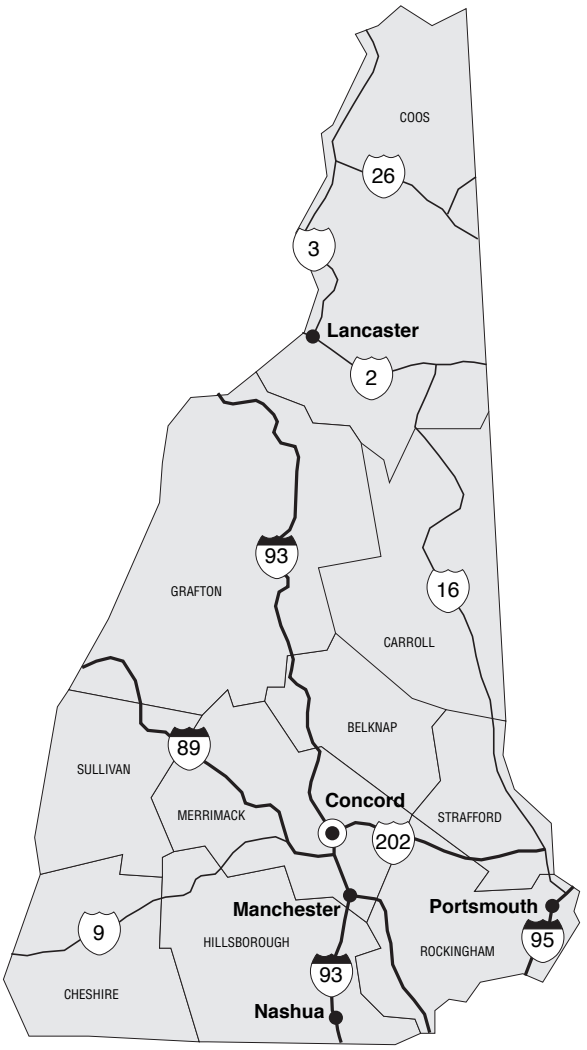
Infiltrator™
Water Technologies
Part of ADS

New Hampshire

Design and Installation Manual for Quick4 Chambers in New Hampshire



The purpose of this manual is to provide specific design and installation information pertinent for the use of Infiltrator chambers in New Hampshire.

For more detailed design information, please contact Infiltrator Water Technologies at 1-800-221-4436

Infiltrator Chambers in New Hampshire	
INTRODUCTION	2
PRODUCTS	5
CHAMBER RATINGS	9
CHAMBER CONFIGURATIONS	13
INSTALLATION INSTRUCTIONS	19
PRESSURE DISTRIBUTION	22
WARRANTY	23

New Hampshire

Quick4 and Quick4 Plus Chambers

The Quick4 Equalizer 24 and Quick4 Equalizer 24 Low Profile chambers can be installed in an 18-inch wide or 24-inch wide trench. The Quick4 Plus Standard Low Profile, Quick4 Standard and Quick4 High Capacity chambers fit into a 36-inch wide trench. All Quick4 chambers offer advanced contouring capability and multiple piping options with their MultiPort™ Endcap. Ask your local Infiltrator sales representative for specific information on various system-inletting options. All Quick4 chambers can be installed in cluster systems and be specified for pressure dosing applications.

Quick4 Equalizer 24 Nominal Chamber Dimensions	
Dimensions:	16”W x 53”L x 11”H
Storage Capacity:	20.8 gal
Invert Elevation:	6”
Effective Length	48”

QUICK4 EQUALIZER 24



Quick4 Standard Nominal Chamber Dimensions	
Dimensions:	34”W x 53”L x 12”H
Storage Capacity:	44 gal
Invert Elevation:	8”
Effective Length	48”

QUICK4 STANDARD



Quick4 High Capacity Nominal Chamber Dimensions	
Dimensions:	34”W x 53”L x 16”H
Storage Capacity:	62 gal
Invert Elevation:	11.5”
Effective Length	48”

QUICK4 HIGH CAPACITY



Quick4 Plus Standard Nominal Chamber Dimensions	
Dimensions:	34”W x 48”L x 12”H
Storage Capacity:	45 gal
Invert Elevation:	5.3”, 8”
Effective Length	48”

QUICK4 PLUS STANDARD



Quick4 Plus Standard Low Profile (LP) Nominal Chamber Dimensions	
Dimensions:	34”W x 48”L x 8”H
Storage Capacity:	32 gal
Invert Elevation:	3.3”, 8”
Effective Length	48”

QUICK4 PLUS STANDARD LOW PROFILE (LP)



INTRODUCTION

Quick4 Plus Equalizer 24 Low Profile Nominal Chamber Dimensions

Dimensions:	15”W x 53”L x 8”H
Storage Capacity:	19 gal
Invert Elevation:	2”
Effective Length	48”

QUICK4 PLUS EQUALIZER 24 LOW PROFILE (LP)



High Capacity H-20 Nominal Chamber Dimensions

Size:	34”W x 75”L x 16”H
Storage Capacity:	114 gal
Invert Elevation:	11”
Effective Length	75”

HIGH CAPACITY H-20



Quick4 Plus High Capacity Nominal Chamber Dimensions

Size:	34”W x 53”L x 14”H
Storage Capacity:	54 gal
Invert Elevation:	8”
Effective Length	48”

QUICK4 PLUS HIGH CAPACITY



NOTE: All invert elevations are for 4” pipe sizing. Invert elevations for small diameter pressure dosing applications will very per pipe size. Install inlet piping at upper locations on the endcap.

Reduced Vertical Profile

The Quick4 Plus Standard LP and the Quick4 Equalizer 24 LP chamber provides a lower vertical profile than previous chamber models. This feature provides two distinct benefits:

Promotion of aerobic treatment - The reduced vertical profile moves infiltration closer to the ground surface, thereby improving the potential for subsoil aeration from the atmosphere. This promotes oxygen recharge to the biologically active vadose zone beneath the infiltrative surface and helps support aerobic decomposition of wastewater.

Increased vertical separation - For a drainfield situated where a shallow groundwater table, impervious conditions, or other restrictions limit vertical separation distance, the reduced height of the LP chamber increases separation distance. This provides more soil than can contribute to wastewater treatment between the infiltrative surface and limiting condition.

IM-Series Septic Tanks

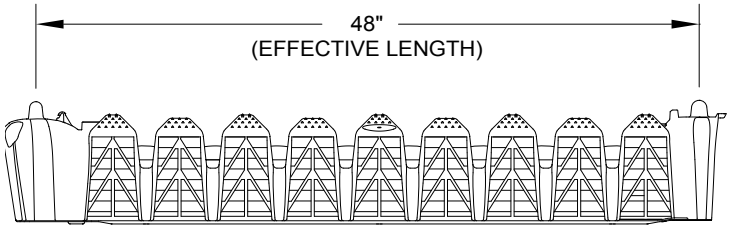
The IM-Series Septic Tanks are durable and watertight. The injection-molded plastic tanks offers exceptional strength in a two-piece design efficient for shipping and local assembly. The IM-Series Septic Tanks enable a wide variety of installation options including shallow, multiple and serial tank configurations. No special backfill, installation or waterfilling procedures are required. Tanks can be pumped dry during pump-outs and can be installed with 6” to 48” of cover. Contact Infiltrator for specific information on IM-Tanks, CAD drawings and details are available.

