



Commonwealth of Massachusetts  
Executive Office of Energy & Environmental Affairs

## Department of Environmental Protection

One Winter Street Boston, MA 02108 • 617-292-5500

DEVAL L. PATRICK  
Governor

RICHARD K. SULLIVAN JR.  
Secretary

DAVID W. CASH  
Commissioner

### **PILOTING APPROVAL** Pursuant to Title 5, 310 CMR 15.000

Name and Address of Applicant:

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

Technology trade name and models: RetroFAST®, models 0.15, 0.25, 0.375 (hereinafter the 'System', 'Alternative System' or 'Technology')  
The Specifications and Schematics of the System, Service Manual, Owner's Manual and Technology Inspection Checklist are part of this Approval.

Transmittal Number: X257368  
Date of Issuance: June 5, 2014  
Date of Expiration: June 5, 2019

#### **Authority for Issuance**

Pursuant to Title 5 of the State Environmental Code, 310 CMR 15.000, the Department of Environmental Protection hereby issues this Approval to: Bio-Microbics, Inc., 8450 Cole Parkway, Shawnee, KS 66227 (hereinafter 'the Company'), to Pilot in the Commonwealth of Massachusetts the System described herein. Sale and use of the System are conditioned on and subject to compliance by the Company, the Designer, the Installer, the Service Contractor, and the System Owner with the terms and conditions set forth below. Any noncompliance with the terms or conditions of this Approval constitutes a violation of 310 CMR 15.000.

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David Ferris, Director  
Wastewater Management Program  
Bureau of Resource Protection

June 5, 2014  
Date

## **I. Purpose**

1. The purpose of Piloting Approval ('the Approval') is to allow installation and use of no more than 15 on-site sewage disposal systems utilizing the Technology in Massachusetts in order to provide field testing and a technical demonstration that a particular alternative system can or cannot function effectively under relevant physical and climatological conditions (310 CMR 15.285).
2. This approval allows use of the System in Massachusetts to repair on-site septic systems failing to protect public health and safety and the environment where failure has occurred as described in 310 CMR 15.303 (1) (a) (1) and (2) due to clogging of the soil absorption system (SAS).
3. The Approval requires that sufficient performance monitoring be completed so that the Department may determine if the System can effectively restore function of the soil absorption system (SAS) to dispose of wastewater. The System shall be effectively restored when it achieves a level of environmental protection at least equivalent to that of a system designed and constructed in accordance with 310 CMR 15.100 through 15.293, and meets the requirements within this Approval.
4. The Approval authorizes the installation and use of the System to serve facilities with design flows less than 2,000 gallons per day.
5. All the provisions of Title 5, including the General Conditions for all Alternative Systems (310 CMR 15.287), apply to the sale, design, installation, and use of the System, except those provisions that specifically have been varied by the Approval.

## **II. System Description**

The RetroFAST® System is installed between the building sewer and the disposal field or soil absorption system (SAS) designed and constructed in accordance with 310 CMR 15.100 - 15.279. The System is designed for use with existing on-site septic systems providing wastewater treatment for rejuvenation of biologically failed SAS's. The RetroFAST® installation is designed for residential strength wastewater and is available in three size models the 0.15, 0.25, 0.375 with rated capacities of 3, 4 and 5 persons per household.

The RetroFAST® System is inserted through a manhole in the outlet side of a one or two compartment septic tank with the media submerged. The System uses the BioMicrobics FAST aerobic treatment process utilizing submerged media for fixed film bacterial growth. The FAST process is currently MassDEP approved as the RetroFAST® and is certified by NSF under Standard 40 and 245. The System insert consists of a liner containing the submerged media and an airlift draft tube to provide aeration and mixing within the liner or aerobic zone. The media used is PVC or polyethylene cross-flow textile. All of the aerobic treatment and mixing occurs within the aerobic zone, which allows the contents of the septic tank outside of the liner to function as originally intended. Aeration and circulation are provided by a blower that pumps air into an airlift draft tube that extends down the center of the media inducing circulation of wastewater, providing oxygen and waste mixing. The FAST process does not require the continuous addition of bacterial supplements to maintain the bacterial population.

Treated effluent passes out of the RetroFAST® through a pipe connected to the outlet of the septic tank. The continuous circulation of the wastewater establishes velocities in the media that

assist in sloughing of excess biomass from the media exposing a new surface on which growth continues. Sloughing biomass passes down through the media and settles to the bottom of the tank below the insert. The accumulated biomass and entrapped organic solids are gradually digested under aerobic conditions. A vent pipe is installed for System venting of vapors created by the process.

The remote-mounted, above-ground blower is the System's only moving part. A small blower control panel with an alarm designed to activate if the blower fails is typically installed.

This treatment process and clarification is designed to produce a septic tank effluent quality approaching secondary treatment levels, significantly reducing biological oxygen demand (BOD5) and total suspended solids (TSS).

