



Infiltrator Quick4 Plus Standard LP Chamber in North Carolina

The purpose of this product information sheet is to provide specific design and installation information pertinent for the use of Infiltrator Quick4 Plus Standard Low Profile (LP) chamber in North Carolina. Infiltrator products must be used in conjunction with the standards described in the North Carolina Rule 15A NCAV 18A.1900 and Infiltrator's innovative wastewater system approval (www.deh.enr.state.nc.us). This document provides a brief description of the chamber and sizing specifications. For more detailed design information, please contact Infiltrator Systems at 1-800-221-4436.

The Quick4™ Plus Standard Low Profile (LP) chamber model can be installed in 36-inch-wide trench. The Quick4 Plus Standard LP chamber is 4 inches shorter than other standard models, allowing for shallower installation. The Quick4 Plus chamber offers advanced contouring capability and superior strength through its center structural columns.

The Quick4 Plus All-in-One Endcap and the Quick4 Plus Endcap are available with this chamber, providing increased flexibility in system configurations. The Quick4 Plus endcap systems allow multi-directional piping through several points and allows inletting at the top of the endcap. The Quick4 Plus Endcap can also be installed mid-line within a chamber row for center-fed beds or trenches.



QUICK4 PLUS STANDARD LP CHAMBER



QUICK4 ALL-IN-ONE ENDCAP



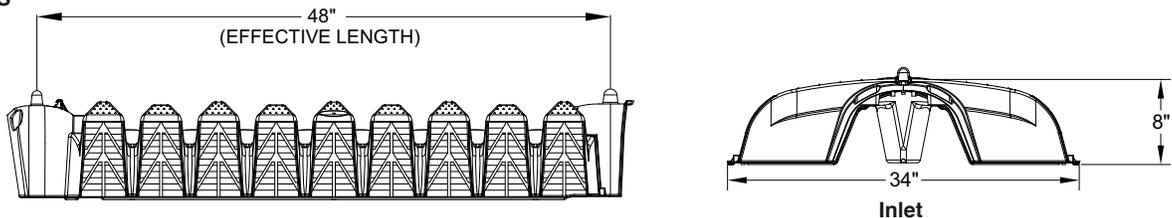
QUICK4 PLUS ENDCAP

Quick4 Plus Standard Low Profile (LP) Nominal Chamber Specifications

Size (W x L x H)	34" x 48" x 8"
Storage	32 gal (4.3 ft ³)
Equivalency Rating/Sizing	3.0 ft ² /lf

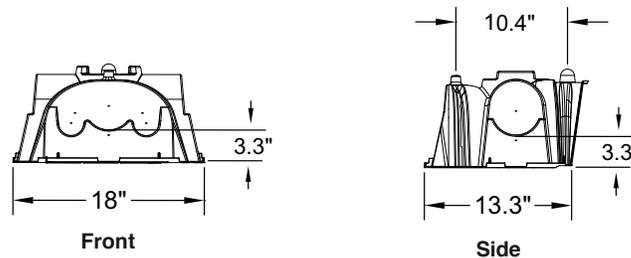
QUICK4 PLUS STANDARD LP CHAMBER SIDE AND END VIEWS

(Not to scale)



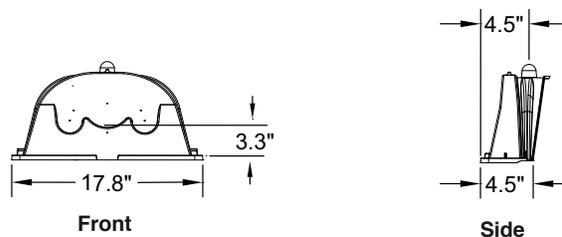
QUICK4 PLUS ALL-IN-ONE ENDCAP SIDE AND END VIEWS

(Not to scale)



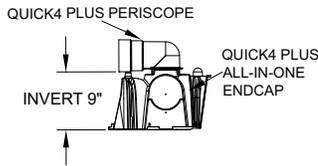
QUICK4 PLUS ENDCAP SIDE AND END VIEWS

(Not to scale)



**QUICK4 PLUS ALL-IN-ONE PERISCOPE
SIDE VIEW**

(Not to scale)



QUICK4 PLUS ALL-IN-ONE ENDCAP INVERTS
(Not to scale)

