

May 11, 2022

Mr. Dennis F. Hallahan, P.E.
Technical Director
Infiltrator Water Technologies
4 Business Park Road
Old Saybrook, CT 06475

RE: Product Registration Renewal #4 – Notice of Proprietary Distribution Product Listing

Description: Proprietary Distribution Product - Gravelless Distribution Media
Manufacturer: Infiltrator Water Technologies
Product Name: Quick [Quick4® and Quick5®] Chamber Series
Model Numbers: Quick4 Equalizer 24, Quick4 Equalizer 24 Low Profile (LP), Quick4 Equalizer 36, Quick5 Equalizer 36, Quick4 Standard, Quick5 Standard, Quick4 Plus Standard, Quick4 Plus Standard LP, Quick4 High Capacity, Quick4 Plus High Capacity

Dear Mr. Hallahan:

Thank you for your application for product renewal the Infiltrator Water Technologies Quick4 Chamber Series, which includes the following models: Quick4 Equalizer 24, Quick4 Equalizer 24 Low Profile (LP), Quick4 Equalizer 36, Quick5 Equalizer 36, Quick4 Standard, Quick5 Standard, Quick4 Plus Standard, Quick4 Plus Standard LP, Quick4 High Capacity and Quick4 Plus High Capacity.

In accordance with Minn. R. Ch. 7080 through 7083, the Minnesota Pollution Control Agency (MPCA) has reviewed Infiltrator Water Technologies submitted materials for proprietary distribution product registration. Based on the submitted documentation, the MPCA finds the Quick Chamber Series is eligible to be registered and meets the requirements for proprietary distribution product registration.

As such, the Quick Chamber Series is registered for use in trench, seepage bed, at-grade and mound applications, in accordance with Minn. R. Ch. 7080.2200 through 7080.2350 and the manufacturer's installation requirements. Gravity and pressure distribution requirements, as described in Minn. R. Ch. 7080.2050, shall be met. Table 1 lists registered chamber models and dimensions as presented in the initial application submittal, dated May 12, 2009, and related documents submitted through March 22, 2011.

Subject to this determination, the Quick Chamber Series will be placed on the List of Registered Subsurface Sewage Treatment System (SSTS) Proprietary Distribution Media Products at the sizing recommended by the Technical Advisory Panel (TAP) on August 20, 2009, and March 17, 2011, and reflected in this letter of registration. The product information listed in this Notice of Proprietary Product Listing will be maintained on the MPCA website and may not be altered by the manufacturer without permission from the MPCA.

Table 1. Infiltrator Quick Chamber Models and Dimensions

Model	Product Dimensions (Width x Length x Height) (inches)	Average Sidewall Infiltrative Height (inches)
Quick4 Equalizer 24 Low Profile (LP)	16 x 48 x 8	6
Quick4 Equalizer 24	16 x 48 x 11	9
Quick4 Equalizer 36	22 x 48 x 12	10
Quick5 Equalizer 36	22 x 60 x 12	10
Quick4 Plus Standard Low Profile (LP)	34 x 48 x 8	6
Quick4 Standard	34 x 48 x 12	7
Quick5 Standard	34 x 60 x 12	7
Quick4 Plus Standard	34 x 48 x 12	8
Quick4 High Capacity	34 x 48 x 16	12
Quick4 Plus High Capacity	34 x 48 x 14	12

Soil absorption areas using Infiltrator Water Technologies Quick chambers may be sized based on the sizing charts included in this Notice of Proprietary Distribution Product Listing, or may be sized larger at the direction of local regulatory authorities. Product drawings contained in the manufacturer's manual provide information on the open bottom area for each product listed in Table 1.

Based on the similarities of design specifications between the Quick4 and Quick5 Standard, and the Quick4 Equalizer 36 and Quick5 Equalizer 36 models, these may be interchanged within the same soil treatment area.

The following design applications for trenches, seepage beds, at-grades and mounds are based on the Registered Sizing as recommended by the Technical Advisory Panel. When the local regulatory authority chooses to size the Quick chamber product based on the chamber inside dimensions, additional calculations will need to be made to determine the number of chambers required in each application.

Trench Applications

For trench applications, the following shall be the basis for establishing equivalency for nominal chamber width to trench width:

- A 16-inch-wide chamber is equivalent to an 18-inch-wide trench using drain field rock
- A 22-inch-wide chamber is equivalent to a 24-inch-wide trench using drain field rock
- A 34-inch-wide chamber is equivalent to a 36-inch-wide trench using drain field rock

Where trench designs are specified, new construction or replacement systems may utilize the Quick Chamber Series in accordance with Table 2. Trenches must be no more than 36 inches wide. All excavations wider than 36 inches shall be considered a seepage bed.

