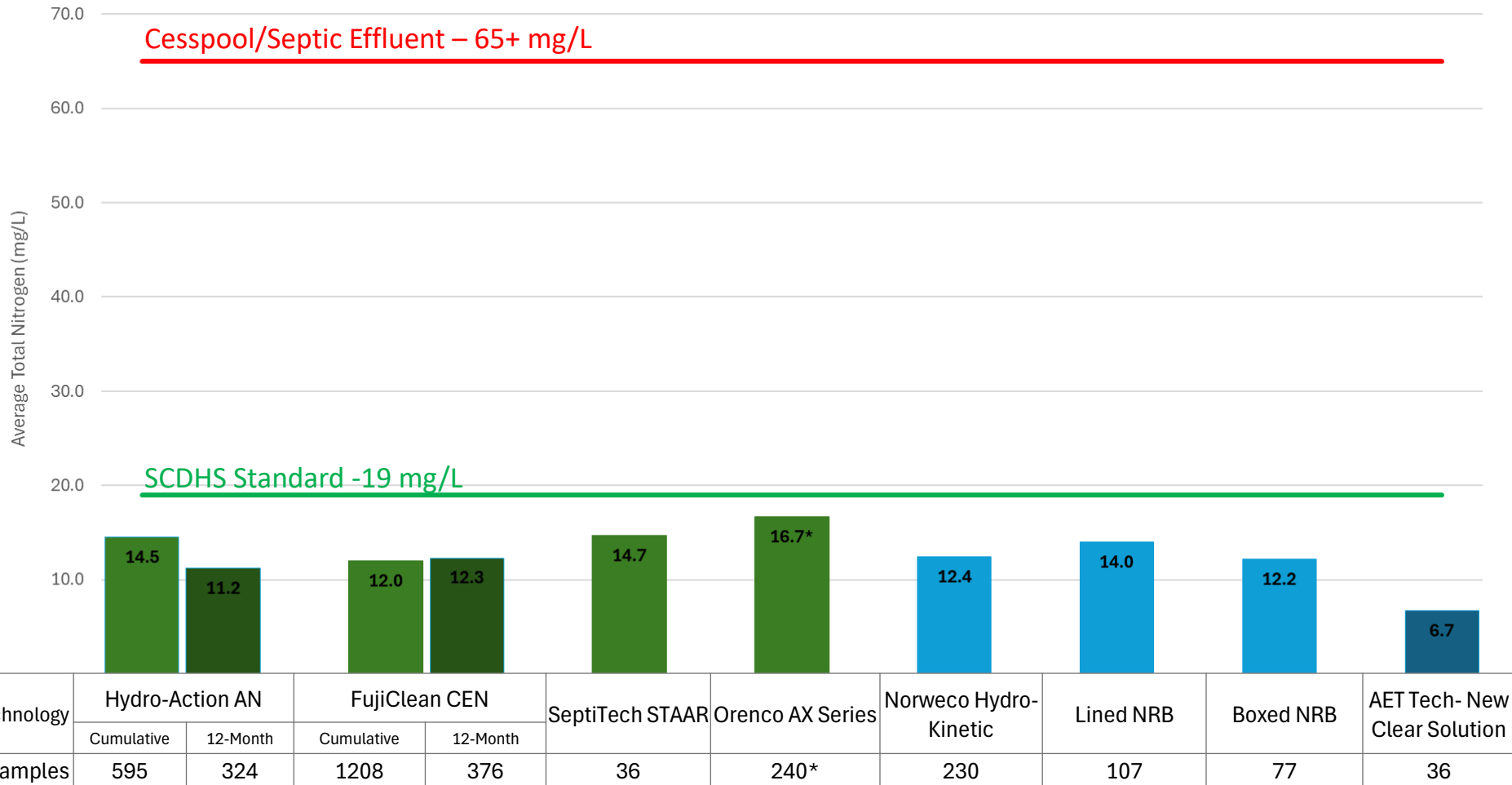
## Amphidrome

- Approved 7/21/2022
- 2 Installations



# I/A OWTS PERFORMANCE IN SUFFOLK COUNTY

as of March 2026



General Use

Provisional

Experimental



# WRAP-UP/QUESTIONS

- This presentation along with a copy of the proposed, revised residential standards will be provided to all meeting invitees and attendees via email
  - Provide comments to [IAOWTSRME@suffolkcountyny.gov](mailto:IAOWTSRME@suffolkcountyny.gov) by Monday, March 16, 2026
  
- More Info at:  
<https://www.suffolkcountyny.gov/Departments/Health-Services/WWM>
  
- To receive certificate for 2 contact hours** for LW license renewal, email [IAOWTSRME@suffolkcountyny.gov](mailto:IAOWTSRME@suffolkcountyny.gov) with the following information by **Monday, March 9, 2026\***
  - Subject: “Stakeholder Meeting Credit Request”
  
  - Body:
    1. First and last name
    2. Company name
    3. Liquid waste license number (i.e. LW-####)
    4. Name and phone number that you attended the meeting under

***\*Emails received after this date will not be issued a certificate. Certificates will be emailed by Monday, March 23, 2026.***