Infiltrator IM-Series Tanks			
Tank	 **IM-540**	 **IM-1060**	 **IM-1530**
Applications	Suitable for use as a pump tank, trash-tank, rainwater (non-potable) tank, or as the second compartment of an in-series septic tank.	Suitable for use as a pump tank, septic tank or rainwater tank, shallow, multiple, and serial tank configurations.	Suitable for use as a pump tank, septic tank or rainwater tank, shallow, multiple, and serial tank configurations.
Working Capacity	475 gal (1799 L)	1094 gal (4141 L)	1537 gal (5818 L)
Total Capacity	552 gal (2089 L)	1287 gal (4872 L)	1787 gal (6765 L)

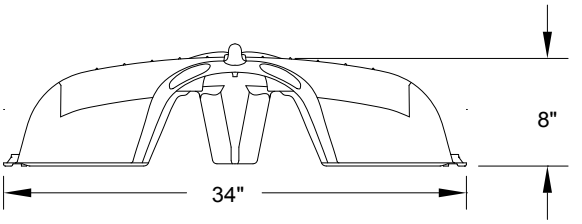
PRODUCTS

Quick4 Plus Standard Low Profile Chamber

SIDE AND END VIEWS (not to scale)

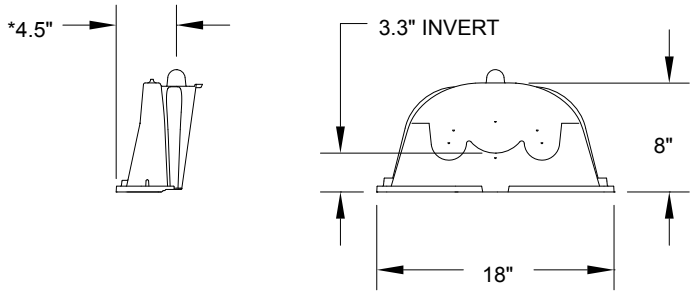


NOTE: The Quick4 Plus Standard LP chamber is compatible with the Quick4 Plus 8 Endcap and Quick4 Plus All-in-One 8 Endcap.



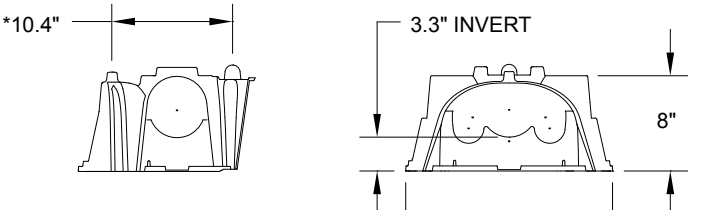
Quick4 Plus 8 Endcap

SIDE AND END VIEWS (not to scale)



Quick4 Plus All-in-One 8 Endcap

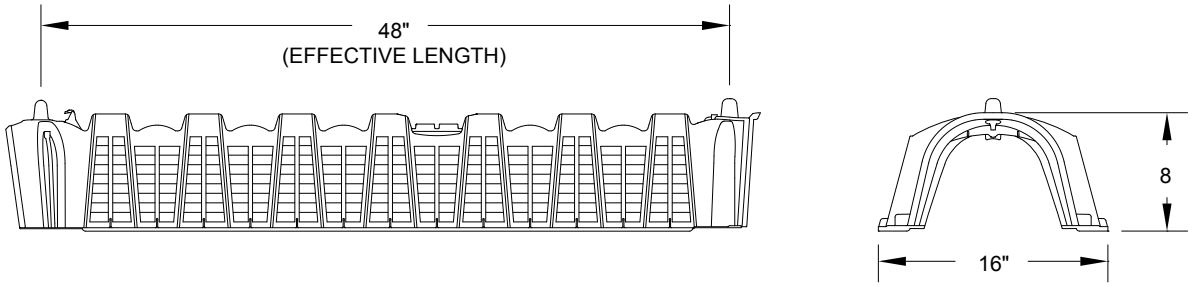
SIDE AND END VIEWS (not to scale)



**Effective Length When Connected*

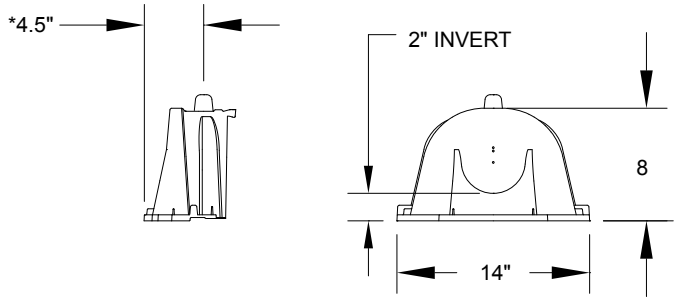
Quick4 Equalizer 24 Low Profile Chamber

SIDE AND END VIEWS (not to scale)



Quick4 EQ24 LP Endcap

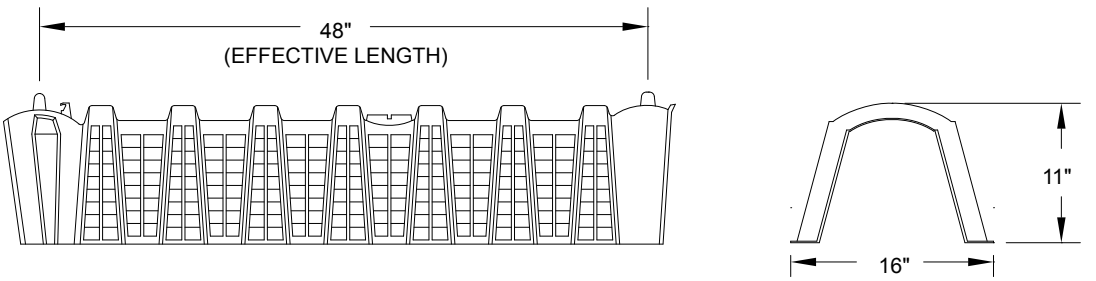
SIDE AND END VIEWS (not to scale)



**Effective Length When Connected*

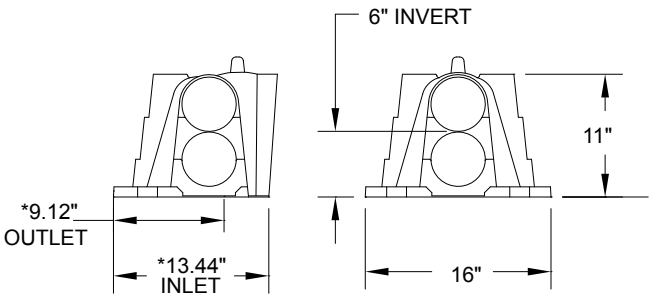
Quick4 Equalizer 24 Chamber

SIDE AND END VIEWS (not to scale)



Quick4 Equalizer 24 MultiPort Endcap

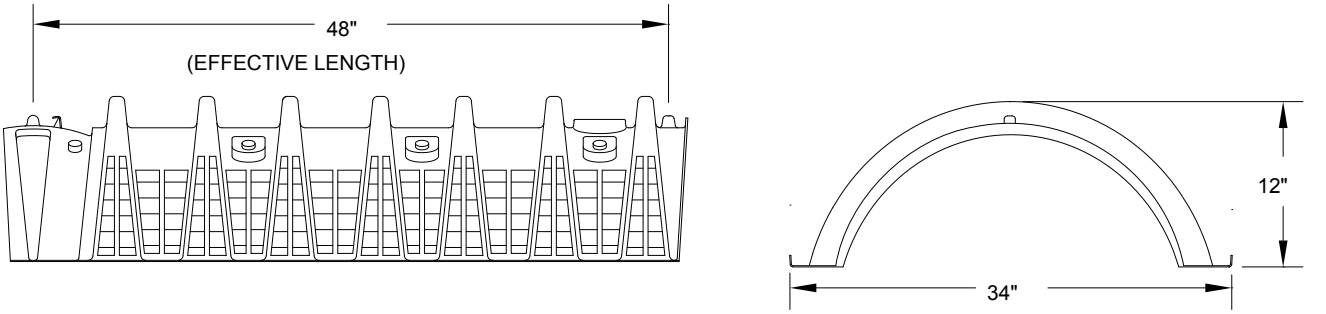
SIDE AND END VIEWS (not to scale)