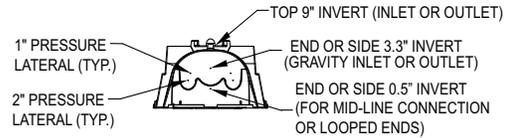
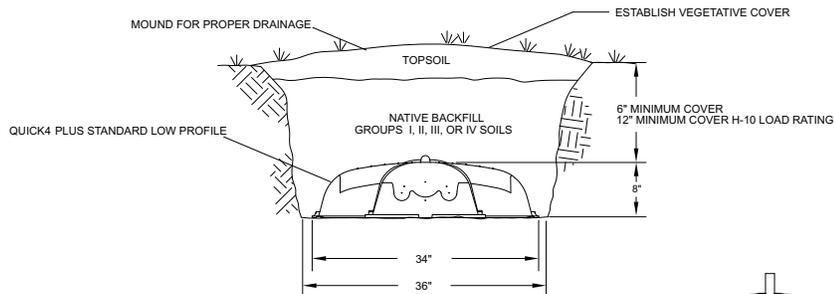


TABLE 1: 3 FT²/LF EQUIVALENCY RATING FACTOR – QUICK4 PLUS STANDARD LP CHAMBER

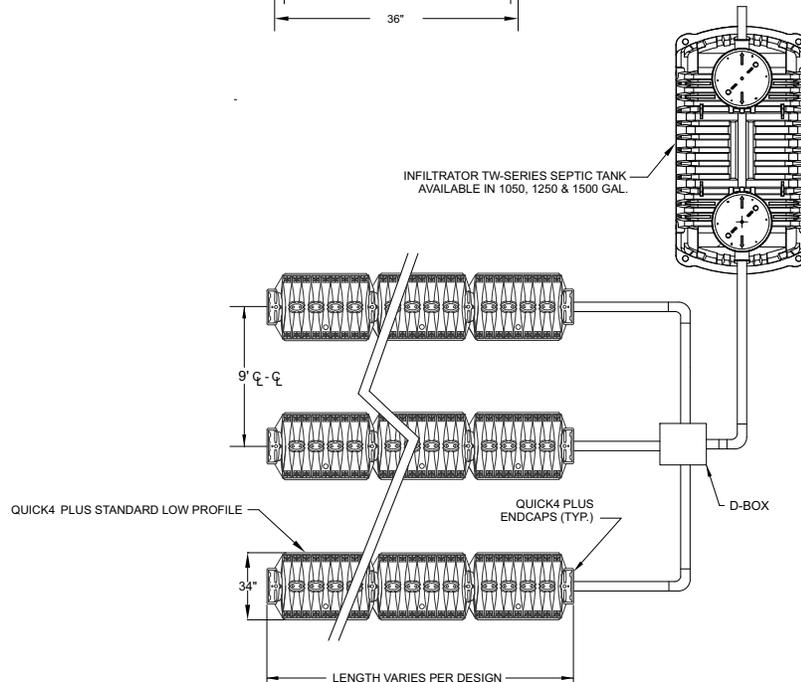
Textural Group	Natural Soil LTAR (gpd.sq ft)	Stone & Pipe Conventional Trench			Q4 Plus Standard LP Chamber					
		2 Bedroom Trench Length (ft)	3 Bedroom Trench Length (ft)	4 Bedroom Trench Length (ft)	2 Bedroom		3 Bedroom		4 Bedroom	
					Trench Length (ft)	Chambers Required	Trench Length (ft)	Chambers Required	Trench Length (ft)	Chambers Required
Soil Group I Sands	1.0	80	120	160	80	20	120	30	160	40
	0.9	89	133	178	89	23	133	34	178	45
Soil Group II Coarse Loams	0.8	100	150	200	100	25	150	38	200	50
	0.7	114	171	229	114	29	171	43	229	58
Soil Group III Fine Loams	0.6	133	200	267	113	34	200	50	267	67
	0.5	160	240	320	160	40	240	60	230	80
	0.4	200	300	400	200	50	300	75	400	100
Soil Group IV Clays	0.3	267	400	533	267	67	400	100	533	134
	0.2	400	600	800	400	100	600	150	800	200
	0.1	800	1200	1600	800	200	1200	300	1600	400

- Notes: 1) Required trench bottom (sq ft) = design daily sewage flow (120 gallons per bedroom) / applicable long term acceptance rate
 2) Chamber sizing shall be calculated using the following ratings Quick4 Plus Standard LP at 3 sq ft/lf
 3) To calculate sizing for additional bedrooms multiply the number of bedrooms by 120 and divide by the applicable loading rate