The highly treated septic tank effluent with excess dissolved oxygen is discharged for disposal to the failing SAS to aid in digesting the excessive biomat. With continued operation, the System is designed to diminish the biomat and return the SAS to full function.

Pumping of the System is estimated to be required at three to five year intervals.

### **III. Site Application, Design and Installation Requirements**

1. Each proposed site-specific use of the System to be piloted must be reviewed by the Department prior to installation of the System. The Owner shall submit to the Department the written approval of the Local Approving Authority (LAA or BOH), together with a copy of the completed Department application BRP WP 64b and obtain Department written approval as required by 310 CMR 15.285(2).
2. Prior to installation of the System, the site and existing system shall be evaluated in accordance with 310 CMR 15.100 through 15.107. The existing on-site system including the septic tank, distribution box and SAS shall be inspected in accordance with 310 CMR 15.302. The evaluation shall include identification of existing components, their compliance with 310 CMR 15.000, cause of failure, and the location for the upgrade of the system if required in the future.
3. A System shall not be proposed for installation where:
  - A. The high groundwater elevation determined in accordance with 310 CMR 15.103 is less than two feet in soils with recorded percolation rate more than two minutes per inch or less than three feet in soils with a recorded percolation rate of two minutes per inch or less, below the bottom of the stone underlying the SAS.
  - B. A facility for which the site investigation indicates that the existing onsite system was designed and installed for a design flow smaller than required by 310 CMR 15.203. The minimum area for the existing SAS shall not be less than 50 percent of the area required in accordance with 310 CMR 15.242.
  - C. The existing septic tank(s) has not been tested and shown to be watertight.
  - D. The existing system includes a leaching pit or cesspool.
  - E. A site investigation indicates that the existing soil absorption system must be removed and replaced prior to installation of the System.
4. System installation shall not include modifications, excavations, or any other changes to the existing SAS, with the exception of the following.

A minimum of one (1) inspection port shall be provided per 15.240(13) within each SAS down to the lower stone/soil interface to enable monitoring for ponding. Existing inspection ports may be acceptable for use if found to be at appropriate depth and functional.

5. The Designer shall be a Massachusetts Registered Professional Engineer or a Massachusetts Registered Sanitarian.
6. The Designer shall designate on the plans an area for upgrade of the system without the use of the piloted Alternative System, in the event that the System fails or is not capable of providing equivalent environmental protection.
7. Frames and covers of all access manholes and ports of the System components shall be watertight, made of durable material, and shall be installed and maintained at grade, to allow for necessary inspection, operation, sampling and maintenance access. Manholes brought to final grade shall be secured to prevent unauthorized access. No structures which could interfere with performance, access, inspection, pumping, or repair shall be located directly upon or above the access locations.
8. Any System unit malfunction and high water alarms shall be visible and audible for facility occupants and the Service Contractor.
9. All System control units, valve boxes, conveyance lines and other System appurtenances shall be designed and installed to prevent freezing per the Company's recommendations.
10. Any System structures with exterior piping connections located within 12 inches or below the Estimated Seasonal High Groundwater elevation shall have the connections made watertight with neoprene seals or equivalent.
11. Upon submission of an application for a Disposal System Construction Permit (DSCP), the Designer (or Company if designated) shall provide to the LAA:
  - a) if any training is required by the Company, proof that the Designer has satisfactorily completed the training for the design and installation of the Technology;
  - b) certification of the design by the Company as specified in Paragraph VI.4.
  - c) certification by the Designer that the design conforms to the Approval and Title 5; and
  - d) a certification, signed by the Owner of record for the property to be served by the Technology, stating that the property Owner:
    - i) has been provided a copy of the evaluation of the existing system per Paragraph III (2);
    - ii) has been provided a copy of the Technology Approval, the Owner's Manual, and the Operation and Maintenance Manual and the Owner agrees to comply with all terms and conditions;
    - iii) has been informed of all the Owner's costs associated with the operation including, when applicable: power consumption, maintenance, sampling, recordkeeping, reporting, and equipment replacement;
    - iv) understands the requirement for an operator service contract;
    - v) agrees to fulfill his responsibilities to provide a Deed Notice as required by 310 CMR 15.287(10) and the Approval (Paragraph V.3.);