**Effective Length When Connected*

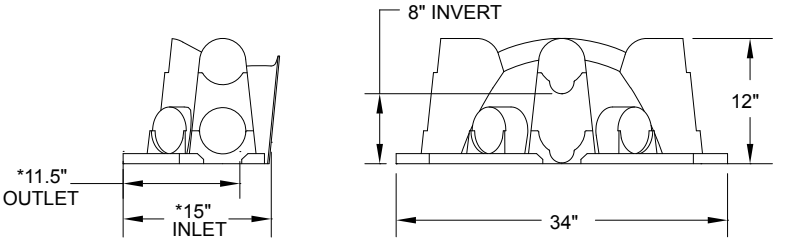
Quick4 Standard Chamber

SIDE AND END VIEWS (not to scale)



Quick4 Standard MultiPort Endcap

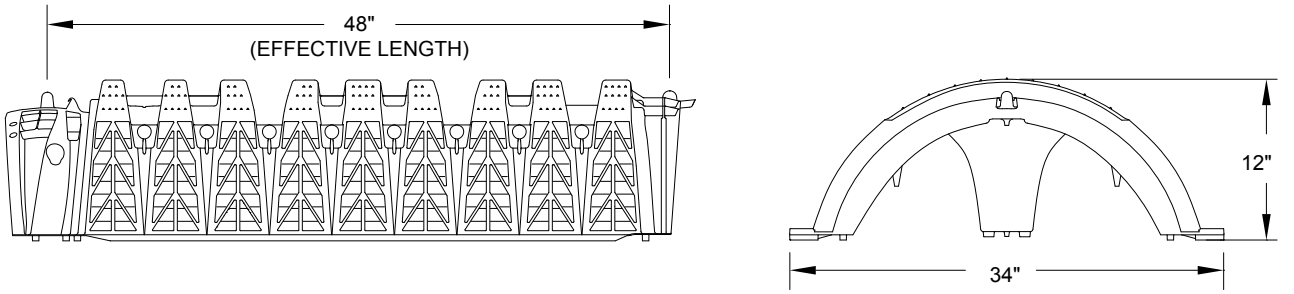
SIDE AND END VIEWS (not to scale)



**Effective Length When Connected*

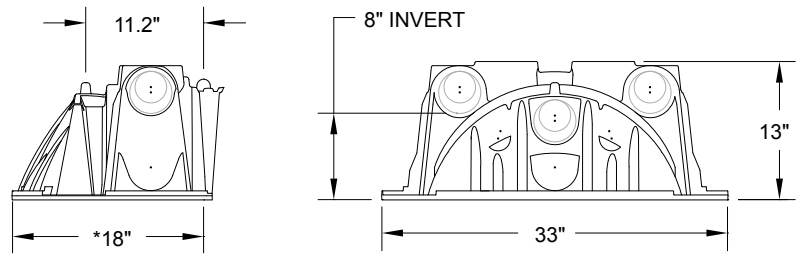
Quick4 Plus Standard Chamber

SIDE AND END VIEWS (not to scale)



Quick4 Plus Standard MultiPort Endcap

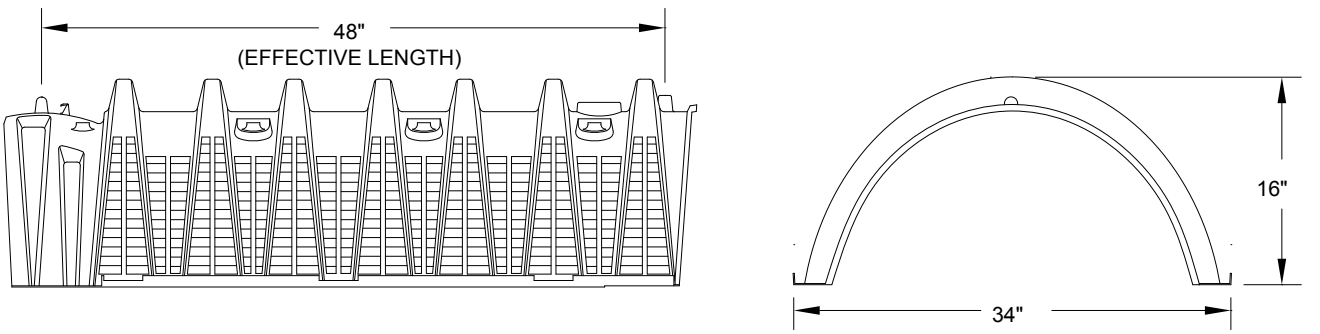
SIDE AND END VIEWS (not to scale)



**Effective Length When Connected*

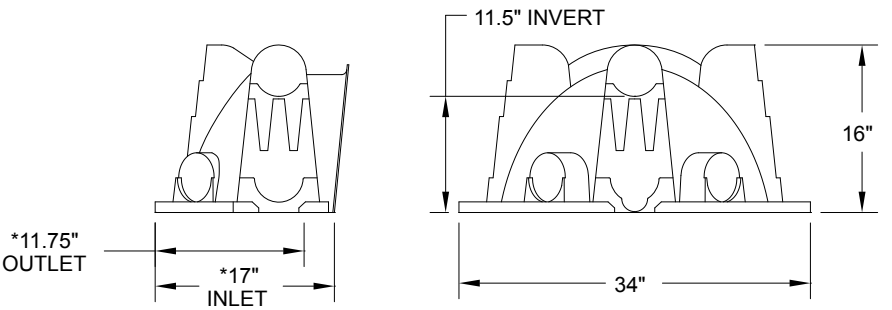
Quick4 High Capacity Chamber

SIDE AND END VIEWS (not to scale)



Quick4 High Capacity MultiPort Endcap

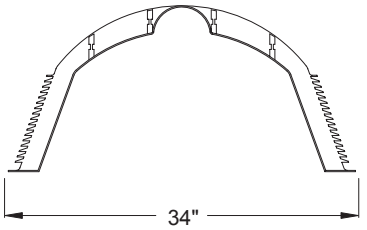
SIDE AND END VIEWS (not to scale)

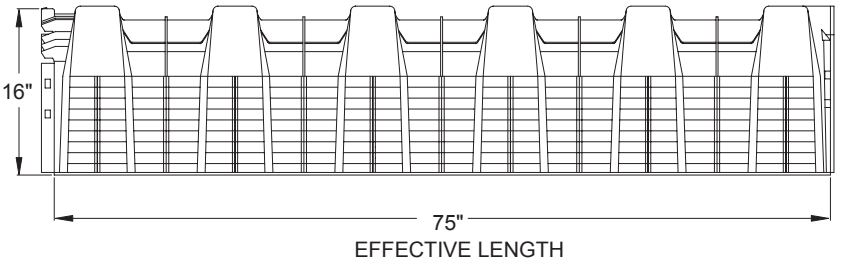


**Effective Length When Connected*

High Capacity H-20 Chamber

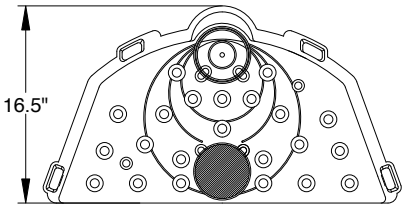
SIDE AND END VIEWS (not to scale)