CROSS SECTION
(not to scale)

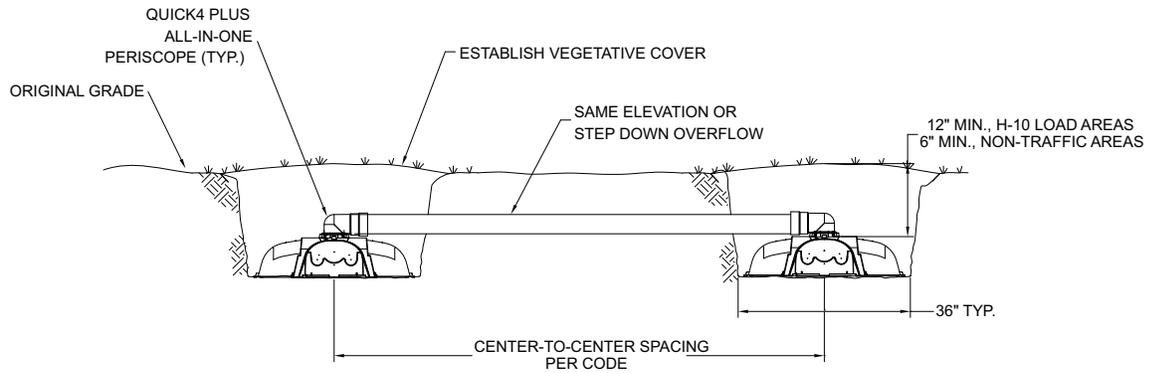


PLAN VIEW
(not to scale)

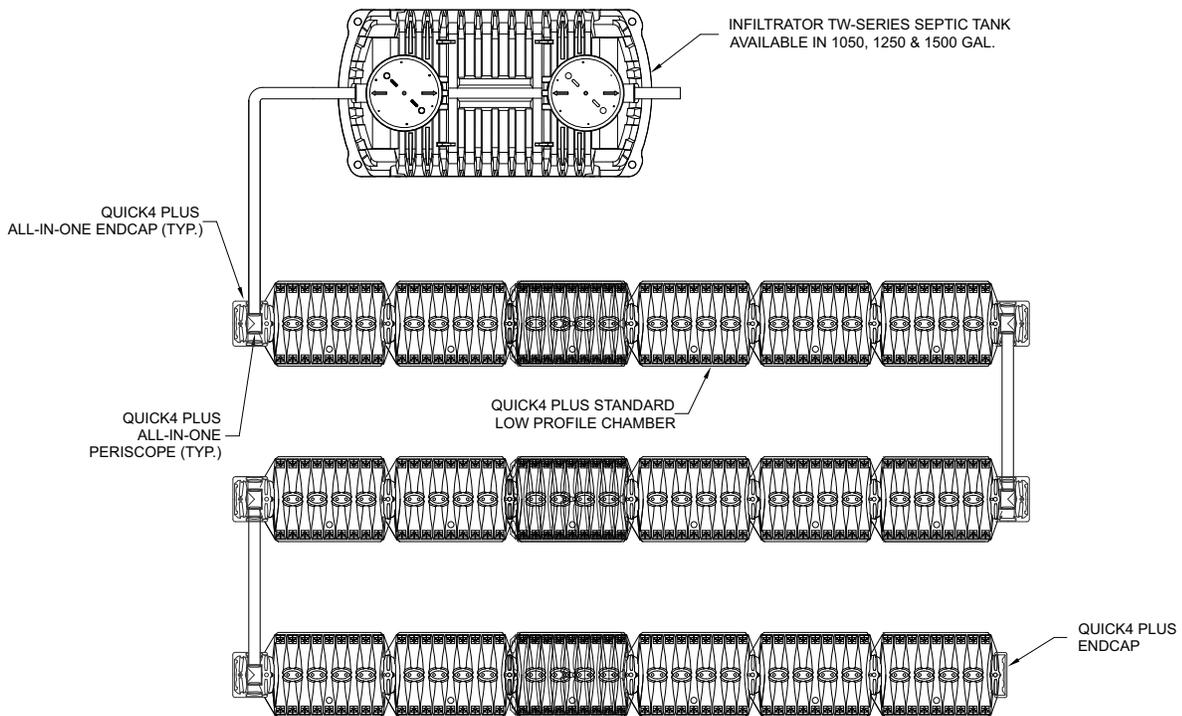


NOTE: MINIMUM 3" ELEVATION DROP REQUIRED FROM D-BOX TO END CAP INLET INVERT

QUICK4 PLUS STANDARD LP CHAMBERS USING ALTERNATING ENDS
CROSS SECTION
(not to scale)



QUICK4 PLUS STANDARD LP CHAMBERS USING ALTERNATING ENDS
PLAN VIEW
(not to scale)



Quick4 Plus Chamber Systems

Before You Begin

These installation instructions are for Quick4 Plus chambers in North Carolina. These chambers may only be installed according to state and/or local regulations. If unsure of the installation requirements for a site, contact the local health department.

