

WITH MORE AND MORE
I/A TECHNOLOGIES IN
USE...WHAT IS
REQUIRED WHEN
CONDUCTING AN
INSPECTION OF AN **I/A**
SYSTEM – Bob Silva

6/10/2022



***You must first
determine if the
system requires an
Operation &
Maintenance
Contract***

MASS DEP website link

<https://www.mass.gov/guides/approved-title-5-innovativealternative-technologies>

LOCATE THE APPROVAL LETTER



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

One Winter Street, Boston, MA 02109 • 617-292-8500

Charles D. Baker
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Karyn E. Polito
Lieutenant Governor

Matthew A. Beaton
Secretary

Martin Stubbberg
Commissioner

CERTIFICATION FOR GENERAL USE

Pursuant to Title 5, 310 CMR 15.000

Name and Address of Applicant:

Bio-Microbics, Inc.
8450 Cole Parkway
Shawnee, KS 66227

Trade name of technology and models:

FAST Treatment Systems with Nitrogen Reduction including models *MicroFAST® 0.5, 0.75, 0.9, 1.5, 3.0, 4.5, 9.0*, *HighStrengthFAST® 1.0, 1.5, 3.0, 4.5, 9.0* and *NitriFAST® 0.5, 0.75, 1.0, 1.5, 3.0, 4.5, 9.0* (all hereinafter the "System") for facilities with design flows less than 2,000 gallons per day (GPD). Schematic drawings illustrating the models and an Inspection Checklist are part of this Certification.

Transmittal Number: X232831

Date of Issuance: December 29, 2010, revised March 20, 2015

Authority for Issuance:

Pursuant to Title 5 of the State Environmental Code, 310 CMR 15.000, the Department of Environmental Protection (hereinafter "the Department") hereby issues this General Use Approval to: Bio-Microbics, Inc., 8450 Cole Parkway, Shawnee, KS 66227 (hereinafter "the Company"), approving the above referenced FAST technology (hereinafter "the Technology" or "System") for use in the Commonwealth of Massachusetts subject to the conditions herein. Sale and use of the Technology are subject to compliance by the Company, the Designer, the System Installer, the Operator, and the System Owner with the terms and conditions herein. Any noncompliance with the terms or conditions of this Certification constitutes a violation of 310 CMR 15.000.

David Ferris, Director
Wastewater Management Program
Bureau of Water Resources

March 20, 2015

Date

I. Purpose

This information is available in alternate format. Call Michelle Walters-Ekanem, Diversity Director, at 617-292-6761. TTY: MassRelay Service 1-800-438-2379
MassDEP Website: www.mass.gov/dep

Printed on Recycled Paper

READ THE APPROVAL LETTER

- IV. Conditions Applicable to the System Owner
 - 8. The System Owner shall maintain, at all times, an O&M Agreement with a qualified System Operator approved by the Company. The Agreement shall be at least for one year and include the following provisions:
 - **This system WOULD require an Operation & Maintenance Contract**

This system would NOT require a contract

- IV. Conditions Applicable to the System Owner
 - 1. The System is approved for the treatment and disposal of sanitary sewage only. Any wastes that are non-sanitary sewage generated or used at the facility served by the System shall not be introduced into the on-site sewage disposal system and shall be lawfully disposed of.
 - 2. The owner of the System shall at all times properly operate and maintain the onsite sewage disposal system.
 - 3. The owner shall furnish the Department any information that the Department requests regarding the operation and performance of the System, within 21 days of the date of receipt of that request.
 - 4. No owner shall authorize or allow the installation of the System other than by a person trained to install the System.

REVIEW DEP'S SECONDARY CONDITIONS – for additional requirements



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Standard Conditions for Secondary Treatment Units Approved for Remedial Use

Last Revision Date: November 30, 2016

A Secondary Treatment Unit (STU) is an alternative technology that may be used as a component of an on-site sewage disposal system where soil or site conditions make conventional soil absorption systems more costly to construct or infeasible. A conventional system may be more costly to construct or infeasible where there is a shallow water table and/or limited area for the siting of a conventional system. As compared to a conventional system, in certain instances, an STU provides for higher loading rates (smaller leaching area) and may require less land area, potentially less fill, and less disturbance of the site.



