TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

March 28, 2025

Mr. Daniel Westrich, Manager of Regulatory Affairs
BioMicrobics, Inc.
16002 W. 110th Street
Lenexa, Kansas, 66219

Re: Approval of proprietary OSSF treatment system for:
BioMicrobics, Inc.
MicroFAST® 0.4 Model

Dear Mr. Westrich:

We have received your request for a Texas Commission on Environmental Quality (TCEQ) review of the above-referenced proprietary system, with supporting documentation, on February 3, March 11, 12, and 17, 2025. Cindy Rojas Annicchiarico of the TCEQ Technical Programs Team conducted the review, as required by 30 Texas Administrative Code (TAC) §285.5(b)(3). After reviewing your request and supporting documentation, TCEQ has determined that the treatment product meets the applicable technical requirements. **This letter serves as notification of approval for use in the State of Texas as an approved proprietary system.** Please be advised, the review of individual OSSF applications is a separate action and this letter is not an authorization to install an individual OSSF.

This approval notes that the MicroFAST® 0.4 model is approved for use in Texas as a Class I treatment system under NSF Standard 40. The scale-down review of the MicroFAST® 0.4 model against the tested MicroFAST® 0.5 model (test report dated April 2007) was provided by NSF, and it was determined that the Micro-FAST 0.4 meets the requirements of NSF/ANSI 40-2022 for Residential Wastewater Treatment Systems, is proportionally equivalent to the tested unit, is constructed of the same material, and has an equivalent flow system. Similarly, NSF provided a scale-down letter stating that the MicroFAST® 0.4 model was completed against the tested MicroFAST® 0.5 model (test report dated October 2008). It was determined that the MicroFAST® 0.4 meets the requirements of NSF/ANSI 245: Water Treatment Systems – Nitrogen Reduction. Table 1 shows the technical specifications for the MicroFAST® 0.4 model.

As required by Title 30 TAC 285.32(c)(5)(A), proprietary units are approved to treat flows equal to or less than their rated capacity with an influent wastewater strength ranging from a 30-day average CBOD concentration between 100-300 mg/L. Proprietary units may be used as components in an overall treatment system treating influent stronger than 300 mg/L CBOD as shown in table 2. However, the overall treatment system shall meet the requirements set forth in 30 TAC 285.32(d). This approval also notes that the subject unit does not include pump chambers. All pump tanks are subject to the requirements specified in 30 TAC §285.34(b).

Influent Characteristic	NSF 40 Standard Required	Actual Average
BOD5, mg/L	100 to 300 mg/l	250 mg/l
Total Suspended Solids (TSS), mg/L	100 to 350 mg/l	310 mg/l

Table 2: Influent Wastewater Characteristics Required Vs. Tested Results as Cited on the provided Standard 40 Certification Report- Under the provisions of NSF/ANSI Standard 40 – 2022 for Residential Wastewater Treatment Systems

Effluent Characteristic	Concentration Range (During testing)	Average Concentration	Median
CBOD5, mg/L	2 to 8 mg/L	3 mg/L	2 mg/L
TSS, mg/L	2 to 29 mg/L	5 mg/L	2 mg/L
pH	6.1 to 7.90 Standard Units (SU)	6.8 – 6.9 SU	6.8 SU

Table 3: Effluent Wastewater Characteristics as Cited on the provided Standard 40 Certification Report- Under the provisions of NSF/ANSI Standard 40 – 2022 for Residential Wastewater Treatment Systems

The MicroFAST® wastewater treatment bioreactor utilizes a proprietary attached and suspended growth process to achieve treatment. Since the media used in the plant is submerged, both attached and suspended biological growth occur simultaneously. In both attached and suspended growth systems, microorganisms remove soluble contaminants from the wastewater, utilizing them as a source of energy for growth and production of new microorganisms (as cited in the NSF/ANSI Standard 40 MicroFAST® 0.5 Wastewater Treatment System Report, page 9).

The MicroFAST® Model 0.5 tested in the NSF report was constructed of concrete. The plant utilizes part of the tank for primary treatment, with the secondary treatment achieved in an aerobic zone inside an insert in the tank (as cited in the NSF/ANSI Standard 40 MicroFAST® 0.5 Wastewater Treatment System Report, page 9).

Model Number	Rated Capacity (gallons per day)	Pretreatment Chamber (gallons)	Aeration Chamber (gallons)	Filtration Media (cubic feet)	Approved Aerator Model
MicroFAST®	400	380	570	12.3	Fuji® Electric VFC200 or Mapro® CL20HS

Table 1. MicroFAST® 0.4 Technical Specifications, as cited in the NSF Scale-Down Certification which certifies that MicroFAST® 0.4 conforms with the requirements of NSF/ANSI 40 for Residential Wastewater Treatment Systems.

If you have any questions, or if we may be of assistance to you, please contact Cindy Rojas Annicchiarico in the TCEQ Technical Programs Team at (512) 239-5146 or via e-mail at Cindy.Annicchiarico@tceq.texas.gov.

Sincerely,

Joseph L. Hopkins

Joseph L. Hopkins, P.G.
Technical Programs Team Leader
Texas Commission on Environmental Quality

JLH/CRA