Similar to conventional systems, the soil and site conditions must be approved prior to installation. Conduct a thorough site evaluation to determine the proper size and location of the system before installation.

Materials and Equipment Needed

- | | |
|---|---|
| <input type="checkbox"/> Quick4 Plus Chambers | <input type="checkbox"/> Shovel and Rake |
| <input type="checkbox"/> Quick4 Plus Endcaps | <input type="checkbox"/> Utility Knife |
| <input type="checkbox"/> Quick4 Plus All-in-One Endcaps | <input type="checkbox"/> 1 1/4-inch Drywall Screws* |
| <input type="checkbox"/> PVC Pipe and Couplings | <input type="checkbox"/> Screw Gun* |
| <input type="checkbox"/> Backhoe | <input type="checkbox"/> Small Valve-cover Box* |
| <input type="checkbox"/> Laser, Transit or Level | <input type="checkbox"/> 4-inch Cap Inspection Port |
| <input type="checkbox"/> Tape measure | * <i>Optional</i> |

These guidelines for construction machinery must be followed during installation:

- Avoid direct contact with chambers when using construction equipment. Chambers require a 12-inch minimum of compacted cover to support a wheel load rating of 16,000 lbs/axle or equivalent to an H-10 AASHTO load rating.
- Only drive across the trenches when necessary. Never drive wheeled machinery over chambers.
- Avoid stones larger than 3 inches in diameter in backfill. Remove stones this size or larger that are in contact with chambers.

Excavating and Preparing the Site

Note: As is the case with conventional systems, do not install the systems in wet conditions or in overly moist soils, as this causes machinery to smear the soil.

1. Stake out location of all trenches and lines. Set elevations of the tank, pipe, and trench bottom.
2. Install sedimentation and erosion control measures. Temporary drainage swales/berms may be installed to protect the site during rainfall events.
3. Excavate and level 36" wide trenches with proper center-to-center separation. Verify that trenches are level or have the prescribed slope.

Note: Over excavate the trench width in areas where you are planning to contour.

4. Rake the bottom and sides if smearing has occurred while excavating. Remove any large stones and other debris. Do not use the bucket teeth to rake the trench bottom.

Note: Raking to eliminate smearing is not necessary in sandy soils. In fine textured soils (silts and clays), avoid walking in the trench to prevent compaction and loss of soil structure.

5. Verify that each trench is level using a level, transit, or laser.

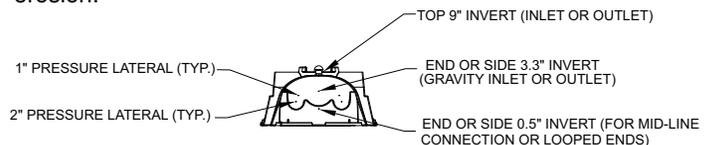
Preparing the End Cap

Note: Quick4 Plus and Quick4 Plus All-in-One Endcaps are available for use with the Quick4 Plus chambers on either end of the trench, depending upon installer's preference and configuration requirements.

1. With a hole saw drill an opening appropriate for pipe diameter being used (normally 3 - 4 inches) on front or side of end cap using center point marking (see illustration below) as a guide.
2. Snap off the molded splash plate located on the bottom front of the end cap.
3. Install splash plate into the appropriate slots below the inlet to prevent trench bottom erosion.



1 Drill end cap.



Installing the Quick4 Plus Inlet Adapter

Note: Available for use with Quick4 Plus All-in-One Endcap only. Invert options based on system design.

1. With a hole saw drill the pre-marked area on top of the Quick4 Plus All-in-One Endcap.
2. With a hole saw drill the Quick4 Plus Inlet Adapter where inlet and outlet pipes will be installed.
3. Insert the Quick4 Plus Inlet Adapter into the top of the Quick4 Plus All-in-One Endcap. Insert the Quick4 Plus Inlet Adapter until it snaps into place.