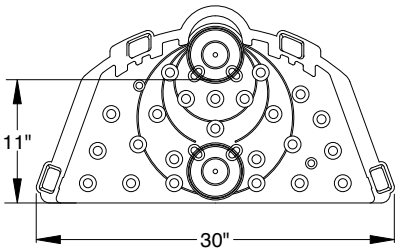




Posilock Endplates

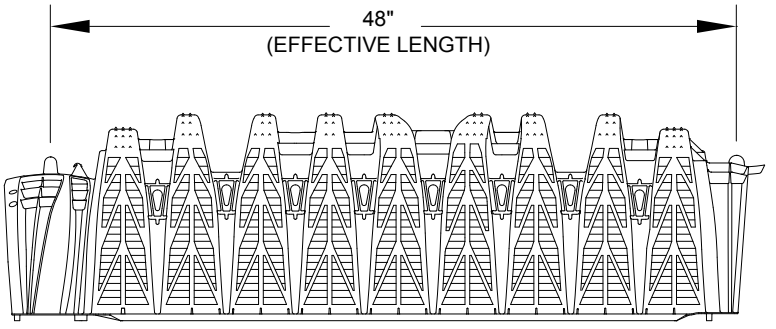
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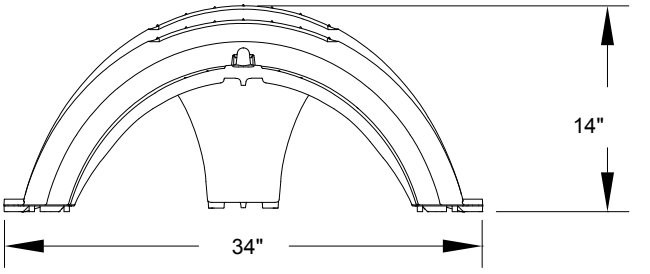




Quick4 Plus High Capacity Chamber

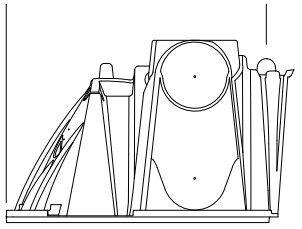
SIDE AND END VIEWS (not to scale)

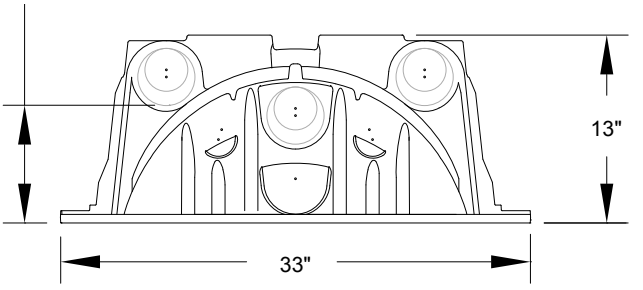




Quick4 Plus High Capacity MultiPort Endcap

SIDE AND END VIEWS (not to scale)





CHAMBER RATINGS

Quick4 and Quick4 Plus Chamber and Endcap Ratings

TABLE 1. CHAMBER RATINGS			
Chamber Model	Dimensions W x L x H Inches	Cluster	Trench
		Effective Leaching Area SF/LF[1]	Effective Leaching Area SF/LF[1]
Quick4 Equalizer 24 Low Profile	16 x 48 x 8	1.33	2.33
Quick4 Equalizer 24	16 x 48 x 12	1.33	2.83
Quick4 Plus Standard Low Profile	34 x 48 x 8	2.83	3.89
Quick4 Standard	34 x 48 x 12	2.83	4.17
Quick4 Plus Standard	34 x 48 x 12	2.83	4.29
Quick4 High Capacity Quick4 Plus High Capacity	34 x 48 x 16	2.83	4.75
High Capacity H-20 Chamber	34 x 75 x16	2.83	4.66

TABLE 2. Endcap RATINGS (per pair)		
Chamber Model	Model of Corresponding Endcap	Cluster and Trench
		Effective Leaching Area per Pair of Endcaps[1] SF/Pair
Quick4 Equalizer 24 Low Profile	Quick4 Equalizer 24 Low Profile Endcap	NA
Quick4 Equalizer 24	Quick4 EQ24 Multiport Endcap	2.3
Quick4 Plus Standard Low Profile	Quick4 Plus All-in-One 8 Endcap	5.8
Quick4 Plus Standard Low Profile	Quick4 Plus 8 Endcap	2.0
Quick4 Standard	Quick4 Standard Multiport Endcap	4.6
Quick4 High Capacity	Quick4 High Capacity Multiport Endcap	6.0
Quick4 Plus High Capaity Quick4 Plus Standard	Quick4 Plus All-in-One 12 Endcap	6.1
High Capacity H-20 Chamber	Posilock	NA

Notes:

1. The chamber ratings above do not include a reduction. A reduction of 40% in required leaching area is allowed in residential and commercial applications, including those that have multiple units and are required by the rules to be sized commercially. The use must be strictly residential.
2. The Department of Environmental Services determined that Infiltrator Quick4 chambers are an acceptable substitution for other plastic chambers, provided that the overall size and capacity of the disposal area is not diminished below the design. Any substitutions must be approved and requested by the licensed designer prior to installation.
3. Per Env-Wq 1017.03 (c) Chambers having louvered side-walls or other such openings that allow air from the surrounding soils to flow into the chamber shall not need additional venting unless more than 18 inches of backfill and loam will be placed on the chambers.
4. Infiltrator chambers systems may be installed and backfilled with native soil or with fill per design spec.
5. When using sand fill, sand shall meet code specifications, and be placed per plan requirements.
6. Use of the 40% reduction in leaching area assumes residential-strength wastewater.

CHAMBER RATINGS

Quick4 and Quick4 Plus Chambers in Trench Systems

TABLE 3. TRENCH SIZING

Quick4 Equalizer 24 Low Profile (Q4EQ24LP)
Quick4 Equalizer 24 (Q4EQ24)
Quick4 Plus Standard Low Profile (Q4+STDLP)
Quick4 Standard (Q4STD) & Quick4 Plus Standard (Q4+STD)
Quick4 High Capacity (Q4HC)
Quick4 Plus High Capacity (Q4+HC)

Percolation Rate (Minutes per inch)	Minimum Number of Chambers Required (see TABLE 2 for rating benefit of endcaps)													
	2 Bedrooms 300 GPD Design Flow							3 Bedrooms 450 GPD Design Flow						
	Sq. ft.	Q4 STD	Q4+STD	Q4+ STDLP	Q4EQ24	Q4 EQ24LP	Q4HC Q4+HC	Sq. ft.	Q4STD	Q4+STD	Q4+ STDLP	Q4EQ24	Q4 EQ24LP	Q4HC Q4+HC
2	400	15	14	16	22	26	13	560	21	20	22	30	37	18
4	425	16	15	17	23	28	14	617	23	22	24	33	40	20
6	450	17	16	18	24	30	15	675	25	24	26	36	44	22
8	500	18	18	20	27	33	16	750	27	27	29	40	49	24
10	550	20	20	22	30	36	18	825	30	29	32	44	54	27
12	600	22	21	24	32	39	19	900	33	32	35	48	59	29
14	637	23	23	25	34	42	21	955	35	34	37	51	62	31
16	675	25	24	26	36	44	22	1010	37	36	39	54	66	32
18	712	26	25	28	38	46	23	1065	39	38	41	57	69	34
20	750	27	27	29	40	49	24	1120	41	40	44	60	73	36
22	775	28	28	30	42	50	25	1158	42	41	45	62	75	37
24	800	29	28	31	43	52	26	1196	44	42	46	64	78	38
26	825	30	29	32	44	54	27	1234	45	44	48	66	80	39
28	850	31	30	33	46	55	27	1272	46	45	49	68	83	41
30	875	32	31	34	47	57	28	1310	48	46	51	70	85	42
32	900	33	32	35	48	59	29	1348	49	48	52	72	87	43
34	925	34	33	36	50	60	30	1386	50	49	54	74	90	44
36	950	35	34	37	51	62	30	1424	52	50	55	76	92	45
38	975	36	35	38	52	63	31	1462	53	52	57	78	95	47
40	1000	36	35	39	54	65	32	1500	54	53	58	80	97	48
42	1050	38	37	41	56	68	34	1575	57	56	61	84	102	50
44	1100	40	39	43	59	71	35	1650	60	58	64	88	107	53
46	1150	42	41	45	62	75	37	1725	63	61	67	92	112	55
48	1200	44	42	47	64	78	38	1800	65	63	70	96	117	57
50	1250	45	44	49	67	81	40	1875	68	66	73	100	121	60
52	1300	47	46	50	70	84	42	1950	71	69	75	104	126	62
54	1350	49	48	52	72	88	43	2025	73	71	78	108	131	64
56	1400	51	49	54	75	91	45	2100	76	74	81	112	136	67
58	1450	53	51	56	77	94	46	2175	79	77	84	116	141	69
60	1500	54	53	58	80	97	48	2250	81	79	87	120	146	72