- vi) agrees to fulfill his responsibilities to provide written notification of the Approval to any new Owner, as required by 310 CMR 15.287(5);
  - vii) understands the System is not designed for garbage grinders/disposals and they shall not be used or installed; and
  - viii) whether or not covered by a warranty, the System Owner understands the requirement to repair, replace, modify or take any other action as required by the Department or the LAA, if the Department or the LAA determines that the Alternative System is not capable of meeting the performance standards required by Title 5.
12. The System Owner and the Designer shall not submit to the LAA a DSCP application for the use of the Technology under the Approval if the Approval has expired or has been revised, reissued, suspended, or revoked by the Department prior to the date of application.
  13. The System Owner shall not authorize or allow the installation of the System other than by a locally approved System Installer who has received necessary training in the Technology by the Company.
  14. Prior to the commencement of construction, the System Installer must certify in writing to the Designer, the LAA, and the System Owner that (s)he is a locally approved System Installer and, if required by the Company, has received any necessary training.
  15. The Installer shall maintain on-site, at all times during construction, a copy of the approved plans, the Owner's manual, the O&M manual, and a copy of the Approval.
  16. Except where the Approval specifically states otherwise, the Alternative System shall be installed in a manner which does not intrude on, replace, or adversely affect the operation of any other component of the subsurface sewage disposal system.
  17. Prior to the issuance of a Certificate of Compliance by the LAA, the Company or its authorized agent shall submit to the Approving Authority, with a copy to the Designer and the System Owner, a certification that the installation conforms to the Approval. The authorized agent of the Company responsible for the inspection of the installation shall have received technical training in the Company's products.
  18. Prior to certifying the conformance of the installation of the System, the Company shall confirm that the System Owner has recorded the required Deed Notice.
  19. Prior to the issuance of a Certificate of Compliance by the LAA, the System Installer and Designer must provide, in addition to the certifications required by Title 5, certifications in writing to the LAA that the System has been constructed in compliance with the terms of the Approval.
  20. Record plans of the System showing in detail all changes to the existing on-site septic system shall be prepared in accordance with 310 CMR 15.021(3), and also in accordance with 310 CMR 15.220 "Preparation of Plans and Specifications". Copies of the record plans shall be submitted to the System Owner, LAA and the Department.

21. The Department has not determined that the performance of the System will provide a level of protection to public health and safety and the environment that is at least equivalent to that of a sanitary sewer system. If it is feasible to connect a new or existing facility to the sewer, the Designer shall not propose an Alternative System to serve the facility and the facility Owner shall not install or use an Alternative System.

When a sanitary sewer connection becomes feasible after an Alternative System has been installed, the System Owner shall connect the facility served by the System to the sewer within 60 days of such feasibility and the System shall be abandoned in compliance with 310 CMR 15.354, unless a later time is allowed in writing by the Department or the LAA.

#### **IV. Operation and Maintenance, Monitoring, and Inspection**

1. The System shall be inspected, monitored, operated, and maintained by a Service Contractor under an O&M Agreement in accordance with this Approval and in accordance with any Company, Designer, or LAA requirements. The Service Contractor must be trained by the Company, must be on the Company's current list of Service Contractors, and must be certified at Grade Level II by the Board of Registration of Operators of Wastewater Treatment Facilities, in accordance with Massachusetts regulations 257 CMR 2.00.
2. As stated in 310 CMR 15.285(3), the Company shall implement an initial system monitoring and reporting plan as described in this Approval, covering no less than 18 months of operation at each facility installed under the Approval and until a System's Performance Evaluation (PE) has been completed. During this period the Company or its authorized agent shall be responsible for oversight, monitoring, data collection, and submissions to the LAA, and the Department per Paragraph VI.16.

Upon the Company's completion of a System performance evaluation (PE) report finding the System in compliance with Title 5, effluent limits, and the performance goals and conditions of this Approval for at least the previous 12 months (per Paragraph VI.5), the System Owner shall be responsible thereafter until the conditions of the Approval are modified, terminated, or superseded by a new Approval. The System Owner shall enter into an O&M Agreement with a Service Contractor trained by the Company, with each Agreement for at least one year and which includes the monitoring described in Section IV, condition 10.

3. For the duration of the PE, the System Owner and the Company shall enter into an O&M Agreement. The Company shall be responsible for providing a qualified Service Contractor to service the System during this period. Prior to commencement of construction of a System installation, the Company or its authorized agent shall provide to the LAA a copy of a signed O&M Agreement with the System Owner.
4. At a minimum any O&M Agreement shall include the following provisions:
  - a) The name of the qualified Service Contractor that appears on the Company's current list of Service Contractors;
  - b) In the case of a System failure, equipment failure such as a power outage, alarm event, components not functioning as designed, or violations of the Approval, procedures and responsibilities of the Company, the Service Contractor, and the System Owner shall be clearly defined for corrective measures to be taken immediately;

