



COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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MODIFIED APPROVAL FOR GENERAL USE

Pursuant to Title 5, 310 CMR 15.000

Name and Address of Applicant:

Advanced Drainage Systems, Inc,
4640 Trueman Boulevard
Hilliard, OH 43026

Trade name of technology and model: BioDiffuser; 14 inch and 16 inch High Capacity, 11 inch Standard and Bio 2 and Bio 3 BioDiffusers, ARC 36, ARC 36HC, and ARC 50 (hereinafter the "System"). Schematic drawings of each model are attached.

Transmittal Number: W000052

Date of Issuance: October 3, 2003, Revised December 17, 2003, Revised June 14, 2006
Revised July 19, 2007, Modified February 14, 2008, Modified July 23, 2008,
Modified June 30, 2009

Authority for Issuance

Pursuant to Title 5 of the State Environmental Code, 310 CMR 15.000, the Department of Environmental Protection hereby issues this Certification to: Advanced Drainage Systems, Inc., 4640 Trueman Boulevard, Hilliard, OH 43026 (hereinafter "the Company"), for General Use of the System described herein. Sale and use of the System are conditioned on and subject to compliance by the Company and the System owner with the terms and conditions set forth below. Any noncompliance with the terms or conditions of this Certification constitutes a violation of 310 CMR 15.000.

Glenn Haas, Acting Assistant Commissioner
Department of Environmental Protection

June 30, 2009

Date

I. Purpose

1. The purpose of this Certification is to allow use of the System in Massachusetts, on a General Use basis.
2. With the necessary permits and approvals required by 310 CMR 15.000, this Certification authorizes the use of the System in Massachusetts.
3. The System may be installed on all facilities where a system in compliance with 310 CMR 15.000 exists on site or could be built and for which a site evaluation in compliance with 310 CMR 15.000 has been approved by the local approving authority, or by DEP if DEP approval is required by 310 CMR 15.000.

II. Design Standards

1. The models listed in Table 1 are covered under this Certification.

Table 1. Chamber Dimensions

Model	Dimensions W x L x H Inches	Invert Height Inches
11" Standard BioDiffuser	34 x 76 x 11	6.5
ARC 36	34.5 x 60 x 13	7.13
14" High Capacity BioDiffuser	34 x 76 x 14	9
16" High Capacity BioDiffuser	34 x 75 x 16	11.3
ARC 36HC	34.5 x 60 x 16	10.75
ARC 50	51.5 x 42.75 x 30	22.25 ¹
Bio 2 BioDiffuser	15 x 87 x 12	6.87
Bio 3 BioDiffuser	22 x 87 x 12	6.87

1. Only Systems installed with this invert height shall be allowed to use the effective Leaching area associated with this model Table 2
2. The System is an open-bottom leaching unit molded from high density, high molecular weight polyethylene (HDPE) Type III, Class A or B, Category 1 or 3 or Polypropylene Group 03, Class 3, Grade 0. It can be installed without aggregate or distribution pipe as an absorption trench in accordance with the requirements in 310 CMR 15.251 or as a bed or field in accordance with the requirements in 310 CMR 15.252.
3. The use of aggregate as specified in 310 CMR 15.247 is not necessary with the System when installed as a trench, bed or field. When designed with aggregate in accordance with 310 CMR 15.253, the System shall be designed in accordance with Section II item 10.

4. The minimum separation between any two trenches shall be as specified in 310 CMR 15.251.
5. The requirement that the Chamber installed in trench configuration as specified in 310 CMR 15.253(6) be provided with inlets at intervals not to exceed 20 feet is not applicable to the System. In accordance with 310 CMR 15.240 (13) a minimum of one inspection inlet shall be installed per system. The inlet shall be capped with a screw type cap and accessible to within three inches of finish grade.
6. The total effective leaching area for any Chamber Model shall be calculated by multiplying the Effective Leaching Area per square foot of chamber times the total length of chamber from Side Port Coupler to Side Port Coupler including Side Port Coupler.
7. For new construction, the applicant can size the System in a trench configuration without aggregate, using the effective leaching areas presented in Table 2. No System shall be designed and constructed with a soil absorption system area of less than 400 square feet of effective area.

**Table 2. Effective Leaching Area for New Construction
 And Remedial Sites**

Model	Effective Leaching ² Area SF/LF	Effective Leaching ³ Area SF/LF
11" Standard BioDiffuser	6.5	NA
ARC 36	6.8	NA
14" High Capacity BioDiffuser	7.2	NA
16" High Capacity BioDiffuser	7.9	NA
ARC 36HC	7.8	NA
ARC 50	NA	6.71 ⁴
Bio 2 BioDiffuser	4.0	NA
Bio 3 BioDiffuser	5.0	NA

2. Effective leaching area is equal to 1.67 (bottom width +(2x invert height))
3. Effective leaching area is equal to 1.0 (bottom width + (2x invert height))
4. The maximum trench width allowed for calculation of effective leaching area is 3 feet.
8. Systems installed on remedial sites shall be allowed to utilize the effective leaching areas presented in Table 2. above or additional reductions in soil absorption leaching area approved by the approving authority in accordance with 310 CMR 15.284. In no instance shall the reduction in the soil absorption system required in 310 CMR 15.242

exceed the maximum reduction allowed for alternative systems approved in accordance with 310 CMR 15.284.

9. In accordance with 310 CMR 15.240 (6) absorption trenches should be used whenever possible. When the System is installed for new construction without aggregate in a bed or field configuration, as defined in 310 CMR 15.252, the System shall be designed using the effective leaching area for the bottom width presented in Table 3. Chambers shall be spaced a minimum of six inches apart (edge-to-edge) when used in a bed configuration. No system shall be designed and constructed with a leaching area of less than 400 square feet of effective area.

