



RHODE ISLAND
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

OFFICE OF WATER RESOURCES
235 Promenade Street, Providence, Rhode Island 02908

Alternative and Experimental OWTS Technology Program

Vendor Information:

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Technology Name:

GoodFlow Solutions
Leachfield Chambers
Models: CTL12 and CTL 18

Technology Type:

Alternative Leachfield Component - Class Two

Certification Date:

Issued: October 4, 2021
Revised: June 29, 2022
Expires: October 4, 2026

CERTIFICATION

On October 4, 2021, the Rhode Island Department of Environmental Management (RIDEM) reviewed the Alternative Component application submitted by GoodFlow Solutions, hereafter referred to as the “Vendor”, for GoodFlow Solutions Leachfield Chambers – Models CTL12 and CTL18, hereafter referred to as the “Component”. Based upon information contained in the application the RIDEM accepted the Component for listing on the RIDEM Alternative and Experimental (A/E) Technology List as a Class Two Leachfield Component. The Component consists of an H2O reinforced concrete chamber that is four feet wide by eight feet long. An ABS plastic injection molded fin structure is placed alongside of each chamber. The chambers are open bottomed with rectangular openings on each side to allow effluent to flow to the fins. The fins are open bottomed, and the sides are perforated to allow the effluent to flow out to the surrounding soil. The fins are upholstered with non-woven filter fabric to prevent soil ingress into the system. The entire system is surrounded in ASTM C-33 sand.

On March 18, 2022, the Vendor subsequently applied to modify the original approval. The specific modification requested by the Vendor was for the RIDEM to allow the Component to be installed at sites where the depth to the SHWT is a minimum of three (3) feet or greater from original grade. The Vendor made the case that the profile of the Component is one (1) foot less in height than a standard shallow concrete chamber as defined in OWTS Rule 6.35 due to the absence of stone below the Component. It was on this basis that the Vendor made the case that the Component should be allowed to be installed in sites that meet the minimum 3ft depth to the SHWT from original grade. The RIDEM hereby approves this requested modification. The design manual has been modified to reflect this change and Section I.11 of this certification has been added reflect the differences between this technology and a standard shallow concrete chamber defined in OWTS Rule 6.35.

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

I. General Design Requirements

1. The Component may receive septic tank effluent. Sizing will be in accordance with the RIDEM OWTS Rules, as applicable and the GoodFlow Solutions Design Manual System Sizing Tables.
2. No reduction of required leachfield area will be allowed.
3. The Component is approved for commercial and residential use. Discharge to the Component must consist of wastewater of residential strength only.
4. The Component may be specified for H-20 loading in traffic areas, according to the design parameters in the approved Design Manual. Areas subject to vehicular traffic, including parking areas, shall be limited to twenty-five percent (25%) of the leachfield area. The requirements of the OWTS Rules for concrete chambers shall apply unless otherwise addressed in this Certification or in the approved Design Manual and the Installation and Operation Manual.
5. The requirement in RIDEM OWTS Rule 6.35 (Concrete Chambers) that requires effluent to be applied at least every 25 feet for leaching chambers in a trench style configuration is not applicable to this Component.
6. The sand media used in construction shall meet ASTM-C33 sand specifications.
7. The vertical separation distance shall be measured from the concrete base of the Component to the seasonal high groundwater table or impervious layer.
8. The minimum cover over the invert of the distribution pipe shall be 18 inches and the maximum cover shall be 30 inches.
9. When specified for H-20 loading, the Component must be covered by 2 inches of Asphalt/Hard Top and a minimum of 10 inches to a maximum of 22 inches of load bearing material in the form of crushed stone, item 4, maximum stone size of ¾" as outlined in the approved Design Manual.
10. The Component may be installed in parallel, with a minimum trench to trench spacing of 6 feet.
11. This technology shall not be permitted where any of the following occur:
 - a. The chamber invert would be more than one (1) foot above the original grade;
 - b. The chamber inverts would be set at different elevations; or
 - c. The seasonal high groundwater table is less than three (3) feet from the original ground surface as defined in OWTS 6.8.A.54.
12. Design shall be in strict conformance with the RIDEM-approved Component Design Manual dated: **June 14, 2022**. Design and installation shall only be performed by a licensed Rhode Island Designer/Installer who has received training and is authorized in writing by the Vendor to design/install the Component.
13. Each Component design and installation shall meet all applicable OWTS standards and receive approval by the RIDEM pursuant to the OWTS Rules in effect at the time of application.

II. 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' technology 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 Component.

III. General Certification Requirements

1. The Vendor shall submit a manual detailing design, installation, operation, and maintenance requirements for the Component. When this certification and associated design, installation and operation and maintenance manual(s) are approved by RIDEM, training may be held.
2. 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 or one hundred and eighty (180) days prior to the expiration date of this Certification. All manuals must be provided to the RIDEM in electronic portable document format (pdf).
3. This Class Two Certification shall be effective until its expiration and may be renewed according to the provisions of the latest OWTS Rules.
4. The Vendor shall notify the RIDEM in writing of any changes to the Component, including its discontinuation. Modifications deemed by the RIDEM to be substantial, may require re-application to the A/E program.
5. The Vendor shall notify the RIDEM at least thirty (30) days prior to any proposed transfer of ownership of the Component technology. 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 Component. All provisions of this Certification shall be applicable to any new owners.
6. The Vendor shall provide any purchaser of the Component with a copy of this Certification prior to the sale of the Component.

IV. Operation and Maintenance

1. Operation and maintenance of the Component shall be performed in strict conformance with the RIDEM approved Design Manual dated: **June 14, 2022**.
2. The RIDEM-approved Design Manual shall be provided to the Owner/Operator.
3. The Component shall be maintained according to the Vendor's specifications.

V. Rights of the RIDEM

1. The RIDEM may suspend, modify or revoke this Certification for cause, including but not limited to: Non-compliance with any of the provisions or conditions of this Certification, misrepresentation or failure to fully disclose all relevant data, or receipt of new information indicating the use of the Component is contrary to the public interest, public health or the environment.
2. The design and installation and operation 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 prior to re-Certification.
4. This Certification does not represent an endorsement of the Component by the RIDEM. This Certification may be reproduced only in its entirety.

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RIDEM – Office of Water Resources
Onsite Wastewater Treatment Systems

Issuance Date