1 Drill end cap.

INSTALLATION INSTRUCTIONS

3. Insert a 4" Schedule 40 PVC pipe into the Quick4 Plus Inlet Adapter at the appropriate locations for the system design.

Installing the Quick4 Invert Adapter

Note: Available for use with Quick4 Plus All-in-One and the Quick4 Plus Endcaps. Invert options based on system design.

1. With a hole saw drill the pre-marked area on the front of either the Quick4 Plus Endcap or the Quick4 Plus All-in-One Endcap.

2. With a hole saw drill the pre-marked area on front of the Quick4 Invert Adapter.



2
Drill invert adapter.

3. Insert the Quick4 Invert Adapter into the front of the end cap.



3
Insert invert adapter.

4. Rotate invert adapter to desired angle.



4
Rotate to desired angle.

5. Screw Quick4 Invert Adapter into place at final position.



5
Screw into place.

6. Insert a 4" Schedule 40 PVC pipe into the front of the Quick4 Invert Adapter.



6
Insert pipe.

Installing the System

1. Check the header pipe to be sure it is level or has the prescribed slope.

2. Set the invert height as specified in the design from the bottom of the inlet.

3. Place the first chamber in the trench.

4. Place the back edge of the end cap over the inlet end of the first chamber. Be sure to line up the locking pins on the top of both the chamber and end cap.



4
Place end cap inlet end.

5. Insert the inlet pipe 2.5 inches into the opening on the front of the end cap.



Insert inlet pipe.

6. Lift and place the end of the next chamber onto the previous chamber by holding it at a 45-degree angle. Line up the chamber end between the connector hook and locking pin at the top of the first chamber. Lower the chamber to the ground to connect the chambers.

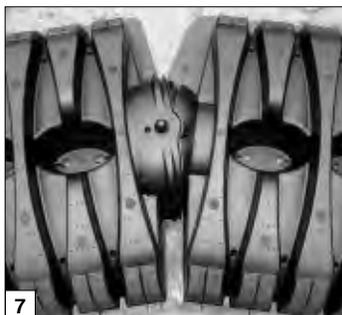


Connect chambers.

Note: When the chamber end is placed between the connector hook and locking pin at a 45-degree angle, the pin will be visible from the back side of the chamber.

Note: The connector hook serves as a guide to ensure proper connection and does not add structural integrity to chamber joint. Broken hooks will not affect the structure or void the warranty.

7. Swivel the chamber on the pin to achieve the proper direction for the trench layout.



Swivel chambers.

Note: The chamber allows up to 10-degree swivel in either direction at each joint.

8. Continue connecting chambers until the trench is completed.

Note: As chambers are installed, verify they are level or have the prescribed slope.

9. The last chamber in the trench requires an end cap. Lift the end cap at a 45-degree angle and align the connector hook on the top of the chamber with the raised slot on the top of the end cap. Lower the end cap to the ground and into place.



Place end cap outlet end.

Note: Place a few shovels of soil around the end cap to secure it during backfill.

10. To ensure structural stability, fill the sidewall area by pulling soil from the sides of the trench with a shovel. Start at the joints where the chambers

connect. Continue backfilling the entire sidewall area, making sure the fill covers the louvers.

11. Pack down fill by walking along the edges of trench and chambers.

Note: In wet or clay soils, do not walk in the sidewalls.

12. Proceed to the next trench and begin with Step 1.

Installing Quick4 Plus All-in-One Endcap as a Mid-line Connection

Note: See mid-line piping options on the back of this document.

1. With a hole saw drill an opening appropriate for the pipe diameter being used (normally 3 to 4 inches) on the side or on top of the Quick4 Plus All-in-One Endcap.

Note: Piping configurations are determined by the preference of the installer or designer. Please review drawings below for the functional benefits of each option.

2. Snap off the molded splash plate located on the bottom front of the end cap.

3. Install splash plate into the appropriate slots below the inlet to prevent trench bottom erosion.

4. Place the back edge of the end cap over the inlet end of the first chamber. Be sure to line up the locking pins on the top of both the chamber



All-in-One as mid-line connection.

Optional: Fasten the end cap to the chamber with a screw at the top of the end cap.

5. Insert the connection pipe 2.5 inches into the opening on the endcap.

6. Place the next chamber onto the endcap by holding it at a 45-degree angle. Line up the chamber end between the connector hook and locking pin at the top of the endcap. Lower the chamber to the ground to connect.

Repeat Steps 1 through 5 for additional trenches.