- c) The Service Contractor shall agree to provide written notification within five days, describing corrective measures taken, to the System Owner, the LAA, and the Company; and
  - d) Definition of procedures and responsibilities for recording wastewater flows and power consumption during the PE. If direct metering of power consumption is not feasible, equipment run times shall be recorded in order for the Company to provide recorded estimates of power consumption of the facility.
5. The System Owner and the Service Contractor shall maintain on-site, at all times, a copy of the approved plans, the Owner's Manual, the O&M Manual, a copy of the Approval, and a copy of the current O&M Agreement.
  6. The System Owner and the Service Contractor shall provide written notification to the LAA within seven days of any cancellation, expiration or other change in the terms and/or conditions of the required O&M Agreement.
  7. At a minimum, the Service Contractor shall inspect, properly operate, and properly maintain the System:
    - a) any time there is System failure, equipment failure, or an alarm event;
    - b) in accordance with the O&M manual and Designer requirements;
    - c) in accordance with the requirements of the LAA;
    - d) in accordance with the Approval; and
    - e) for seasonal use, the Service Contractor shall be on-site and responsible for the proper start-up and shut down of the Alternative System.
  8. Each time a Pilot Alternative System is visited by a Service Contractor the following shall be recorded, at a minimum:
    - a) date, time, air temperature, and weather conditions;
    - b) observations for objectionable odors;
    - c) observations for signs of breakout of sanitary sewage in the vicinity of the Alternative System's disposal field or SAS, which may indicate a failure of the Alternative System;
    - d) identification of any apparent violations of the Approval;
    - e) since the last inspection, whether the system had been pumped with date(s) and volume(s) pumped;
    - f) sludge depth and scum layer thickness, if measured;
    - g) when responding to alarm events, the cause of the alarm and any remedial steps taken to address the alarm and to prevent or reduce the likelihood of future similar alarm events;
    - h) field testing results, if any;
    - i) list of samples taken for laboratory analysis, if any;
    - j) any cleaning and lubrication performed;
    - k) any adjustments of control settings, as recommended or deemed necessary;
    - l) any testing of pumps, switches, alarms, as recommended or deemed necessary;

- m) identification of any equipment failure or components not functioning as designed;
  - n) parts replacements and reason for replacement, whether routine or for repair; and
  - o) further corrective actions recommended, if any.
9. Flow Metering – For Alternative Systems installed under Piloting Approval, wastewater flow data shall be reported each time the System is inspected and/or sampled by the Service Contractor. At a minimum, wastewater flow shall be based on:
- a) actual metered data of wastewater flow to the System; or
  - b) actual water meter data for the total facility with either metered or estimated flows for non-wastewater flow subtracted from the total facility water usage. If estimating the wastewater flow as a portion of total metered water usage, the Service Contractor shall provide the method of estimating, such as pump run times, occupancy rates, adjusting for seasonal outdoor water use, etc.

#### *System Monitoring*

10. For the duration of the performance evaluation (or PE), a minimum of 18 months, the O&M Agreement shall require the following minimum monitoring (subject to modifications that may be required by Paragraph IV.13):
- monthly recording of ponding elevation within the System’s SAS inspection port(s);
  - if provided, a monitoring device installed in the D-box shall record monthly or continuous monitoring (if possible) of the ponding elevation within the D-box (data stored and reported with high, low and average ponding levels would be desirable);
  - water use shall be recorded at each inspection. Water use shall be based on actual meter data for the total facility with either separately metered or estimated flows for non-wastewater flow subtracted from the total facility water usage. If estimating the wastewater flow as a portion of total metered water usage, the Service Contractor shall provide the method of estimating, such as occupancy rates, pump run times, adjustments for seasonal outdoor water use, etc., and
  - RetroFAST® equipment shall be inspected for proper operation at each inspection.

After a minimum of 18 months and completion of the PE of a System that shows the System was in compliance with Title 5, effluent limits, and the performance goals and conditions of this Approval for at least the previous 12 months, the System Owner and the Service Contractor shall be responsible for the following monitoring requirements:

- For residential Systems, year-round properties shall be inspected a minimum of every six months at least 5 months apart, and non-residential Systems shall be inspected a minimum of every three months (quarterly) with inspections at least 2 months apart.
- Seasonal properties shall be inspected the same frequency as above per operating season.

Note: The Local Approving Authority may have additional inspection requirements.

#### *Monitoring Report Submittals*

11. The Company shall submit all monitoring data to the LAA within thirty (30) days of each inspection date accompanied by a completed technology inspection checklist. A certified operator of minimum Grade II must complete and sign the form(s). A copy of the checklist



is enclosed (and will be posted on the internet with MassDEP's Title 5 I/A technology approvals).