Table 2. Trench Sizing

Model	Dimensions (Width x Length x Height) (inches)	Sizing in Trenches
Quick4 Equalizer 24 Low Profile (LP)	16 x 48 x 8	Chamber trench length at 1:1 ratio with drainfield rock trench length
Quick4 Equalizer 24	16 x 48 x 11	
Quick4 Equalizer 36	22 x 48 x 12	
Quick5 Equalizer 36	22 x 60 x 12	
Quick4 Plus Standard Low Profile (LP)	34 x 48 x 8	
Quick4 Standard	34 x 48 x 12	
Quick5 Standard	34 x 60 x 12	
Quick4 Plus Standard	34 x 48 x 12	
Quick4 High Capacity	34 x 48 x 16	20% bottom area reduction for 12 inches of sidewall height
Quick4 Plus High Capacity	34 x 48 x 14	

Backfilling along the chamber sidewall absorption area shall be done in a manner that: 1) maintains the ability of the soil to adequately infiltrate and disperse wastewater and 2) prevents the intrusion of soil into the chamber through the louvered sidewall. Backfill material type and method of placement shall be done as specified by the manufacturer in the installation manual.

The Quick4 High Capacity chamber models utilizing the 20 percent bottom area reduction in trenches shall be installed to utilize the full height of the 12 inch high louvered sidewall for absorption area. The manufacturer’s installation manual shall specify how this installation requirement shall be achieved for gravity distribution systems.

Vertical inspection pipes must be properly installed in the distribution medium of all trenches as per Minn. R. Ch. 7080.2210, subp. 4(B). The inspection pipe must be located at the end opposite from where the effluent enters the distribution medium. The manufacturer’s installation instructions for trench systems shall illustrate this requirement.

Seepage Bed Applications

Seepage bed designs shall be sized based on bottom area only with no additional credit given to sidewall. When a seepage bed is specified with a design width of less than or equal to 12 feet, gravity distribution may be utilized. Seepage bed designs greater than 12 feet and up to 25 feet in width shall require pressure distribution. Table 3 provides Quick chamber configurations for seepage bed applications using the Registered Sizing.

Table 3. Seepage Bed Sizing

Infiltrator Chamber	Nominal Dimensions Width x Length x Height (inches)	Number of Chambers Spanning Bed Width	Bed Design Width (feet)
Quick4 Plus Standard Low Profile (LP)	34 x 48 x 8	4	12
		8	24
Quick4 Standard	34 x 48 x 12	4	12
		8	24
Quick5 Standard	34 x 60 x 12	4	12
		8	24
Quick4 Plus Standard	34 x 48 x 12	4	12
		8	24
Quick4 High Capacity	34 x 48 x 16	4	12
		8	24
Quick4 Plus High Capacity	34 x 48 x 14	4	12
		8	24

Backfilling along the chamber sidewall absorption area shall be done in a manner that prevents the intrusion of soil into the chamber through the louvered sidewall. Backfill material type and method of placement shall be done as specified by the manufacturer in the installation manual.

Vertical inspection pipes must be properly installed in the distribution medium of all seepage bed systems as per Minn. R. Ch. 7080.2210, subp. 4(B). The inspection pipe must be located at the end opposite from where the effluent enters the medium. The manufacturer’s installation instructions for seepage bed systems shall illustrate these requirements. One inspection pipe per seepage bed is sufficient; it is not necessary to install an inspection pipe in each run of chambers.

At-Grade Applications

The registration of Quick chambers is registered for use in at-grade systems on both flat sites and on sloping sites. At-grade designs shall be sized based on bottom area only with no additional reduction given to sidewall. At-grades should be long and narrow, with individual contour loading rates ranging between two and eight gallons per lineal foot per day. Proper scarification of the absorption area is required before Quick chamber products are installed in at-grade systems. The maximum allowable width for at-grade distribution media beds is 15 feet. Table 4 provides Quick chamber configurations when utilized in at-grade systems applications using the Registered Sizing.

Table 4. At-Grade Sizing

Model	Dimensions Width x Length x Height (inches)	Number of Chambers Spanning At-Grade Width	At-Grade Design Distribution Media (feet)
Quick4 Plus Standard Low Profile (LP)	34 x 48 x 8	1	3
		2	6
		3	9
		4	12
Quick4 Standard	34 x 48 x 12	1	3
		2	6
		3	9
		4	12
Quick5 Standard	34 x 60 x 12	1	3
		2	6
		3	9
		4	12
Quick4 Plus Standard	34 x 48 x 12	1	3
		2	6
		3	9
		4	12
Quick4 High Capacity	34 x 48 x 16	1	3
		2	6
		3	9
		4	12
Quick4 Plus High Capacity	34 x 48 x 14	1	3
		2	6
		3	9
		4	12

Backfilling along the chambers shall be done in a manner that prevents the intrusion of soil into the chamber through the louvered sidewall. On sites with slopes greater than one percent, geotextile fabric is required over the chambers, as specified in the manufacturer’s manual. The required backfill material includes six inches of sandy cover material over the chambers, extending at least five feet beyond the ends of the chambers, and six inches of topsoil. The backfill material shall be properly sloped to divert surface water away from the system. The method of soil placement over the at-grade shall be done as specified by the manufacturer in the installation manual.

One vertical inspection pipe must be properly installed along the down slope portion of at-grade absorption beds as per Minn. R. Ch. 7080.2230, subp. 3(G). The manufacturer’s installation instructions for at-grades shall illustrate this requirement.

