Alternate Design Septic Systems Authorized[1] for Use
in the New Jersey Pinelands on Lots of Less than 3.2 Acres
(Revised 5/14/2026)

Technology	System Type	Vendor Contact Information	
Amphidrome Minimum lot size: 1.0 acre	Fixed Film, Sequencing Batch Biological Filter	F.R. Mahony & Associates, Inc. 273 Weymouth Street, #3 Rockland, MA 02370 P: (781) 982-9300 E: info@frmahony.com W: www.frmahony.com	Site Specific Design, Inc. Blake Romanowski 1704 Rockwell Road, Abington, PA 19001 P: (215) 887-3730 E: bromanowski@ssdpump.com W: https://sitespecificsales.com/
Bioclere Minimum lot size: 1.0 acre (Models 16/12/-350 or SS, 16/12- LS, 16/15-600)	Modified Trickling Filter	Aquapoint, Inc. Steve Sedgwick 39 Tarkin Place New Bedford, MA 02745 P: (508) 998-9050 ext. 2 E: sales@aquapoint.com W: https://biomicrobics.com/	Advanced Nitrate Solutions Richard Lee 63 Chips Folly Road, Egg Harbor, NJ 08215 P: (609) 703-7064 E: advancednitratesolutions@msn.com
FAST Minimum lot size: 1.4 acre (Models: 0.5, 0.75, 0.9, and 1.5)	Fixed Activated sludge Treatment	Bio-Microbics, Inc. Robert Rebori 8450 Cole Parkway Shawnee, KS 66227 P: (800) 753-3278 E: rkrebori@biomicrobics.com W: https://biomicrobics.com/	Site Specific Design, Inc. Blake Romanowski 1704 Rockwell Road, Abington, PA 19001 P: (215) 887-3730 E: bromanowski@ssdpump.com W: https://sitespecificsales.com/
Hoot ANR Minimum lot size: 1.0 acre	Extended Aeration Activated Sludge	Hoot Systems, LLC Aaron Yonts 2885 Highway 14E Lake Charles, LA 70607 P: (800) 878-4668 E: aaron@hootsystems.com W: https://hootsystems.com/	M&W Precast & Construction Supply, LLC Fred Shaffer 210 Durham Road Ottsville, PA 18942 P: (610) 847-7203 E: fshaffer@mwprecastsupply.com W: https://www.mwprecastsupply.com/
SeptiTech Minimum lot size: 1.0 acre (Model N-M400, M550, M750, M1000)	Trickling Filter	SeptiTech, LLC A subsidiary of Bio-Microbics Tracey Rioux 69 Holland Street Lewiston, Maine 04240 P: (207) 333-6940 E: triox@septitech.com W: https://www.septitech.com/	Septic Management Associates Vinny Gioffre P.O. Box 1406 Voorhees, NJ 08043 P: (856) 651-9050 E: vinny@septic-nj.com W: www.septics.com Site Specific Design, Inc. Blake Romanowski 1704 Rockwell Road, Abington, PA 19001 P: (215) 887-3730 E: bromanowski@ssdpump.com W: https://sitespecificsales.com/

Fuji Clean CEN Series Minimum lot size: 1.0 acre (Model CEN5, CEN7, CEN10 Series)	Fixed film media contact filtration	Fuji Clean USA Scott Samuelson 41 Greenwood Rd, Brunswick, ME 04011 P: (207) 406-2927 E: scott@fujicleanusa.com W: https://www.fujicleanusa.com/	
Waterloo Biofilter Minimum lot size: 1.0 acre (Model 4-Bedroom)	Fixed film trickling filter	Waterloo Biofilter Systems, Inc Chris Jowett 65 Massey Rd, Suite C Guelph, ON N1H 7M6, Canada P: (866) 366-4329 E: info@waterloo-biofilter.com W: https://waterloo-biofilter.com/	
Pugo System Minimum lot size: 1.26 acre	Stacked fixed media	Adelante Consulting, Inc. Tyson Wood 3483 Corrales Road Corrales, NM 87048 P: (505) 480-4900 E: twood@adelanteconsulting.com W: www.pugosystems.com	
Busse Model MF-B-400 Minimum lot size: 1.0 acre	Small-scale membrane bioreactor	Busse NY 2385 Montauk Hwy Bridgehampton NY, 11972 Mail: PO BOX 751 Wainscott NY 11975 P: (631) 537-7675 E: infor@bussyny.com W: https://busseny.com/	Busse Green Technologies, Inc Ingo Schaefer P.O. Box 1123 Oak Park, Illinois 60304 P: (708) 204-3506 E: ingofschaefer@gmail.com W: https://busse-gt.com/

(1) Authorized pursuant to N.J.A.C 7:50 6.85, N.J.A.C. 7:50-10.22 and NJDEP Treatment Works Approval (TWA) Permit No. 02-3487-4SG. Pilot program TWA updated January 11, 2022. See attached TWA that lists authorized systems.