The Company shall provide all inspection and monitoring data to the Department after 6 months of each installation's operation and annually thereafter for all installations per Paragraph VI.16. Annual reports shall be signed by a corporate officer, general partner or Company owner and contain information on the piloted System for the previous calendar year. The report shall include: tabulation of the monitoring results with associated inspection checklists signed by the System operator; any recommended changes to the System design, any implemented changes to the installation and/or operation and maintenance procedures of the piloted System or a schedule for implementing those changes, and any warranty issues both resolved and unresolved or an explanation of any warranty claims that have been received and their resolution. Department submittals shall be to:

Department of Environmental Protection  
Wastewater Management Program  
One Winter Street - 5th Floor, Title 5 I/A Program  
Boston, MA 02108

#### *Compliance Requirements*

12. After three months of System operation, the depth of ponding below and within the area of the SAS shall be determined to indicate the available dose storage below the discharge laterals (dose storage is the existing void space from the discharge pipe invert elevation to the bottom of stone aggregate at its interface with the naturally occurring soils). These compliance measurements shall be obtained by Inspection Port. If the existing SAS does not have an inspection port, one shall be installed per Section III (4).
  - a. If depth of ponding indicates 50% or more dose storage is available then monitoring shall continue monthly for first 18 months, then quarterly thereafter ;
  - b. If depth of ponding indicates less than 50% of dose storage is available then repeat the monitoring 30 days later. If the second reading is 50% or more dose storage then monthly monitoring may be continued. However if the second reading is less than 50% dose storage then a written evaluation with recommendations for changes in the design, operation, and/or maintenance of the System shall be submitted to the LAA and the Department within 60 days of the second reading. The evaluation shall be prepared by the Company or its authorized representative, and shall include overall System evaluation, all water use data as well as SAS depth of ponding and dose storage capacity determinations. Monitoring must continue at least monthly. Recommendations shall be implemented, as approved by the LAA and the Department, in accordance with an approved schedule provided the changes to the System are implemented consistent with the limitations described in Paragraph V.10; and
  - c. If the System continues to indicate excessive ponding for 6 consecutive months as defined in (b) above, the System is in failure and shall be upgraded in accordance with Paragraph V(10).

#### Example for monitoring depth of ponding:

A leaching field/SAS has 12 inches depth from the discharge piping invert elevation to the bottom of stone aggregate/naturally occurring soil interface. If monitoring shows ponding level is more than 6 inches then 50% of available dose storage is not met. If

monitoring shows the ponding level is less than 6 inches then the minimum 50% of available dose storage is met.

13. Unless directed by the LAA to take other action, the System Owner shall immediately cease discharges or have wastewater hauled off-site, if at any time during the operation of the Piloted System the System is in failure as described in 310 CMR 15.303(1)(a)1 or 2, backing up into facilities or breaking out to the surface.

## **V. Additional System Owner and Service Contractor Requirements**

1. The System is approved for use with 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 System and shall be lawfully disposed.
2. Throughout its life, the System owner shall operate and maintain the System in accordance with the Company and Designer's operation and maintenance requirements and this Approval.
3. Prior to issuance of a Certificate of Compliance for a System installation, the System Owner shall record and/or register the Deed Notice required by 310 CMR 15.287(10), and provide a copy to the LAA. The Deed Notice shall be completed as follows:
  - a) a certified Registry copy of the Deed Notice bearing the book and page/or document number; and
  - b) if the property is unregistered land, a copy of the System Owner's deed to the property as recorded at the Registry, bearing a marginal reference on the System Owner's deed to the property.

The Notice to be recorded shall be in the form of the Notice provided by the Department (see <http://www.mass.gov/dep/water/wastewater/altsysn.pdf>).

4. Prior to signing any agreement to transfer any or all interest in the property served by the System, or any portion of the property, including any possessory interest, the System Owner shall provide written notice, as required by 310 CMR 15.287(5) of all conditions contained in the Approval to the transferee(s). Any and all instruments of transfer and any leases or rental agreements shall include as an exhibit attached thereto and made a part of thereof a copy of the Approval for the System. The System Owner shall send a copy of such written notification(s) to the LAA within 10 days of giving such notice to the transferee(s).
5. The System Owner shall provide access to the site for the Company and the Service Contractor to perform inspections, maintenance, repairs, responding to alarm events and field testing as may be required by the Approval, including monitoring the System in accordance with the Approval.
6. The System Owner shall not install, modify, upgrade, or replace the System except in accordance with a valid DSCP issued by the LAA which covers the proposed work.
7. The System Owner and the Service Contractor shall maintain copies of the Service Contractor's O&M reports, inspection checklists, and all reports and notifications to the LAA for a minimum of three years.
8. Upon determining that the System is in violation of the Approval or the System has failed, as defined in 310 CMR 15.303, the Service Contractor shall notify the System Owner immediately.

9. Upon determining that the System has failed, as defined in 310 CMR 15.303, the System Owner and the Service Contractor shall be responsible for the notification of the LAA within 24 hours of such determination.
10. In the case of a System failure, an equipment failure, alarm event, components not functioning as designed, components not functioning in accordance with manufacturer's specifications, or violations of the Approval, the Service Contractor shall provide written notification within five days describing corrective measures to the System Owner, the local board of health, and the Company and may only propose or take corrective measures provided that:
  - a) all emergency repairs, including pumping, shall be in accordance with the limitations and permitting requirements of 310 CMR 15.353;
  - b) the design of any repairs or upgrades are consistent with the Alternative System Approval;
  - c) the design of any repairs or upgrades requiring a DSCP shall be performed by an individual meeting the qualifications of Paragraph III.5.
  - d) the installation shall be done by an Installer with a currently valid Disposal System Installers Permit (310 CMR 15.019), Installer shall also comply with Paragraph III.14.