Installing Inspection Ports

Inspection ports may be installed on the chamber or the Quick4 Plus All-in-One Endcap. The Quick4 Plus Endcap does not allow inspection port construction.

Quick4 Plus All-in-One Inspection Port

1. With a hole saw drill the pre-marked area in the top of the Quick4 Plus All-in-One Endcap to create a 4-inch opening.

2. Set a cut piece of pipe of the appropriate length into the corresponding end cap's inspection port sleeve.

Note: The sleeve will accommodate up to a 4-inch Schedule 40 pipe.



INSTALLATION INSTRUCTIONS

3. Use two screws to fasten the pipe to the sleeve around the inspection port.
4. Attach a threaded cap or cleanout assembly onto the protruding pipe at the appropriate height.
5. A small valve cover box may be used if the inspection port is below the desired grade.

Chamber Inspection Port

1. With a hole saw drill the pre-marked area in the top of the chamber to create a 2.5-inch opening.

2. Set a cut piece of pipe of the appropriate length into the corresponding chamber's inspection port sleeve.

Note: The sleeve will accommodate up to a 2.5-inch Schedule 40 pipe.

3. Use two screws to fasten the pipe to the sleeve around the inspection port.

4. Attach a threaded cap or cleanout assembly onto the protruding pipe at the appropriate height.

5. A small valve cover box may be used if the inspection port is below the desired grade.



Chamber inspection port.

Covering the System

Before backfilling, the system must be inspected by a health officer or other official as required by state and local codes. Create an as-built drawing at this time for future records.

1. Backfill the trench by pushing fill material over the chambers with a backhoe. Keep a minimum of 12 inches of compacted cover over the chambers before driving over the system.

Note: Do not drive over the system while backfilling in sand.

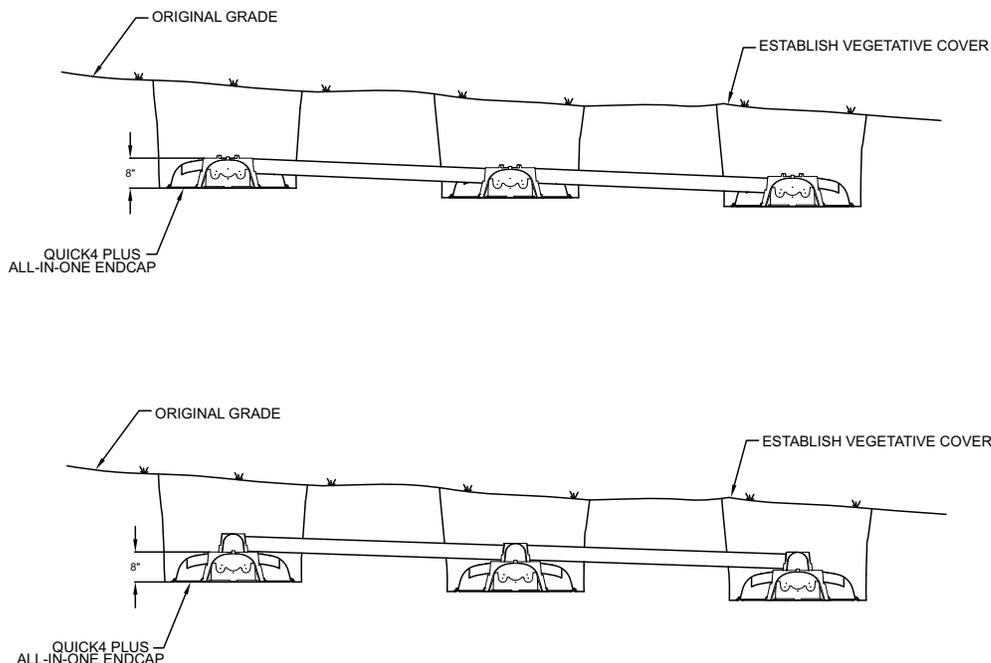
Note: For shallow cover applications, it is recommended that tracked construction equipment be used. You must mound 12 inches of soil over the system before driving over it, and then grade it back a minimum of 4 inches upon completion.

2. It is best to mound several inches of soil over the finished grade to allow for settling. This also ensures that runoff water is diverted away from the system.

3. After the system is covered, the site should be seeded or sodded to prevent erosion.

Note: If the system is for new home construction, it is important to leave marking stakes along the boundary of the system. This will notify contractors of the system location so they will not cross it with equipment or vehicles.

