COLORADO
Department of Public Health & Environment

December 19, 2019

Scott Samuelson, Managing Partner
Fuji Clean USA, LLC
41 Greenwood Rd., Suite 2
Brunswick, ME 04011

Subject: Fuji Clean CE Series, Proprietary Treatment Product - Acceptance
For Use in Colorado On-site Wastewater Treatment Systems

Dear Mr. Samuelson:

Pursuant to section 43.13 of the On-site Wastewater Treatment System Regulation 5 CCR 1002-43 (Regulation 43), the Water Quality Control Division (Division) has reviewed drawings and specifications received October 15, 2019 for the Fuji Clean proprietary treatment products noted below:

The Fuji Clean treatment products noted are accepted as a higher level treatment system for use as a component of an OWTS subject to the design criteria in Table 1. This acceptance is not intended as an endorsement or third-party certification of the technology.

This acceptance addresses the following models:

- Fuji Clean, CE5, at treatment level **TL-2N** for flows up to 500 gpd.
- Fuji Clean, CE7, at treatment level **TL-2N** for flows up to 700 gpd.
- Fuji Clean, CE10, at treatment level **TL-2N** for flows up to 900 gpd.
- Fuji Clean, CE14, at treatment level **TL-2N** for flows up to 1,350 gpd.
- Fuji Clean, CE21, at treatment level **TL-2N** for flows up to 1,900 gpd.

This acceptance applies only to OWTS with design capacity up to 2,000 gallons per day (gpd). As such, the request for the division to review information submitted for the Fuji Clean model CE30 (2700 gpd) will not be included in this review. **Review and approval for the design of any OWTS proposing to use this technology will be reviewed by the local public health agency.** As individual local public health agency regulations may be more stringent than Regulation 43, the Division cannot ensure the acceptance of a treatment technology within any given jurisdiction.

Any modifications to the physical attributes or characteristics of this treatment technology must be submitted to this office for review and acceptance by the Division prior to sale in Colorado. The Division will review modifications, any additional third party verification reports and issue a revised acceptance letter, or denial, as appropriate.

Table 1. Design Criteria for Fuji Clean USA CE models listed above:

Design Criteria
1. The Fuji Clean wastewater treatment system is intended to be sold as a prefabricated complete unit obtained through a Fuji Clean representative. The tank design and internal components shall conform to the specifications noted in the Fuji Clean Product Manual specific to the model, proposed daily flows and waste strength to be treated. 2. The separate required chambers of the Fuji Clean tank are noted below. The size of each compartment shall meet the following criteria: a. The sedimentation chamber shall provide at least 37% of the total tank volume. b. The anaerobic chamber shall provide at least a 37% of the total tank volume. c. The aerobic contact filtration chamber shall provide at least 17% of the total tank volume d. The aerobic clarification chamber shall provide at least 8% of the total tank volume. 3. The following Fuji Clean components shall be included in the design and installed per the specifications in the Fuji Clean Product Manual: a. Linear diaphragm i. CE5, CE7: 80 L/min. linear diaphragm compressor (up to 10,000' elevation; above 10,000' requires 100 L/min.) ii. CE10, CE14: 100L/min. linear diaphragm compressor (up to 10,000' elevation; above 10,000' requires 120 L/min.) iii. CE21: 150L/min. linear diaphragm compressor b. Fuji Clean, NEMA 4X rated control panel 4. The tank must be insulated (consistent with manufacturer recommendations) to reduce the effect of lower temperatures during the winter months. Contact manufacturer to obtain further details regarding approved tank insulation procedures. 5. Design flow shall be for maximum occupancy. All design criteria in this acceptance are based on total gallons per day and the assumption of residential strength wastewater. Design flow for single-family residential designs may vary based on the regulations adopted by the local board of health for the design location. Design flow values and strengths for multi-family and commercial systems shall be consistent with section 43.6(A)(4). 6. The design must include pressure dosed distribution of effluent. Reductions in soil treatment area size or separation distances shall be as described in sections 43.10(C)(4) and 43.7 of Regulation 43. 7. The designated higher level treatment rating is identified for each model on page 1. Use in higher level treatment applications requires system be designed by a Colorado Licensed Professional Engineer. The accepted treatment product may also be used for applications requiring less than the approved treatment level of the product. Reductions in soil treatment area size or separation distances based on higher level treatment <u>are not to be applied unless</u> the local public health agency has a maintenance oversight program in place as described in section 43.14.D of Regulation 43. In locations where the local public health agency has not adopted a maintenance oversight program, the treatment system may be installed but only with soil treatment area and separation distances consistent with treatment level TL-1 requirements. 8. In addition to these design criteria, other provisions of Regulation 43 and local regulations also apply to a specific design as well as good OWTS design practice. The Division does not approve manufacturer design manuals. Manufacturer provisions shall not be applicable if those provisions are not consistent with Regulation 43, these design criteria, and the regulations adopted by the local board of health for the design location. Local public health agencies will review proposed designs to confirm consistency with Regulation 43, these design criteria, the local board of health regulations adopted pursuant to Regulation 43, and good OWTS design practice. 9. Monitoring of the system may be required by the regulations adopted by the local board of health.

10. The treatment technology is not intended for industrial sources of wastewater or high strength wastewater as defined in Regulation 43. The treatment technology is intended to receive domestic wastewater. Wastewater with higher concentrations of biochemical oxygen demand (BOD); total suspended solids (TSS); or fats, oils, and grease (FOG) will require verification of ability to treat wastewater and appropriate modifications or pretreatment.
11. Design shall provide access for maintenance and repair. Septic tanks and all treatment components, other than the soil treatment area, shall be equipped with access manholes and risers that extend to or above final grade. Risers and lids shall be watertight and secure.

Additional Operation and Maintenance Criteria

1. Design shall include an Operation and Maintenance (O&M) Manual to be provided for all installations. Individual operation plans shall include scheduled inspections, assessments, and maintenance of the treatment unit. This plan for scheduled inspections and assessments should include a routine inspection at least every six months as required by Fuji Clean and as described in section 43.14(D)(4)(b) unless the local regulations require more frequent inspections.

The owner of the OWTS is responsible for arranging proper design, operation, and maintenance of the facility to achieve the desired treatment level.

If you have any questions regarding the Division's review or findings, please contact me at (303) 692-2366 or chuck.cousino@state.co.us.

Sincerely,

Chuck Cousino

Digitally signed by Chuck Cousino
Date: 2019.12.19 08:06:56 -07'00'

Charles J. Cousino, REHS
On-site Wastewater Treatment System Coordinator
Engineering Section
Water Quality Control Division
Colorado Department of Public Health and Environment

cc: Bennette Burks, 3-Engineering, LLC
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