The System Owner shall also be responsible for ensuring written notification is provided within five days to the local Board of Health.

11. The Service Contractor shall provide written notification to the Company within seven days of any cancellation, expiration or other change in the terms and/or conditions of a required O&M Agreement.
12. By February 15<sup>th</sup> of each year, the System Owner and the Service Contractor shall be responsible for submitting to the LAA all O&M reports, all monitoring results, and inspection checklists completed by the Service Contractor during the previous calendar year.
13. By February 15<sup>th</sup> of each year, the Service Contractor shall be responsible for submitting to the Company copies of all O&M reports including alarm event responses, all monitoring results, violations of the Approval, inspection checklists completed by the Service Contractor, notifications of system failures, and reports of equipment replacements with reasons during the previous calendar year.
14. The Service Contractor shall notify the System Owner of any changes to the terms and conditions of the Approval within 30 days of any changes.
15. Within one year of any changes to the terms and conditions of the Approval, the System Owner shall amend, as necessary, the O&M Agreement required by Paragraphs IV.2 & 3 to reflect the changes to the terms and conditions of the Approval.
16. The System Owner shall furnish the Department any information that the Department requests regarding the System, within 21 days of the date of receipt of that request.
17. The Approval shall be binding on the System Owner and on its agents, contractors, successors, and assigns, including but not limited to the Designer, Installer, and Service Contractor. Violation of the terms and conditions of the Approval by any of the foregoing persons or entities, respectively, shall constitute violation of the Approval by the System Owner unless the Department determines otherwise.

## VI. Company Requirements

1. The Approval shall only apply to the model unit(s) with the same model designations specified in the Approval and meet the same specifications, operating requirements and plans as provided by the Company at the time of the application. Any proposed modifications to the units, installation requirements, or operating requirements shall be subject to the review of the Department for inclusion under a modification of the Approval. The Company shall be responsible for verification of the appropriate model unit as part of the review of proposed installations under the Approval.
2. The Company must offer to the System Owner a two-year initial service policy with the purchase of the Technology that includes the inspection requirements of section IV, condition 10. A one year O&M agreement is acceptable for System's that have a completed performance evaluation (PE) report finding the System in compliance (see IV, condition 2). The Company must make available, for a fee, an extended service policy for a minimum of 5 years beyond the two-year initial service policy.
3. Prior to submission of an application for a DSCP, the Company shall provide to the Designer and the System Owner:
  - a) all design and installation specifications and requirements;
  - b) an operation and maintenance manual, including:
    - i. an inspection checklist;
    - ii. recommended inspection and maintenance schedule;
    - iii. monitoring (i.e. water use and power consumption) and sampling procedures if any;
    - iv. alarm response procedures, if any, and troubleshooting procedures;
  - c) an owner's manual with informational literature describing proper wastewater disposal practices, i.e. prohibition of grease, paints, hazardous chemicals, etc. into sinks and toilets. Provided literature shall also state the importance of prompt repair of any plumbing fixtures which allow unnecessary water into the drains and sewers to help maintain the proper functioning of the SAS. The manual shall include proper System use and alarm response procedures, if any;
  - d) estimates of the Owner's costs associated with System operation including, when applicable: power consumption, maintenance, monitoring/sampling, recordkeeping, reporting, and equipment replacement;
  - e) a copy of the Company's warranty, and
  - f) lists of approved Designers, Installers, and Service Contractors.
4. Upon submission of an application for a DSCP to the Approving Authority, the Company shall submit to the LAA, with a copy to the Designer and the System Owner, a certification by the Company or its authorized agent that the design conforms to the Approval and that the proposed use of the System is consistent with the unit's capabilities and all Company requirements. The review shall include evaluation of the need for installation of water meter(s) at each facility. An authorized agent of the Company responsible for the design review shall have received technical training in the Company's products.

