



**Alternative/Experimental OWTS Technology Program**

**Vendor Information:**

Fuji Clean USA, LLC  
41-2 Greenwood Road, Ste 2  
Brunswick, ME 04011 USA  
Phone: 207-406-2927  
Fax: 207-406-2929  
Web: [www.fujicleanusa.com](http://www.fujicleanusa.com)

**Contact:**

Scott Samuelson  
cell: 207-415-7885  
Email: [scott@fujicleanusa.com](mailto:scott@fujicleanusa.com)

**Technology Name & Model Numbers:**

CEN5, CEN7 and CEN10

**Technology Type:**

Class Two Approval  
Total Nitrogen  $\leq$  19 mg/L  
TSS  $\leq$  20 mg/L  
BOD  $\leq$  20 mg/L  
Oil & Grease  $\leq$  5 mg/L

**Certification Dates:**

Approved: March 11, 2021  
Expires: November 27, 2024

**CERTIFICATION**

The Rhode Island Department of Environmental Management (RIDEM) has reviewed the Class Two Alternative Technology application for nitrogen removal submitted by Fuji Clean USA, LLC. hereafter referred to as the “Vendor”, for the Fuji Clean wastewater treatment system Models CEN5, CEN7, CEN10, hereafter referred to as the “System”. Based upon information contained in the application the RIDEM hereby approves the System for listing on the RIDEM Alternative and Experimental (A/E) Technology List as a Class Two Technology for nitrogen removal.

The System is a single fiber-reinforced plastic tank divided into three chambers. Wastewater flows in a circuitous path through the sedimentation chamber, to an anoxic chamber containing media followed by an aerobic chamber containing two types of media. Media in the System provide mechanical filtration and facilitate fixed-film and suspended-growth microorganisms’ anaerobic and aerobic biodegradation of wastewater constituents, including conversions of nitrogen species to nitrogen gas. Wastewater and sludge are recirculated from the third chamber back to the sedimentation chamber. One small blower, a diaphragm compressor, provides aeration, airlift recirculation and airlift pump discharge of effluent. Treated effluent is discharged to a leachfield.

The RIDEM recognizes the System as capable of achieving effluent concentrations of  $\leq$  19mg/L Total Nitrogen. The RIDEM also recognizes the System as a Category 1 technology as defined in the Rules Establishing Minimum Standards Relating to Location, Design, Construction and Maintenance of Onsite Wastewater Treatment Systems (the OWTS Rules), as amended. Category 1 technologies are advanced treatment units that have been classified by the RIDEM to at least meet effluent standards of  $\leq$ 20 mg/L for TSS and BOD and  $\leq$ 5 mg/L for Oil and Grease.

Design and installation of the System shall be in accordance with the following terms and conditions:

**I. Monitoring Requirements**

1. System monitoring shall be performed according to the provisions of the RIDEM Monitoring Protocol for Nitrogen Removal Systems.

## II. General Design Requirements

1. The System is approved for the reduction of Total Nitrogen to  $\leq 19$  mg/L, TSS and BOD to  $\leq 20$  mg/L, and Oil and Grease to  $\leq 5$  mg/L for residential use.
2. The System is recognized for treating residential strength wastewater.
3. This system is approved for residential use only. All OWTS applications specifying the System will be limited to a maximum design flow of  $\leq 920$  gallons per day. This flow limitation also applies to Variance Requests submitted in accordance with the OWTS Rules.
4. Design and installation shall be in strict conformance with the RIDEM-approved System Design and Installation Manuals dated: **November 20, 2019**.
5. The System employs the use of a three-compartment tank which is not preceded by a septic tank. The model used shall be based on design flow according to the Vendor's design manual. The System may not be installed in parallel to treat design flows that exceed the model-specific maximum design flow.
6. The control panel must incorporate an event counter, an elapsed-time meter and a visible and audible pump/power failure warning indicator in a NEMA approved cabinet installed exterior to the building. Since constant aeration is key to the performance of the System, the blower must be operational 24 hours a day. To ensure owner/operator compliance, all installations of the System shall be equipped with an hour meter and a visible and audible blower/pump/power failure warning light, mounted on a NEMA approved cabinet on the exterior of the building.
7. Discharge and drain field pumps must be wired to the same circuit as the air blower.
8. Designs incorporating this System and a conventional leachfield shall be allowed a 50% reduction in the required leachfield size. This reduction is based upon the ability of the System to remove BOD and suspended solids as demonstrated by the data presented in the Vendor's submittal. No reduction in leachfield size shall be allowed for non-conventional leachfields unless the leachfield is approved as a Class One alternative component and such reduction is not prohibited by the Class One alternative component Certification. Deep leaching chambers and any conventional leachfield using more than one foot of stone below shall be prohibited with or without the reduction.
9. System tanks, dosing chambers, pumping chambers, and riser assemblies shall be certified watertight by the manufacturer or field-tested and certified watertight using procedures set forth in the OWTS Rules. Riser assemblies and access manholes shall be installed and maintained at grade.
10. Design and installation shall be in strict conformance with the RIDEM-approved System Design and Installation manual and shall only be performed by a Rhode Island licensed designer/installer who has received training and is authorized in writing by the Vendor to design/install the System.
11. In addition to other approved leachfield options allowed by regulation, the effluent from the System may be discharged to a pressure-dosed shallow-narrow drain field provided the latter is designed in accordance with the OWTS Rules.
12. Each System design shall meet all other applicable OWTS standards and receive prior approval by the RIDEM pursuant to the regulations in effect at the time of application.