EXAMPLE: QUICK4 PLUS ALL-IN-ONE ENDCAP AS A MID-LINE CONNECTION



Five Year Limited Warranty Performance Warranty in Accordance with 15A NCAC 18A.1969

Infiltrator Systems Inc. (hereinafter "Infiltrator") hereby extends, for a period of FIVE (5) YEARS, the following Limited Warranty to the system owner who acquires through an authorized Infiltrator Systems installer a new Infiltrator nitrification trench system including the EZflow EPS Aggregate System, Quick4 Chamber System, or Quick4 Plus Chamber System, and other accessories manufactured by Infiltrator (herein after collectively the Units) located in the State of North Carolina. The Units are warranted to be free from defective materials and workmanship and to perform in accordance with the state performance requirements (15A NCAC 18A Section.1900) in effect on the date of installation. This Limited Warranty applies only to those Units with a trench length modification greater than a 25% reduction (greater than 21% reduction for Quick4 Units) as compared to the sizing standard for a conventional gravel trench as permitted by the State of North Carolina. This Limited Warranty is subject to the terms and conditions stated below.

I. WARRANTY ELIGIBILITY

The system owner is eligible for this Limited Warranty provided all of the terms and conditions of this Limited Warranty are strictly followed. The terms of this warranty shall transfer from the original system owner to subsequent system owners for the duration of this limited warranty. This Limited Warranty covers only the performance of the Units as manufactured and installed in accordance with the manufacturer's design specifications and current state regulatory approval.

II. CONDITIONS OF LIMITED WARRANTY

This Limited Warranty shall only apply if the Units are installed for use with domestic strength effluent, located in the State of North Carolina, and all of the following terms and conditions are satisfied:

- (i) The design and installation of the Units is according to all applicable plumbing and building codes, ordinances, requirements and regulations.
- (ii) The design and installation of the Units is strictly according to the rules and regulations of the North Carolina state agency or state-authorized agency that is responsible for inspection and approval.
- (iii) The design and installation of the Units is strictly according to all applicable permitting procedures for the Units adopted by the North Carolina state agency or state authorized agency that is responsible for inspection and approval.
- (iv) The Units are subject to use permitted by the applicable North Carolina rules and regulations for on-site systems.
- (v) Only an authorized Infiltrator installer shall perform the installation of the Units.

III. WHAT IS WARRANTED AND FOR HOW LONG

The Units are warranted for FIVE (5) YEARS from the date of issuance of the Certificate of Occupancy, or date of issuance of the Operation Permit, whichever is later. If the Units fail within the five (5) year period of this Limited Warranty and all of the terms, conditions, and requirements of this Limited Warranty have been met, Infiltrator shall provide all materials and labor that may be necessary to provide a fully functional wastewater system at no cost to the Owner. This section shall not be construed to require that a manufacturer warrant an innovative wastewater system that is not properly sized to meet the design load required for a particular use, that is improperly installed, or that is improperly operated and maintained, in accordance with 15A NCAC 18A.1900 et. seq. Warranty repairs such as full replacement of the nitrification system, extension of the nitrification system or other repairs shall be completed pursuant to a repair Authorization to Construct to be issued by the local health department in accordance with Rule .1961(1). A system failure is defined by North Carolina 15A NCAC 18A.1900 rules.

IV. WHAT IS NOT COVERED BY THIS LIMITED WARRANTY

1. The septic tank and all septic tank filters, unless required to make the system fully functional.
2. Effluent distribution box(es) and headers, unless required to make the system fully functional.
3. Improper installation.
4. Failure due to excessive use or improper use as defined by state rules for on-site wastewater systems, including, but not limited to, excessive water usage, improper grease disposal, or failure to remove septic tank solids (digested sludge).
5. Landscaping costs other than those specified by rule.
6. Failure due to improper sizing as defined by state rules.
7. Repair work performed prior to a claim or which is done without Infiltrator's authorization.
8. This Limited Warranty does not extend to incidental, consequential, special, indirect, or punitive damages.
9. Drainfields repaired or modified by an unauthorized Infiltrator installer.

V. INFILTRATOR'S OBLIGATIONS:

No representative of Infiltrator has the authority to change this warranty in any manner whatsoever, or to extend this warranty. No warranty applies to any party other than the original system owner or subsequent system owner.