5. Upon completion of the Performance Evaluation (PE) of a System after a minimum of 18 months of operation, the Company shall submit to the System Owner, the Department and the LAA a PE report on the System describing and summarizing the operations of the System, any changes in operation or design that were made during the piloting performance evaluation period and the results of the piloting program for that System. The report shall provide a determination whether the System was in compliance with Title 5 and the performance goals and conditions of this Approval for at least the previous 12 months of operation. That report shall also include either recommendations for approving and ending the piloting program for that System or recommendations for continuing piloting for any System that has not performed as planned and/or required.
  - a. Upon completion of the PE of a System, if a System is not in compliance with Title 5 or this Approval for at least the previous 12 months of operation, the Company shall either continue the piloting program for that system, or upgrade or replace the System with a fully complying Title 5 I/A or conventional system.
  - b. Upon completion of the PE of a System, showing the System was in compliance for at least the previous 12 months with Title 5 and the performance goals and conditions of this Approval, the Company may turn the responsibility for operation and monitoring of the System over to the System Owner and Service Contractor in accordance with this Approval (see Paragraph IV.12(a) for continuing monitoring requirements).
6. The Company shall institute programs of training and continuing education for Service Contractors. Training shall be provided at least annually. If the Company requires trained Designers and Installers, the Company shall institute programs of training and continuing education that is separate from or combined with the training for Service Contractors. The Company shall maintain, annually update, and make available by March 15th of each year, lists of approved Service Contractors and, if training is required, Designers and Installers. The Company shall certify that the Service Contractors and Designers and Installers on the lists have taken the appropriate training and passed the Company's training qualifications. The Company shall further certify that the Service Contractors on the list have submitted to the Company all the reports required by Paragraph V.17.

The Company shall not re-certify a Service Contractor if the Service Contractor has not complied with the reporting requirements for the previous year.
7. If Installer training is required by the Company, the Company shall not sell the Technology to an Installer unless the Installer is trained. The Company shall also require, by contract, the distributors and resellers of the Technology shall not sell the Technology to an Installer unless the Installer is trained.
8. As part of any training programs for Designers, Installers, and Service Contractors, the Company shall provide each trainee with a copy of the Approval with the design, installation, O&M, and owner's manuals that were submitted as part of the Approval.
9. The Company shall provide, in printed or electronic format, the System design plan, installation, O&M, and Owner's manuals, and any updates to this technology Approval, to the System Owners, Designers, Installers, Service Contractors, vendors, resellers, and distributors of the System. The Company shall submit to the Department a copy of any proposed changes to the manual(s) with reasons for each change at time of issuance. The

Company shall request Department approval for any substantive changes which may require a modification of the Approval.

10. Prior to its sale of any System that may be used in Massachusetts, the Company shall provide the purchaser with a copy of the Approval with the System design, installation, O&M, and Owner's manuals. In any contract for distribution or sale of the System, the Company shall require the distributor or seller to provide the purchaser of a System for use in Massachusetts with copies of these documents, prior to any sale of the System.
11. The Company shall furnish the Department any information that the Department requests regarding the Technology within 21 days of the date of receipt of that request.
12. Within 60 days of issuance by the Department of a revised Approval, the Company shall provide written notification of changes to the Approval to all Service Contractors servicing existing installations of the Technology and all distributors and resellers of the Technology.
13. The Company shall provide written notification to the Department's Director of the Wastewater Management Program at least 30 days in advance of the proposed transfer of ownership of the Technology for which the Approval is issued. Said notification shall include the name and address of the proposed owner containing a specific date of transfer of ownership, responsibility, coverage and liability between them.
14. The Company shall maintain records of:
  - a) the Approval;
  - b) design and installation manuals;
  - c) an owner's manual, including alarm response procedures, if any;
  - d) an operation and maintenance manual, including:
    - i. an inspection checklist;
    - ii. recommended inspection and maintenance schedule;
    - iii. monitoring requirements, if any (including water use and power consumption when required) and sampling procedures if any, and
    - iv. alarm response procedures, if any, and troubleshooting procedures.
  - e) estimates of the operating costs provided to the Owner, including, when applicable: power consumption, maintenance, sampling, recordkeeping, reporting, and equipment replacement;
  - f) a copy of the Company's warranty, and
  - g) lists of Designers, Installers, and trained Service Contractors.
15. The Company shall maintain the following information for the Systems installed in Massachusetts:
  - a) the address of each facility where the Technology was installed, the Owner's name and address (if different), the type of use (e.g. residential, commercial, institutional, etc.), the design flow, the model installed;
  - b) the installation date, start-up date, current operational status;
  - c) the name of the Service Contractor, noting any cancellations or changes to any Service Contracts;

- d) a summary of system failures, system malfunctions, and violations of the Approval with the date of each event and corrective actions taken to reach compliance, including but not limited to: design changes; installation changes; operation/maintenance changes; monitoring changes; and/or changes in roles and responsibilities for the manufacturer, vendors, designers, installers, service contractors and owners;
  - e) copies of all Service Contractor records submitted to the Company, including all O&M reports with alarm event responses, all monitoring results, inspection checklists completed by the Service Contractor, notifications of system failures, and reports of equipment replacements with reasons; and
  - f) copies of any completed PE reports.
16. By February 15th of each year the Company shall submit to the Department an annual report that contains the following information for all Systems installed prior to January 1st of that year:
- a) a table of the information required by Sections a, b, c, d and f of the preceding Paragraph;
  - b) a table of monitoring data collected for all Systems installed to-date;
  - c) a list of pending applications for System installations which have been submitted to local approving authorities;
  - d) identification of each System failure to comply with any performance criteria of the Approval or the system monitoring and reporting plan, including but not limited to, SAS pending compliance. Include the date of each event, the date that the System was returned to compliance, and the reasons for the noncompliance and the corrective actions that were taken, including but not limited to any design changes, installation changes, operation or maintenance changes including monitoring, and/or changes in roles and responsibilities for the manufacturer, vendors, designers, installers, service contractors and owners;
  - e) for any System in violation of the Approval or not in compliance with any performance criteria at the time of the annual report, the reasons for the noncompliance and the status of any corrective actions that are needed;
  - f) any recommendations and requests for changes to the system monitoring and reporting plan or the performance criteria of the Approval; and