Mound Applications

Mound designs shall be sized based on bottom area only with no additional reduction given to sidewall. Mounds should be long and narrow, with contour loading rates ranging between one and twelve gallon per lineal foot per day. The maximum allowable width for mound distribution media beds is ten feet. Table 5 provides Quick chamber configurations when utilized in mound applications using the Registered Sizing.

The area around the Quick chambers, and in-between the chambers in mounds, shall be filled with clean sand up to the top of the louvered sidewall. The manufacturer’s installation manual shall provide a detailed drawing showing this requirement.

Table 5. Mound Sizing

Model	Product Dimensions (W x L x H) (inches)	Numbers of Chambers Spanning Mound Width	Mound Distribution Media Width (feet)
Quick4 Plus Standard Low Profile (LP)	34 x 48 x 8	1	3
		2	6
		3	9
Quick4 Standard	34 x 48 x 12	1	3
		2	6
		3	9
Quick 5 Standard	34 x 60 x 12	1	3
		2	6
		3	9
Quick4 Plus Standard	34 x 48 x 12	1	3
		2	6
		3	9
Quick4 High Capacity	34 x 48 x 16	1	3
		2	6
		3	9
Quick4 Plus High Capacity	34 x 48 x 14	1	3
		2	6
		3	9

Backfilling along the chambers shall be done in a manner that prevents the intrusion of soil into the chambers through louvered sidewalls. Backfill material type and method of placement shall be done as specified by the manufacturer in the installation manual.

One vertical inspection pipe must be properly installed at the end of each mound, terminating at the mound sand and chamber interface, per Minn. R. Ch. 7080.2220, subp. 3(O). The manufacturer’s installation instructions for mounds shall illustrate this requirement.

Chamber End Caps

Each Quick chamber model listed is required to be installed with end caps as described in the manufacturer's installation instructions. Although end caps provide some bottom absorption area, this area is not to be included as part of the absorption area for trench, seepage bed, at-grade or mound system designs, unless specifically allowed by the local permitting authority. The manufacturer's manual will specify the absorption area for each Quick chamber end cap.

General Requirements

The registration of products in Minnesota is contingent upon compliance with the following conditions:

1. The manufacturer shall have readily accessible information, specific to a product's registered use in Minnesota, for designers, installers, regulators, system owners, and service providers for the following items: a) product manual; b) design instructions; c) installation instructions; d) information regarding operation and maintenance; e) homeowner instructions; and f) list of manufacturer-certified service providers, if any, as required by Minn. R. Ch. 7083.4040 (H).
2. Distribution of sewage by means of gravity and pressure are permissible, in accordance with Minn. R. Ch. 7080.2050 and the manufacturer's installation requirements. The distribution of effluent shall be done in a manner that does not scour or excessively pit the soil's infiltrative surface or cause sealing from fines at the soil's infiltrative surface.
3. Soil loading rates shall be as specified in Minn. R. Ch. 7080.2150, subp.3. Tables IX and IXa and in Minn. R. Ch. 7080.2350.
4. No additional consideration shall be given to Quick chamber end caps to size trench, seepage bed, at-grade and mound systems, unless specifically allowed by the local permitting authority.
5. The minimum depth of soil cover, including six inches of topsoil borrow, over Quick chamber products used in trenches, seepage beds, at-grades and mounds is 12 inches.
6. Any excavation into the absorption area must be in a manner that maintains soil structure in an un-smeared and un-compacted condition. Excavation and placement of Quick chamber products are allowed when 1) the soil moisture is less than the plastic limit and 2) the soil is not frozen or freezing per Minn. R. 7080.2150, subp. 3 (G).
7. Placement of Quick chamber products shall be performed in a manner that minimizes soil compaction due to foot traffic related to the installation of chamber products.
8. Quick chamber products shall be installed so they do not: 1) sink, 2) separate, 3) allow for the intrusion of soil into the chambers through the louvered sidewalls, and 4) provide a home for burrowing animals, which partially or completely fills the chamber system with soil.
9. Training shall be provided to practitioners in the proper application and use of the Quick chamber products registered for use in Minnesota.
10. During the period of product registration and as part of the renewal process, systems using registered distribution products are subject to an audit established by the MPCA.

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Please be advised that this registration expires on December 31, 2024. Manufacturers desiring to continue product registration beyond this date must obtain MPCA renewal according to the requirements in Minn. R. 7083.4080, subp. 5. If the MPCA finds the product has changed in any way that may affect performance, it may not be renewed and must meet the requirements for initial registration.

The MPCA is in no way endorsing these products or any advertising, and is not responsible for any situation, which may result from its use or misuse. The MPCA is not liable for any product failure and these statements are not intended and cannot be relied upon to establish any substantive or procedural rights with the state of Minnesota or the MPCA, either express or implied, that can be enforced in litigation or any administrative proceeding.

If you have any questions, please contact Cody Robinson at 651-757-2535 or by email at cody.robinson@state.mn.us.

Sincerely,

Cody Robinson

This document has been electronically signed.

Cody Robinson

Soil Scientist

Municipal Division

CR:jg

cc: File