Notes:

1. Trenches shall be separated by at least 2 feet of undisturbed soil or fill or as per Env-WQ 1000.
2. All Trenches shall be of equal length unless serial distribution is used.
3. The maximum length of each trench line shall be 100'.
4. Combined the Quick4 and Quick4 Plus endcaps add an increased sizing benefit to the system. Two endcaps are required for each row of chambers. The appropriate sizing factor may be applied in a cluster or trench system to account for the endcaps. The minimum number of chambers shown above may be reduced by accounting for the area/ length provided by the endcaps.
5. When using sand fill, sand shall meet code specifications, and be placed per plan.
6. Sizing includes the 40% reduction.

CHAMBER RATINGS

Quick4 and Quick4 Plus Chambers in Trench Systems continued

Percolation Rate (Minutes per inch)	Minimum Number of Chambers Required (see TABLE 2 for rating benefit of endcaps)													
	4 Bedrooms 600 GPD Design Flow							Each Additional Bedroom						
	Sq. ft.	Q4 STD	Q4+STD	Q4+ STDLP	Q4EQ24	Q4 EQ24LP	Q4HC Q4+HC	Sq. ft.	Q4 STD	Q4+STD	Q4+ STDLP	Q4EQ24	Q4 EQ24LP	Q4HC Q4+HC
2	750	27	27	29	40	49	24	188	7	7	8	10	13	6
4	825	30	29	32	44	54	27	210	8	8	9	12	14	7
6	900	33	32	35	48	59	29	233	9	9	9	13	16	8
8	1000	36	35	39	54	65	32	255	10	9	10	14	17	9
10	1100	40	39	43	59	71	35	278	10	10	11	15	18	9
12	1200	44	42	47	64	78	38	300	11	11	12	16	20	10
14	1275	46	45	50	68	83	41	319	12	12	13	17	21	11
16	1350	49	48	52	72	88	43	338	13	12	13	18	22	11
18	1425	52	50	55	76	92	45	357	13	13	14	19	24	12
20	1500	54	53	58	80	97	48	375	14	14	15	20	25	12
22	1550	56	55	60	83	100	49	387	14	14	15	21	25	13
24	1600	58	56	62	85	104	51	400	15	14	16	22	26	13
26	1650	60	58	64	88	107	53	412	15	15	16	22	27	14
28	1700	62	60	66	91	110	54	425	16	15	17	23	28	14
30	1750	63	62	68	93	113	56	437	16	16	17	24	29	14
32	1800	65	63	70	96	117	57	449	17	16	18	24	29	15
34	1850	67	65	72	99	120	59	462	17	17	18	25	30	15
36	1900	69	67	74	101	123	60	475	18	17	19	26	31	15
38	1950	71	69	75	104	126	62	488	18	18	19	26	32	16
40	2000	72	70	77	107	130	64	500	18	18	20	27	33	16
42	2100	76	74	81	112	136	67	525	19	19	21	28	34	17
44	2200	80	77	85	117	142	70	550	20	20	22	30	36	18
46	2300	83	81	89	123	149	73	575	21	21	23	31	38	19
48	2400	87	84	93	128	155	76	600	22	21	24	32	39	19
50	2500	90	88	97	133	162	79	625	23	22	25	34	41	20
52	2600	94	91	100	139	168	83	650	24	23	25	35	42	21
54	2700	98	95	104	144	175	86	675	25	24	26	36	44	22
56	2800	101	98	108	149	181	89	700	26	25	27	38	46	23
58	2900	105	102	112	154	188	92	725	27	26	28	39	47	23
60	3000	108	105	116	160	194	95	750	27	27	29	40	49	24

Notes:

1. Trenches shall be separated by at least 2 feet of undisturbed soil or fill or as per Env-WQ 1000.
2. All Trenches shall be of equal length unless serial distribution is used.
3. The maximum length of each trench line shall be 100'.
4. Combined the Quick4 and Quick4 Plus endcaps add an increased sizing benefit to the system. Two endcaps are required for each row of chambers. The appropriate sizing factor may be applied in a cluster or trench system to account for the endcaps. The minimum number of chambers shown above may be reduced by accounting for the area/length provided by the endcaps.
5. When using sand fill, sand shall meet code specifications, and be placed per plan.

CHAMBER RATINGS

Quick4 and Quick4 Plus Chambers in Cluster Systems

TABLE 4. CLUSTER SIZING

Quick4 Equalizer 24 Low Profile (Q4EQ24LP)
Quick4 Equalizer 24 (Q4EQ24)
Quick4 Plus Standard Low Profile (Q4+STDLP)
Quick4 Standard (Q4STD) & Quick4 Plus Standard (Q4+STD)
Quick4 High Capacity (Q4HC)
Quick4 Plus High Capacity (Q4+HC)

Percolation Rate (Minutes per inch)	Minimum Number of Chambers Required (see TABLE 2 for rating benefit of end caps)											
	2 Bedrooms 300 GPD Design Flow			3 Bedrooms 450 GPD Design Flow			4 Bedrooms 600 GPD Design Flow			Each Additional Bedroom		
	Square Feet	Q4EQ24LP & Q4EQ24	Q4+STDLP, Q4STD, Q4HC & Q4+STD, Q4+HC	Square Feet	Q4EQ24LP & Q4EQ24	Q4+STDLP, Q4STD, Q4HC & Q4+STD, Q4+HC	Square Feet	Q4EQ24LP & Q4EQ24	Q4+STDLP, Q4STD, Q4HC & Q4+STD, Q4+HC	Square Feet	Q4EQ24LP & Q4EQ24	Q4+STDLP, Q4STD, Q4HC & Q4+STD, Q4+HC
2	400	46	22	560	64	30	750	85	40	188	22	10
4	425	49	23	617	70	33	825	94	44	210	24	12
6	450	51	24	675	77	36	900	102	48	233	27	13
8	500	57	27	750	85	40	1000	114	54	255	29	14
10	550	63	30	825	94	44	1100	125	59	278	32	15
12	600	68	32	900	102	48	1200	136	64	300	34	16
14	637	73	34	955	109	51	1275	145	68	319	37	17
16	675	77	36	1010	115	54	1350	153	72	338	39	18
18	712	81	38	1065	121	57	1425	162	76	357	41	19
20	750	85	40	1120	127	60	1500	170	80	375	43	20
22	775	88	42	1158	132	62	1550	176	83	387	44	21
24	800	91	43	1196	136	64	1600	182	85	400	46	22
26	825	94	44	1234	140	66	1650	187	88	412	47	22
28	850	97	46	1272	144	68	1700	193	91	425	49	23
30	875	100	47	1310	149	70	1750	199	93	437	50	24
32	900	102	48	1348	153	72	1800	204	96	449	51	24
34	925	105	50	1386	157	74	1850	210	99	462	53	25
36	950	108	51	1424	162	76	1900	216	101	475	54	26
38	975	111	52	1462	166	78	1950	221	104	488	56	26
40	1000	114	54	1500	170	80	2000	227	107	500	57	27
42	1050	119	56	1575	179	84	2100	238	112	525	60	28
44	1100	125	59	1650	187	88	2200	250	117	550	63	30
46	1150	131	62	1725	196	92	2300	261	123	575	66	31
48	1200	136	64	1800	204	96	2400	272	128	600	68	32
50	1250	142	67	1875	213	100	2500	284	133	625	71	34
52	1300	148	70	1950	221	104	2600	295	139	650	74	35
54	1350	153	72	2025	230	108	2700	306	144	675	77	36
56	1400	159	75	2100	238	112	2800	317	149	700	80	38
58	1450	165	77	2175	247	116	2900	329	155	725	83	39
60	1500	170	80	2250	255	120	3000	340	160	750	85	40