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
P.O. Box 420, TRENTON, NJ 08625-0420

PERMIT TO CONSTRUCT AND OPERATE* TREATMENT WORKS

**Local Agency approval required prior to operation*

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulation.

PERMIT NO.	ISSUANCE DATE	EXPIRATION DATE	DESIGN FLOW
02-3487-4SG	January 11, 2022	See below	N/A

NAME AND ADDRESS OF APPLICANT
New Jersey Department of Environmental Protection
Bureau of Ground Water, Residuals, and Permit Administration
Mail Code 401-02B
P.O. Box 420
Trenton, New Jersey 08625-0420

LOCATION OF ACTIVITY
Counties: All Pinelands Counties
Municipalities: All Pinelands Municipalities

General Requirements:
This approval authorizes administrative authorities to approve residential onsite wastewater treatment and disposal systems located within the boundaries of the Pinelands Area, as established by the Pinelands Protection Act (N.J.S.A. 13:18A-1 et seq.), as identified by N.J.A.C. 7:9A-3.8, using nitrate reduction systems in conjunction with systems otherwise designed, constructed, operated and maintained pursuant to N.J.A.C. 7:9A. Only those systems listed below are eligible for consideration under this approval. These nitrate reduction systems are considered advanced wastewater pretreatment devices under N.J.A.C. 7:9A. All other aspects of the onsite wastewater treatment and disposal system design, construction, operation and maintenance not specifically covered by this approval must conform to N.J.A.C. 7:9A.

System Operation and Maintenance Requirements:

The operation and maintenance of the nitrate reduction system and the individual subsurface sewage disposal system must conform to all provisions of N.J.A.C. 7:9A, including N.J.A.C. 7:9A-12.3, and N.J.A.C. 7:50 et seq.

All nitrate reduction systems require ongoing maintenance to ensure adequate functioning of the entire system. These systems must be maintained, for the life of the system, by an authorized service provider meeting the requirements of N.J.A.C. 7:9A-3.17(b). The system must be maintained in accordance with the minimum provisions specified at N.J.A.C. 7:9A-12.3 or additionally as required by the manufacturer and specified on the approved design.

Expiration Date:

This approval to construct and operate shall cease upon the expiration of the Pinelands Alternate Design Wastewater Treatment Systems Pilot Program authorized under N.J.A.C.7:50-1 et seq. Any subsequent extension to that pilot study or formal acceptance by the Pinelands Commission through adoption of an amendment to N.J.A.C. 7:50-1 et seq. of any of the technologies listed shall be considered an extension of this TWA in full or any applicable part thereof.

APPROVED by the Department of Environmental Protection

Michele Christopher, Chief — 01/11/2022
Bureau of Ground Water, Residuals, and Permit Administration — Date

This permit is also subject to special provisos and general conditions stipulated on the attached page(s) which are agreed to by the permittee upon acceptance of the permit.

Product Specifications:

Products covered by this TWA are listed in the table below.

MANUFACTURER	PRODUCT(S)
F.R. Mahony & Associates, Inc [1]	Amphidrome (Fixed Film Sequencing Batch Biological Filter)
Aquapoint, Inc. / AWT Environmental [1]	Bioclere (Trickling Filter)
SeptiTech, LLC [2]	Trickling Filter
Bio-Microbics, Inc. [3]	FAST (Fixed Activated Sludge Treatment)
Hoot Systems, LLC [4]	Hoot ANR (Advanced Nitrogen Reduction) Extended Aeration Activated Sludge
Fuji Clean USA, LLC [5]	Fuji Clean USA CEN Series (Fixed Film Contract Filtration)
Waterloo Biofilter Systems, Inc. [5]	Waterloo Biofilter (Fixed Film Trickling Filter)
Adelante Consulting, Inc.[5]	Pugo (Fixed Film Bioreactor)
Busse Green Technologies, Inc	Busse GT System (Membrane Bioreactor)

Products no longer covered by this TWA are listed in the table below.

MANUFACTURER	PRODUCT(S)
~~Cromaglass Corporation [6]~~	~~Cromaglass (Sequencing Batch Reactor)~~
~~Bio-Microbics, Inc. [6]~~	~~Bio-Barrier (Membrane Bioreactor)~~

1 The Amphidrome, Bioclere and wastewater treatment systems were elevated from Pinelands pilot program status to permanent approval status for residential use on minimum one-acre parcels effective October 18, 2010. The Amphidrome and Bioclere wastewater treatment systems remain subject to all of the requirements of the pilot program except for mandatory laboratory analysis of treated effluent.

2 The SeptiTech wastewater treatment system was elevated from Pinelands pilot program status to permanent approval status for residential use on minimum one-acre parcels effective November 13, 2020. The SeptiTech wastewater treatment system remains subject to all the requirements of the pilot program except for mandatory laboratory analysis of treated effluent

3 The FAST wastewater treatment system was elevated from Pinelands pilot program status to permanent approval status for residential use on minimum 1.4 parcels effective March 5, 2018. The FAST wastewater treatment system remains subject to all the requirements of the pilot program except for mandatory laboratory analysis of treated effluent.

