Indiana State Department of Health

Environmental Public Health
2 North Meridian Street, 5-E
Indianapolis, IN 46204

Indiana Standards for Chamber Trench Soil Absorption Field Technology

These standards apply to chamber trench soil absorption field (SAF) technology for manufacturers that have demonstrated products that meet or exceed Indiana performance criteria (see list of Indiana approved manufacturers and chamber trench SAF products at the end of this document). Manufacturers of chamber trench SAFs not approved under these standards may submit a proposal for review by the Indiana State Department of Health (department).

I. Approval and Onsite Sewage System Construction Permit

A. The department reviews, approves, and lists proprietary chamber trench SAF products when the manufacturer demonstrates that the product meets or exceeds the requirements contained in the department's *Protocols for Experimental Technologies*.

B. Before a local health department (LHD) may issue a construction permit for an onsite sewage system incorporating a chamber trench SAF, the specific manufacturer, brand, and model number must be included in the plan submittal and be a product listed at the end of this document.
[Only the specific models listed in this document are approved. If models in a manufacturer's product line do not appear on the list, they are not approved for use.]

II. Application Standards

A. Chamber trench SAFs must be designed and installed according to the manufacturer's requirements, in a manner that complies with *410 IAC 6-8.1* (including site evaluation, system selection and system size), *410 IAC 6-10*, this approval, and local ordinances, requirements and procedures.

B. Chamber trench SAFs may be used for:
1. Gravity-flow distribution;
2. Alternating field gravity flow distribution;
3. Flood dose distribution; and
4. Pressure distribution.

III. Chamber Standards

A. Chamber trench SAFs must meet or exceed the following performance requirements:
1. Chamber material must not decay, deteriorate, or leach chemicals or byproducts when exposed to sewage effluent and the soil environment.
2. Chambers, when installed according to the manufacturer's requirements, must:
   a. Meet or exceed the manufacturing and testing requirements of the *International Association of Plumbing and Mechanical Officials (IAPMO) PS 63-99a, Material and Property Standard for Plastic Leaching Chambers* for normal duty H-10 units; and
   b. Withstand the physical forces of the soil sidewalls, soil back-fill, and live loads associated with yard maintenance activities.

B. The design of chambers must meet the following requirements:
   1. The distance from the infiltrative surface of the trench to the top of the chamber must be at least eight (8) inches.
   2. The void volume of a chamber system must be equal to or greater than the void volume of a conventional aggregate trench system.
   3. The trench bottom area per foot of a chamber must be equal to or greater than ninety (90) percent of the trench bottom area per foot of a conventional aggregate trench.
   4. Chamber units must interlock to form a complete trench with the width of the infiltrative surface maintained for the length of the trench.
      [The use of pipe to connect chambers within a single trench is not allowed.]
   5. The distal end of each trench must be fitted with a solid end plate that is mechanically interlocked to the end of the chamber.
   6. Baffles or splash plates must be installed at the beginning of each chamber trench or be integral to the design of the inlet end plate for gravity and flood dose trench SAF [to reduce the velocity of incoming effluent and protect the trench bottom from erosion].
   7. For gravity and flood dose SAFs, the bottom of the effluent sewer entering the inlet end plate must be at least three and three-tenths (3.3) inches above the trench infiltrative surface.
   8. For trench pressure SAFs:
      a. Pressure distribution laterals must be fastened with the obvert of the pipe at least four (4) inches above the trench infiltrative surface; and
      b. The holes in the pressure distribution laterals must face up.

IV. SAF Design Standards

A. For chamber trench SAFs, LHDs and the department may permit a reduction in the required size of the SAF of up to twenty-five (25) percent of a full-sized trench SAF as required in *410 IAC 6-8.1* or *410 IAC 6-10*.

B. SAF size reductions for chamber trench SAF products may not be combined with SAF size reductions for effluent quality listed in the *Protocols for Experimental Technologies*.

V. Requirements, Manufacturers and Installers

A. Each manufacturer's Indiana specific design and installation manual, and revisions, must:
   1. Contain procedures for design and installation consistent with the requirements of *410 IAC 6-8.1*, *410 IAC 6-10*, and these standards; and
   2. Be reviewed and accepted by the department.

B. Each manufacturer must provide an Indiana specific design and installation manual to each installer of its chamber products, staff of the department, and staff of LHDs.

C. Each manufacturer must train each installer of its chamber products, and staff of the department and LHDs, on the design and installation of its products in accordance with its design and installation manual.

D. Each Installer must install chamber trench SAFs in compliance with the approved plan.

VI. List of Approved Chamber Products

Advanced Drainage Systems (ADS), Inc.

- BioDiffuser Standard
- Bio 3 (22” wide)
- Arc 24
- Arc 36
- Arc 36 LP

Infiltrator Systems, Inc.

- Quick4 Equalizer 36 (22” wide)
- Quick4 Standard & Quick4 Standard W
- Quick4 Plus Standard
- Quick4 Plus Standard Low Profile (LP)

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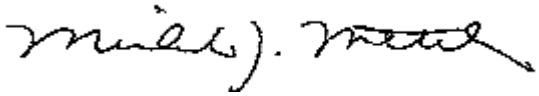

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