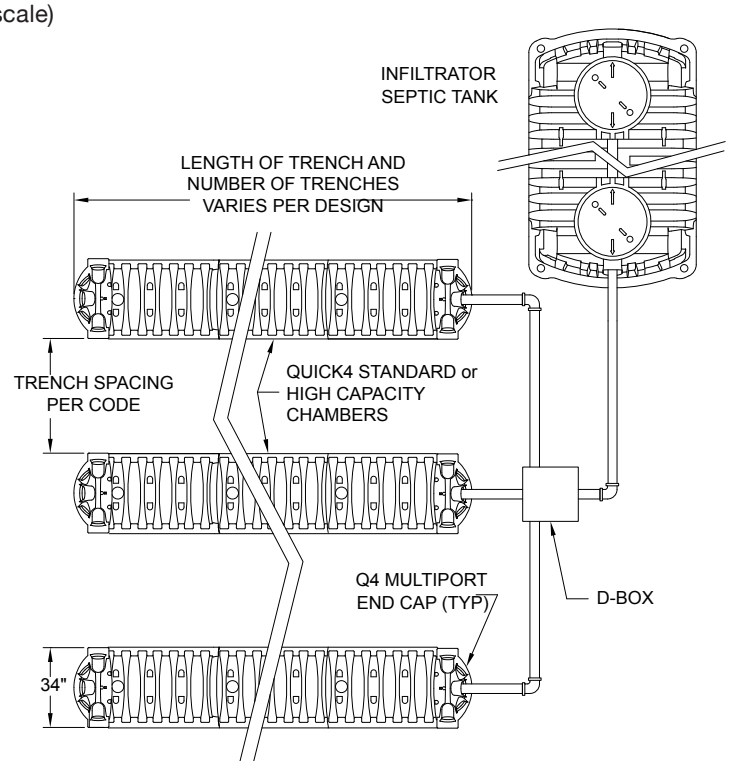
Notes:

1. Chambers may be installed edge to edge in cluster systems.
2. Combined the Quick4 and Quick4+ endcaps add an increased sizing benefit to the system. Two endcaps are required for each row of chambers. The appropriate sizing factor may be applied in a cluster or trench system to account for the endcaps. The minimum number of chambers shown above may be reduced by accounting for the area/length provided by the endcaps.
3. When using sand fill, sand shall meet code specifications, and be placed per plan.
4. Chamber sizing per Table 1.

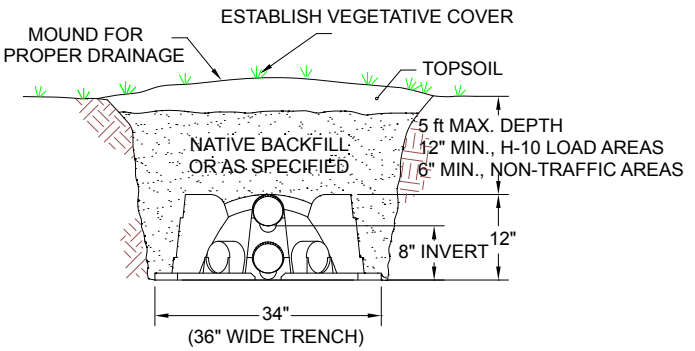
CHAMBER CONFIGURATIONS

Quick4 Standard, Quick4 Plus Standard, Quick4 Plus High Capacity and Quick4 High Capacity Trench Configurations

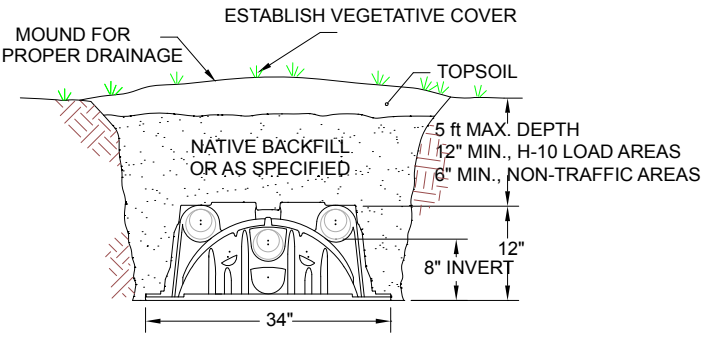
TYPICAL PLAN VIEW (not to scale)



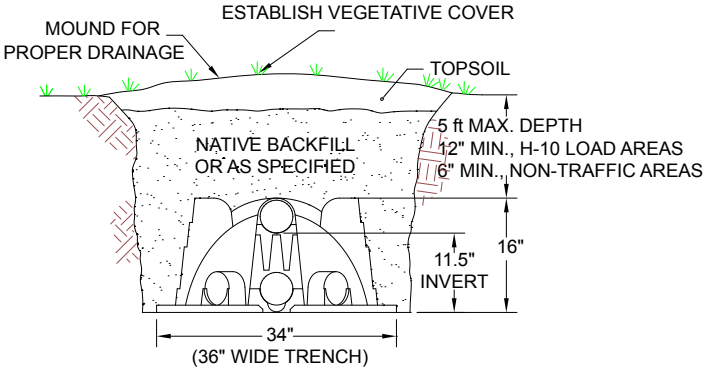
TYPICAL QUICK4 STANDARD CROSS SECTION (not to scale)



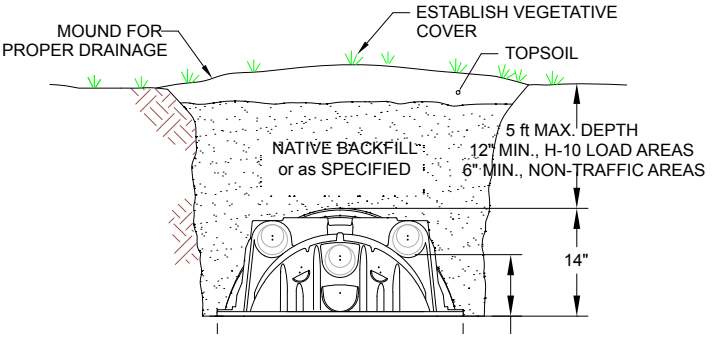
TYPICAL QUICK4 PLUS STANDARD CROSS SECTION (not to scale)



TYPICAL QUICK4 HIGH CAPACITY CROSS SECTION
(not to scale)