4 The Hoot ANR system was authorized for use in the Pinelands Area subject to the requirements of the Pinelands Alternate Design Treatment Systems Pilot Program (N.J.A.C.7:50-10.21 et seq.) as published in the New Jersey Register on December 5, 2011 and issuance of the Treatment Works Approval by the NJDEP.

5 The Fuji Clean USA, Waterloo Biofilter and Pugo systems were authorized for use in the Pinelands Area subject to the requirements of the Pinelands Alternate Design Treatment Systems Pilot Program (N.J.A.C.7:50-10.21 et seq. as published in the New Jersey Register on January 3, 2022) and issuance of the Treatment Works Approval by the NJDEP.

6 New installations of the Cromaglass treatment system were no longer permitted under the Pinelands pilot program effective September 2, 2014. New installations of the BioBarrier treatment system were no longer permitted under the Pinelands pilot program effective July 20, 2020. Both technologies were removed from the pilot program due to unsatisfactory nitrogen attenuation required to meet Pinelands water quality standards.

Site Requirements:

The location of the onsite wastewater treatment and disposal system must conform to all provisions of N.J.A.C. 7:9A.

No construction of the onsite wastewater treatment and disposal system, or the proposed realty improvement, shall begin until the administrative authority has provided written notification to the applicant that all aspects of the design and construction of the onsite wastewater treatment and disposal system which are not authorized under this treatment works approval are in strict conformance with N.J.A.C. 7:9A.

The issuance of this permit does not exempt the applicant of the responsibility to comply with all other applicable Federal, State, County and Municipal rules and regulations.

System Design Requirements:

All aspects of the nitrate reduction systems identified above must be in strict conformance with the Pinelands Alternate Design Wastewater Treatment Systems Pilot Program requirements at N.J.A.C.7:50-10.22, or any subsequent amendment to N.J.A.C. 7:50-1 et seq. adopted by the Pinelands Commission authorizing the use of the technologies.

System maintenance requirements must be included as part of the system design application. In no case shall the maintenance requirements be less than those required by N.J.A.C. 7:50 or N.J.A.C. 7:9A-12.3.

All other aspects of the design of the onsite wastewater treatment and disposal system, including the advanced wastewater pretreatment component, must conform to the provisions of N.J.A.C. 7:9A.

Busse GT Systems that locate wastewater pretreatment components within the building structure must be installed by a New Jersey Licensed Master Plumber. The discharge from the final treatment tank inside of the structure to the building sewer must either:

1. Flow by gravity from the building sewer to a pump tank sized and designed in accordance with the requirements of N.J.A.C. 7:9A-9 prior to the disposal field; or

2. Flow by gravity from the building sewer to a distribution box, provided the building sewer, connecting pipe and distribution box meet the requirements of N.J.A.C. 7:9A-9.3 and 9.4.

Advanced wastewater pretreatment components installed outside of the residential structure that have a total wastewater retention capacity less than what is required for a conforming septic tank in a standard system, must identify and maintain a reserve area for an appropriately sized septic tank which meets the siting and sizing requirements of N.J.A.C. 7:9A. Additional reserve area shall be required for a dosing tank if one would be required to address effluent discharges from a standard septic tank to the proposed disposal area. For every Busse GT system installed within a residential structure or above the

ground surface, a reserve area equal to the area that would be required for a fully compliant septic tank is required and an additional reserve area for a dosing tank, if needed.

System Construction Requirements:

Onsite wastewater treatment and disposal systems constructed under the Pinelands Alternate Design Wastewater Treatment Systems Pilot Program shall only be authorized if all the requirements of N.J.A.C. 7:50-10.22, or any subsequent amendment to N.J.A.C. 7:50-1 et seq. adopted by the Pinelands Commission authorizing the use of the technologies, have first been met.

All systems must be installed by an authorized installer in accordance with N.J.A.C. 7:9A-8.3(c). All authorized installers must comply with the requirements of N.J.A.C. 7:9A-3.17(a).

The construction of the onsite wastewater disposal system, including the advanced wastewater pretreatment component, must conform to all provisions of N.J.A.C. 7:9A. With exception to the Busse GT systems, this approval authorizes the construction and use of products in lieu of or in addition to septic tank(s), pump tank(s) and/or other system components located between the building sewer and the connecting pipe or delivery pipe for an onsite wastewater disposal system.

Busse GT systems that are designed to be installed prior to the building sewer must be installed by a New Jersey Licensed Master Plumber and the discharge from the final treatment tank inside of the structure to the building sewer must either:

1. Flow by gravity from the building sewer to a pump tank sized and designed in accordance with the requirements of N.J.A.C. 7:9A-9 prior to the disposal field; or

2. Flow by gravity from the building sewer to a distribution box, provided the building sewer, connecting pipe and distribution box meet the requirements of N.J.A.C. 7:9A-9.3 and 9.4.