**If O&M required,
attach correct
documents to
your report**

- Title 5 Official Inspection Report

- **D. System Information (cont.)**

- 4. Type of System:

- Septic tank, distribution box, soil absorption system
- Single cesspool
- Overflow cesspool
- Privy
- Shared system (yes or no) (if yes, attach previous inspection records, if any)
- Innovative/Alternative technology. **Attach a copy of the current operation and maintenance contract (to be obtained from system owner) and a copy of latest inspection of the I/A system by system operator under contract**



***MA DEP website has
each technology's
Inspection Checklist
with the approval
letters***

DEP has specialized forms for I/A and non-conventional systems

Title 5 Innovative/Alternative Technologies Forms

Title 5 Inspections & Pumping Forms



Title 5 Official Inspection Form (DOCX 59.09 KB)



Title 5 Official Inspection Form (PDF 348.67 KB)



Inspection and O&M Form for Title 5 I/A Treatment and Disposal Systems (DOC 144 KB)



Inspection and O&M Form for Title 5 I/A Treatment and Disposal Systems (PDF 79.57 KB)



Inspection and O&M Form and Checklist for Title 5 Greywater Disposal Systems Piloting (DOC 204.5 KB)



Inspection and O&M Form and Checklist for Title 5 Greywater Disposal Systems Piloting (PDF 28.48 KB)



Bottomless Sand Filter Technology Inspection Checklist (DOC 122 KB)



Bottomless Sand Filter Technology Inspection Checklist (PDF 19.3 KB)

The DEP O&M inspection form is a good place to start (but only done by a CL2 WW Operator)



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Title 5
**DEP Approved Inspection and O&M Form for Title 5 I/A
Treatment and Disposal Systems**

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



A. Installation

Owner _____

Facility Street Address _____

City _____ Zip _____

Mailing address of owner, if different:

Street Address/PO Box: _____

City _____ State _____ Zip _____

(____) ____ - ____ ext. ____

Telephone Number _____

B. Authorized Service Provider

O&M Firm _____

Street Address _____

City _____ State _____ Zip _____

(____) ____ - ____ ext. ____

Telephone Number _____

Certified Operator Name _____ Certification Number _____

C. Facility/System Information

DEP ID _____ Manufacturer ID _____ Model Number _____

Installation Date _____ Start of Operation _____

Approval Type: General Provisional Piloting Remedial

Seasonal Residence – used less than 6 mo./year: Yes No

O&M Inspection forms are not “Title 5” Inspection forms

- But they provide valuable information as to the operation of the system
 - O&M Provider name and contact information
 - The type of I/A system and whether it is:
 - Provisional
 - Piloting or
 - Remedial
 - Whether the system is seasonal, and
 - Field testing and sampling information should be attached

Some aspects of I/A systems are the same...

- Observe the environmental conditions – is there an odor?
- Is there breakout or ponding?
- Is there nitrified vegetation over the system*
 - *sometimes this indicates a problem, sometimes not

Some aspects of I/A systems are different

...

- Extra components, (secondary treatment devices, pumps)
- Pressure distributed systems do not have a D-Box – so what do you do? Pressure distribution systems are designed to have equal pressure, and thus equal flow thru the system.
- How do you check for pd equal flow? The distal squirt height must not vary by 10% between the pipes. Check the O&M report*
 - *by the CL2 WWTP

Pressure Distributed System (no d-box)





*BAD LAB RESULTS
WITH O & M
REPORT*

6/10/2022

*What to do if you
find something
wrong?*

Air blower not working
Alarm not functioning
Broken cover
No power to the system
Control Panel not working

If the IA system is not being used correctly...

- Educate the owner about the ramifications
 - Environmental pollution
 - Possible Health concerns to the occupants, and abutters
 - Provide a cost basis for poor decision making – this is going to cost a lot more in the long run to fix, than the savings obtained by turning off the system or not getting the proper lab testing

1. Inform the owner and try to have the issue resolved before you submit the report

***2. Contact the
O&M provider,
obtain information,
and get the history
of the system***


***3. If not resolved -
Submit report as
Needs Further
Evaluation by
Board of Health***

QUESTIONS



YOWA homeowner resources - Word

File Home Insert Design Layout References Mailings Review View Acrobat Tell me what you want to do... Alyssa Rusiecki Share



1. Umass Septic Sense Brochure
https://ag.umass.edu/sites/ag.umass.edu/files/pdf-doc-ppt/septic_sense.pdf

2. SepticSmart Homeowners
<https://www.epa.gov/septic/septicsmart-homeowners>

3. EPA Homeowner's Do's and Don'ts (English & Spanish)
<https://www.epa.gov/septic/dos-and-donts-homeowners-brochure>

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