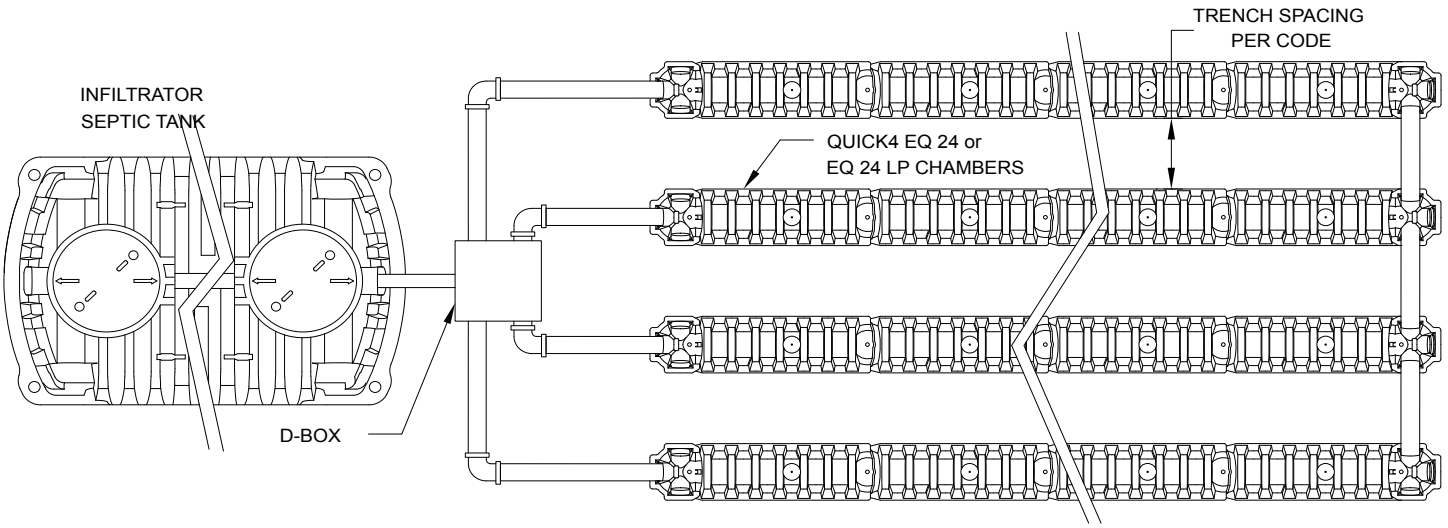
QUICK4 PLUS HIGH CAPACITY CHAMBER CROSS SECTION
(not to scale)



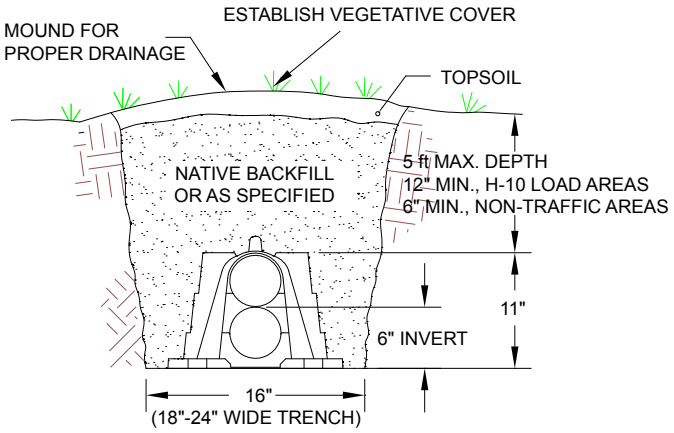
CHAMBER CONFIGURATIONS

Quick4 EQ24 and Quick4 EQ24 Low Profile Trench Configurations

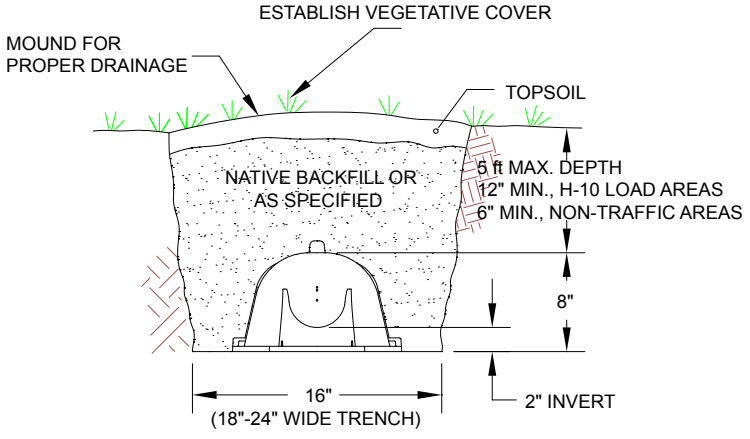
TYPICAL PLAN VIEW (not to scale)



TYPICAL QUICK4 EQUALIZER 24 CROSS SECTION
(not to scale)



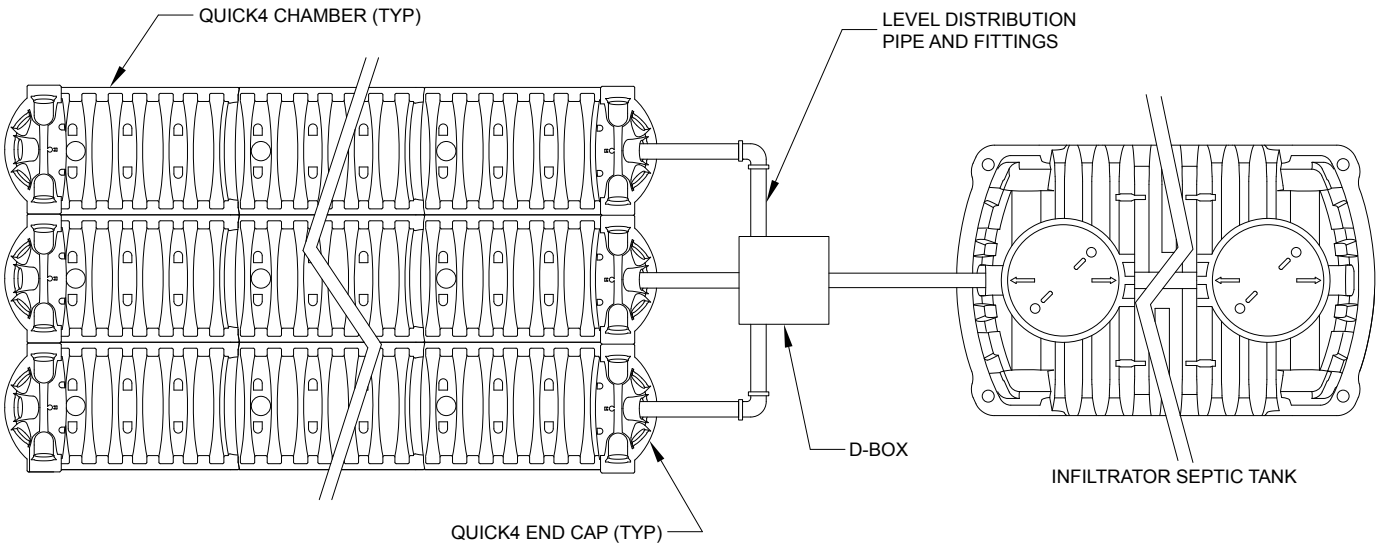
TYPICAL QUICK4 EQUALIZER 24 LOW PROFILE CROSS SECTION
(not to scale)