The report shall be signed by a corporate officer, general partner or the Company owner.

*(Service Contractor records submitted to the Company should not be included with the annual report, but shall be made available to the Department within 30 days of a request by the Department.)*

17. The Approval shall be binding on the Company and its officers, employees, agents, contractors, successors, and assigns, including but not limited to dealers, distributors, and resellers. Violation of the terms and conditions of the Approval by any of the foregoing persons or entities, respectively, shall constitute violation of the Approval by the Company unless the Department determines otherwise.
18. If the Company wishes to continue this Piloting Approval after its expiration date, the Company shall apply for and obtain a renewal of this Approval. The Company shall submit a renewal application at least 180 days before the expiration date of this Approval, unless permission for a later date has been granted in writing by the Department.

## VII. General Requirements

1. Any Alternative System for which a complete DSCP application is submitted while the Approval is in effect, may be permitted, installed, and used in accordance with the Approval, unless and until:
  - a) the Department issues modifications or amendments to the Approval which specifically affect the installation or use of an Alternative System installed under the Approval for the Technology; or
  - b) the Department, the local approval authority, or a court requires the Alternative System to be modified or removed or requires discharges to the System to cease.
2. All notices and documents required to be submitted to the Department by the Approval shall be submitted to:

Director  
Wastewater Management Program  
Department of Environmental Protection  
One Winter Street - 5th floor  
Boston, Massachusetts 02108

### *Rights of the Department*

3. The Department may suspend, modify or revoke the Approval for cause, including, but not limited to, non-compliance with the terms of the Approval, non-payment of the annual compliance assurance fee, for obtaining the Approval by misrepresentation or failure to disclose fully all relevant facts or any change in or discovery of conditions that would constitute grounds for discontinuance of the Approval, or as necessary for the protection of public health, safety, welfare or the environment, and as authorized by applicable law. The Department reserves its rights to take any enforcement action authorized by law with respect to the Approval and/or the System against the Company, a System Owner, a Designer, an Installer, and/or Service Contractor.

### *General Conditions*

4. Use of the System shall be subject to all other General Conditions of Title 5 regulations 310 CMR 15.287, *General Conditions for Use of Alternative Systems Pursuant to 310 CMR 15.284 through 15.286*, shown below.
  - (1) All plans and specifications shall be designed in accordance with 310 CMR 15.220.
  - (2) Any required operation and maintenance, monitoring and testing plans shall be submitted to the Department and approved prior to initiation of the use. Monitoring and sampling shall be performed in accordance with a Department approved plan. Sample analysis shall be conducted by an independent U.S. EPA or Commonwealth of Massachusetts approved testing laboratory, or an approved independent university laboratory, unless otherwise provided in the Department's written approval. It shall be a violation of 310 CMR 15.000 to omit from a report or falsify any data collected pursuant to an approved testing plan.
  - (3) The facility served by the alternative system and the system itself shall be open to inspection and sampling by the Department and the Local Approving Authority at all reasonable times.
  - (4) The Department and/or the Local Approving Authority may require the owner or operator of the system to cease operation of the system and/or to take any other action necessary to



protect public health, safety, welfare and the environment.

(5) The owner or operator shall provide written notice to any new owner or operator that the system is an alternative system. Such notice shall include notice of the general conditions and any special conditions applicable to the system and its owner.

(6) The owner or operator, or the proponent of the alternative system, shall obtain and provide the Department with a determination from the board of certification of operators of wastewater treatment facilities established pursuant to M.G.L. c. 21, § 34A as to whether a certified operator is required for operation of the alternative system. The Department shall waive this requirement if it has on file a determination for the alternative system, and shall notify the owner, operator, or proponent of the determination.

(7) It is a violation of 310 CMR 15.000 to install, construct, or operate an alternative system except in full compliance with the written approval and 310 CMR 15.287.

(8) The Department may require the issuance of a groundwater discharge permit pursuant to 314 CMR 5.00 (groundwater discharge program) for any alternative system.

(9) The system owner shall maintain an operation and maintenance contract with a Massachusetts certified operator where one is required by 257 CMR 2.00, or otherwise with a person qualified to operate and maintain the system in accordance with the Department's written approval.