## III. Training

1. The Vendor shall make training available for designers, installers, and service providers.
2. The Vendor shall notify the RIDEM of the date and time of each training seminar and submit to the RIDEM a detailed agenda, material to be distributed to attendees and a list of presenters specifying their credentials at least six weeks in advance of the date of the scheduled seminar. Please consult the RIDEM-issued requirements for Vendors' system training available on the RIDEM website in the A/E technology section.

3. The Vendor shall make available to the public, a means of verifying individuals, by name and category, who have received training and are authorized in writing by the Vendor to design, install, and maintain the System.

#### **IV. General Certification Requirements**

1. The Vendor shall submit a manual detailing design, installation, operation and maintenance requirements for the System. When this certification and associated design, installation and operation and maintenance manual(s) are approved by RIDEM, training may be held.
2. This Class Two certification shall be effective until its expiration and may be renewed according to the provisions of the OWTS Rules, as amended.
3. The Vendor is responsible for providing any revisions to the design, installation, operation and maintenance manual(s) for all models applicable to this certification to RIDEM for review and approval within thirty (30) days of RIDEM request. All manuals must be provided to the RIDEM in electronic portable document format (pdf).
4. The Vendor shall notify the RIDEM in writing of any changes to the System, including its discontinuation. Modifications deemed by the RIDEM to be substantial, may require re-application to the alternative/experimental program.
5. The Vendor shall notify the RIDEM at least 30 days prior to any proposed transfer of ownership of the System. Notification shall include the name and address of the new owner and a written agreement between the existing and new owner specifying a date for transfer of ownership, responsibility, and liability for the System. All provisions of this approval shall be applicable to any new owners.
6. The Vendor shall provide any purchaser of the System with a copy of this approval prior to the sale of the System.

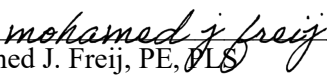
#### **V. Operation and Maintenance Requirements**

1. Operation and maintenance of the System shall be performed in strict conformance with the RIDEM approved Operation and Maintenance Manual dated: **November 20, 2019**.
2. The RIDEM approved O&M Manual shall be provided to the Owner/Operator.
3. Installations of the System shall be maintained according to the manufacturer's specifications.
4. For seasonally used installations of the System, the Vendor shall provide specifications for protection of the System and the biological component from freezing, and conditions under which power to the System may be turned off.
5. The Vendor must offer for sale a minimum two-year service contract, which must include as an option, service to all components of the treatment train in addition to the System.
6. The Applicant/Owner shall record copies of the OWTS construction permit issued by RIDEM and the initially executed O&M contract(s) for the System, and all other A/E components in the treatment train, in the land evidence records of the applicable city or town prior to the RIDEM issuing the Certificate of Conformance for each installation.
7.
  - a) The owner shall retain a public or private maintenance entity (service provider) for the life of the System and all other A/E components of the treatment train; a Vendor-authorized homeowner functioning as service provider is exempt from this for the System and any components of the treatment train for which the homeowner is providing service.
  - b) No agreement with a maintenance entity shall be for less than two years. A service contract must remain active during the life of the system.
  - c) Service providers must be trained and authorized in writing by the appropriate Vendor to perform O&M on the System and all other A/E components of the treatment train for which they will be performing O&M.

- d) System owners who are authorized by the appropriate Vendor(s) to perform O&M on their own system's components must file a Vendor-authorization for each component for which they are performing O&M service
  - e) The service provider or homeowner providing O&M on his or her own System shall:
    - (1) Receive training as approved by the Vendor.
    - (2) Be available to perform required preventative maintenance, perform repairs, respond to System emergency situations, and conduct performance monitoring when required by this Certification or by permit.
    - (3) Perform an inspection of the treatment System at least twice annually for residential systems.
8. The Vendor shall have an inventory of System replacement parts available locally.

**VI. Rights of the RIDEM**

- 1. The RIDEM may suspend, modify or revoke this approval for cause, including but not limited to: non-compliance with any of the provisions or conditions of this Certification, misrepresentation or failure to disclose fully all relevant data, or receipt of new information indicating that the use of the System is contrary to the public interest, public health or the environment.
- 2. The design, installation, and operation and maintenance manuals referenced herein are approved upon the date of approval of this Certification.
- 3. The RIDEM reserves the right to suspend or revoke this Certification if updated design, installation, and O&M manuals are not provided to the RIDEM within thirty (30) days of RIDEM request or one hundred and eighty (180) days prior to the expiration date of this Certification. All revisions must be reviewed and approved by the RIDEM.
- 4. This approval does not represent an endorsement of the System by the RIDEM. This letter of approval may be reproduced only in its entirety.

  
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Mohamed J. Freij, PE, ~~PLS~~  
Supervising Sanitary Engineer, OWTS Program

3-11-2021  
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Issuance Date