Table 3 Effective Leaching Area for Bed or Field Configuration

Model	Effective Leaching ⁵ Area SF/LF
11" Standard Biodiffuser	4.7
ARC 36	4.8
14" High Capacity BioDiffuser	4.7
16" High Capacity BioDiffuser	4.7
ARC 36HC	4.8
ARC 50	7.2
Bio 2 BioDiffuser	2.1
Bio 3 BioDiffuser	3.1

5. Effective Leaching area is equal to 1.67 times bottom width only.
10. The System, when installed in a bed or field configuration without aggregate on remedial sites, shall utilize the effective leaching areas presented in Table 3 above or additional reductions in soil absorption system area approved by the approving authority in accordance with 310 CMR 15.284. In no instance shall the reduction in the soil absorption system area required in 310 CMR 15.242 exceed the maximum reduction allowed for alternative systems approved in accordance with 310 CMR 15.284.
11. The System, when installed as specified in 310 CMR 15.253: Pits, Galleries, or Chambers, shall have an aggregate base and/or be surrounded by aggregate and shall be sized as specified in 310 CMR 15.253 (1) (a) and (b), effective leaching area is equal to 1.0 times a conventional aggregate system. Effective depth can be increased to two feet with the corresponding addition of up to 17.5 inches of base aggregate for the 11 inch Standard BioDiffuser to up to 12.7 inches for the 16 inch High Capacity BioDiffuser. Bottom width can be increased by two to eight SF/LF with the corresponding addition of one to four feet of aggregate per side.

12. When the System is installed as specified in 310 CMR 15.255: Construction in Fill, the finished 15 foot horizontal separation distance, item (2), shall be measured from the from the top of the chamber.

III. **General Conditions**

1. The provisions of 310 CMR 15.000 are applicable to the use of the System, except those that specifically have been varied by the terms of this Certification.
2. The facility served by the System, and the System itself, shall be open to inspection and sampling by the Department and the local approving authority at all reasonable times.
3. In accordance with applicable law, the Department and the local approving authority may require the System owner to cease use of the System and/or to take any other action as it deems necessary to protect public health, safety, welfare or the environment.
4. The Department has not determined that the performance of the System will provide a level of protection to the environment that is at least equivalent to that of a sewer. Accordingly, no new System shall be constructed, and no System shall be upgraded or expanded, if it is feasible to connect the facility to a sanitary sewer, unless allowed pursuant to 310 CMR 15.004.
5. Design, installation and use of the System shall be in strict conformance with the Company's DEP approved plans and specifications and 310 CMR 15.000, subject to this Certification.

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. For new construction, the owner initially shall size a soil absorption system in accordance with 310 CMR 15.242 to demonstrate that a conventional Title 5 soil adsorption system using aggregate, including a reserve area, can be installed on the site. The owner may than size the soil absorption system for the System. The total area required for the aggregate system, which may include the area designated for the System, and a reserve area shall be preserved and the owner shall ensure that no permanent structures or other structures are constructed on that area and that the area is not disturbed in any manner that will render it unusable for future installation of a conventional Title 5 soil absorption system.
3. The System owner shall at all times properly operate and maintain the on-site sewage disposal system.

4. The System 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.
5. No System owner shall authorize or allow the installation of the System other than by a person trained by the Company to install the System.

V. Conditions Applicable to the Company

1. By January 31st of each year, the Company shall submit to the Department a report, signed by a corporate officer, general partner, or Company owner that contains information on the System for the previous calendar year. The report shall state known failures, malfunctions, and corrective actions taken for the System as well as the date and address of each event.
2. The Company shall notify the Department's Director of Watershed Permitting at least 30 days in advance of any proposed transfer of ownership of the technology for which this Certification is issued. Said notification shall include the name and address of the proposed new owner and a written agreement between the existing and proposed new owner containing a specific date for transfer of ownership, responsibility, coverage and liability between them. All provisions of this Certification applicable to the Company shall be applicable to successors and assigns of the Company, unless the Department determines otherwise.
3. The Company shall furnish the Department any information that the Department requests regarding the System, within 21 days of the date of receipt of that request.
4. Prior to any sale of the System, the Company shall provide the purchaser with a copy of this Certification. In any contract for distribution or sale of the System, the Company shall require the distributor or seller to provide the purchaser of the System, prior to any sale of the System, with a copy of this Certification.
5. The Company shall prepare and provide the Department an installation manual specifically detailing procedures for installation of its System. The Company shall institute and maintain a training program in the proper installation of its System in accordance with the manual and provide a training course at least annually for prospective installers. The Company shall certify that installers have passed the Company's training qualifications, maintain a list of certified installers, submit a copy to the Department, and update the list annually. Updated lists shall be forwarded to the Department.
6. The Company shall not sell the System to installers unless they are trained to install these Systems by the Company.

VI. Conditions Applicable to Installers of the System

1. Each Installer shall install the System in accordance with Company training on the installation of the System and the conditions of this Certification.
2. No Installer shall install the System unless the Installer has been trained by the Company on installation of the System.

VII. Reporting

1. All submittals of notices and documents to the Department required by this Certification shall be submitted to:

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

VIII. Rights of the Department

1. The Department may suspend, modify or revoke this Certification for cause, including, but not limited to, non-compliance with the terms of this Certification, non-payment of an annual compliance assurance fee, for obtaining the Certification 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 Certification, 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 this Certification, the System, the owner, or operator of the System and the Company.