VI. OWNER'S OBLIGATION:

1. Must have signed and dated Operation Permit from the duly authorized representative of the North Carolina state agency or state authorized agency that is responsible for inspection and approval of the Units.
2. Must have a Warranty Certificate from an authorized Infiltrator installer.
3. The system owner must notify Infiltrator in writing at its corporate headquarters within 90 days of being notified by an authorized agent of the state that the system has failed. Notice shall be sent to Infiltrator Systems Inc., 6 Business Park Road, P.O. Box 768, Old Saybrook, CT 06475.
4. The system owner must have the septic tank solids (digested sludge) properly removed in accordance with state rules for on-site systems.

VII. DISCLAIMER AND LIMITATION ON IMPLIED WARRANTIES

ALL WARRANTIES AND REMEDIES CONTAINED HEREIN ARE EXCLUSIVE AND THERE ARE NO OTHER WARRANTIES. ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND OF FITNESS FOR A PARTICULAR PURPOSE, IMPOSED ON THE SALE OF THE UNITS TO THE NORTH CAROLINA SYSTEM OWNER, ARE, BY LAW, LIMITED TO FIVE (6) YEAR DURATION FOR THE UNITS AND THEIR CONSTITUENT PARTS, AND ARE SUBJECT TO THE TERMS AND CONDITIONS OF THIS LIMITED WARRANTY. THIS WARRANTY DOES NOT EXTEND TO INCIDENTAL, CONSEQUENTIAL, SPECIAL, DIRECT OR INDIRECT DAMAGES, WHETHER ARISING IN CONTRACT OR TORT. INFILTRATOR SHALL NOT BE LIABLE FOR LOSS OR DAMAGE TO PERSONAL PROPERTY, PENALTIES OR LIQUIDATED DAMAGES, LOSS OF PRODUCTION AND PROFITS, OVEHEAD COSTS, OR OTHER LOSS OR EXPENSE. SPECIFICALLY EXCLUDED ARE DAMAGE DUE TO WATER DAMAGE, ORDINARY WEAR AND TEAR, ALTERATION, ACCIDENT, MISUSE, ABUSE, OR NEGLIGENCE; THE UNITS BEING SUBJECTED TO STRESSES OR VEHICULAR TRAFFIC GREATER THAN THOSE PRESCRIBED IN THE INSTALLATION INSTRUCTIONS OR OPERATION INSTRUCTIONS; FAILURE TO MAINTAIN THE MINIMUM GROUND COVERS SET FORTH IN THE OPERATION INSTRUCTIONS; THE SYSTEM FAILURES DETERMINED TO BE DUE TO NONCOMPLIANCE WITH THE ON-SITE WASTEWATER LAW OR RULES (130A-133 et seq.; 15A NCAC 18A Section .1900) INCLUDING BUT NOT LIMITED TO IMPROPER SITING, EXCESSIVE WATER USAGE, IMPROPER GREASE DISPOSAL, PLACEMENT OF IMPROPER MATERIALS INTO THE SYSTEM, IMPROPER OPERATION OR IMPROPER MAINTENANCE; OR ANY OTHER EVENT NOT CAUSED BY INFILTRATOR. THIS WARRANTY SHALL BE VOID IF THE SYSTEM OWNER FAILS TO COMPLY WITH ALL OF THE TERMS SET FORTH IN SECTION II AND IV OF THIS FIVE YEAR LIMITED WARRANTY.

FURTHERMORE, IN NO EVENT SHALL INFILTRATOR BE RESPONSIBLE FOR ANY LOSS OR DAMAGE TO THE ORIGINAL OR SUBSEQUENT SYSTEM OWNER(S), THE UNITS, OR ANY THIRD PARTY RESULTING FROM SHIPMENT OF THE UNITS, OR FROM ANY PRODUCT LIABILITY CLAIMS OF THE ORIGINAL OR SUBSEQUENT SYSTEM OWNER(S) OR ANY THIRD PARTY. THIS LIMITED WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, NORTH CAROLINA LAW MAY GIVE YOU CERTAIN SPECIFIC OTHER RIGHTS WHICH ARE NOT MENTIONED HEREIN.

VIII. TRANSFER OF WARRANTY

This warranty extends to the original system owner and each subsequent owner of the system during the term of this limited warranty.

IX. INSTALLER CERTIFICATION

"I acknowledge to Infiltrator and the system owner that the wastewater system and the units have been installed in accordance with the installation instructions of Infiltrator, state wastewater laws and rules, the innovative wastewater system approval, the improvement permit and authorization to construct, and any conditions on the permit or authorization to construct, and other applicable laws and rules."



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