CHAMBER CONFIGURATIONS

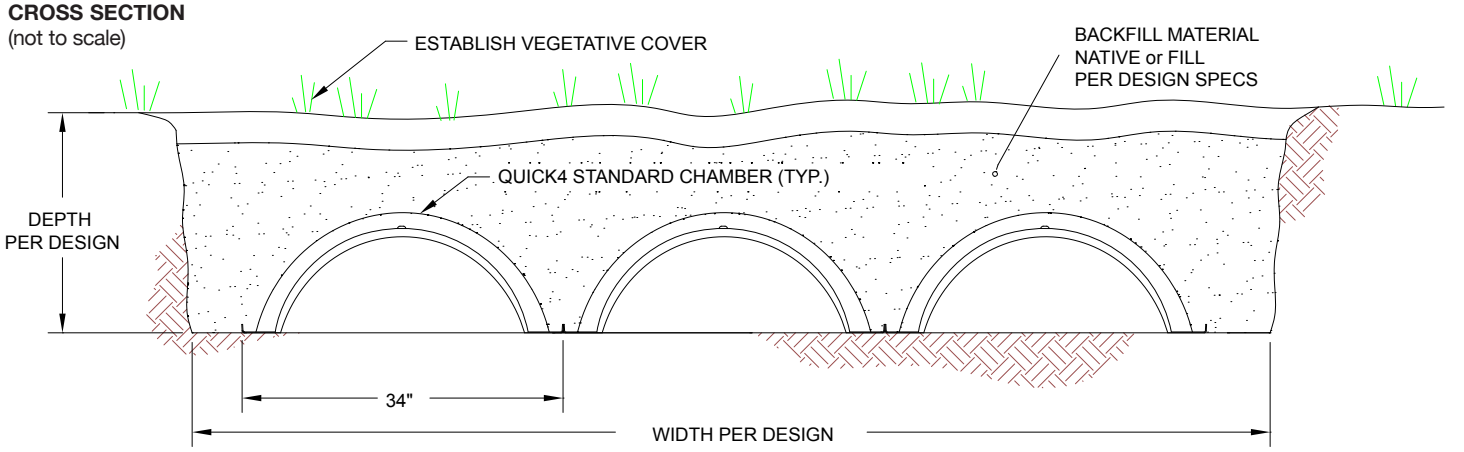
Cluster Configurations

TYPICAL PLAN VIEW (not to scale)

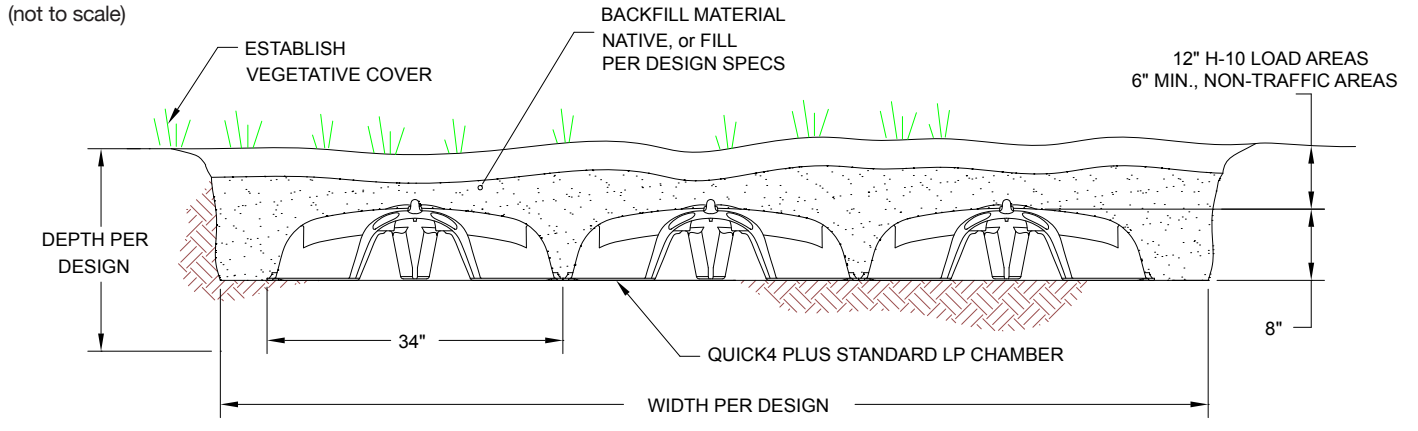


Note: Quick4 Standard, Quick4 Plus Standard, Quick4 Plus Standard Low Profile, Quick4 High Capacity and Quick4 Plus High Capacity may be installed in Cluster Configurations.

TYPICAL QUICK4 STANDARD CROSS SECTION
(not to scale)

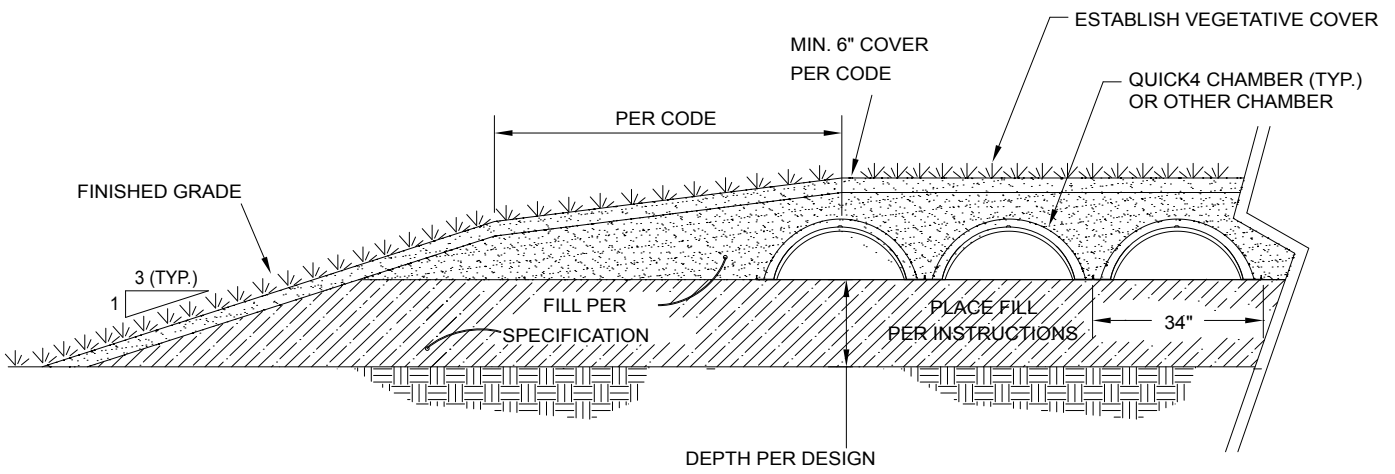


TYPICAL QUICK4 PLUS STANDARD LOW PROFILE CROSS SECTION
(not to scale)

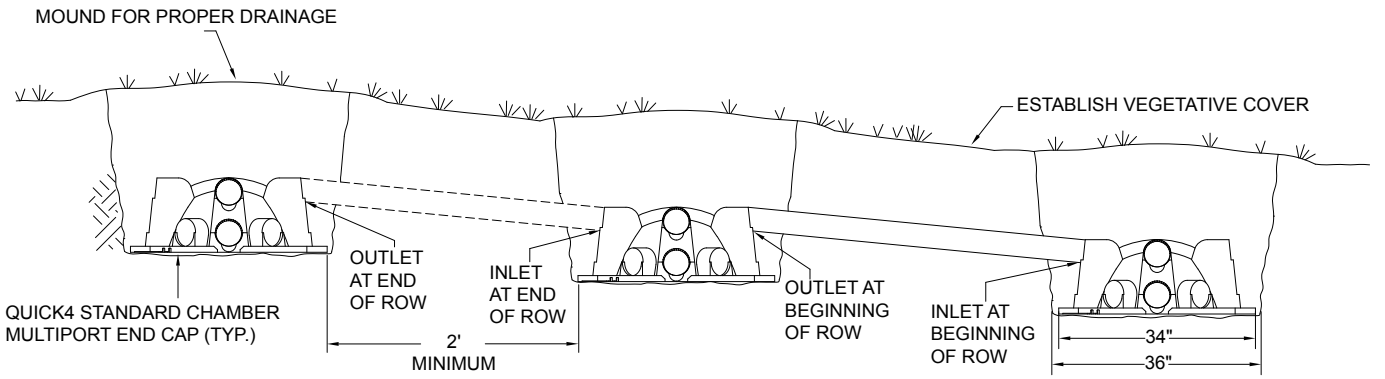


CHAMBER CONFIGURATION

Mound System (not to scale)



TYPICAL QUICK4 STANDARD SERIAL DISTRIBUTION TRENCH DETAIL CROSS SECTION (not to scale)

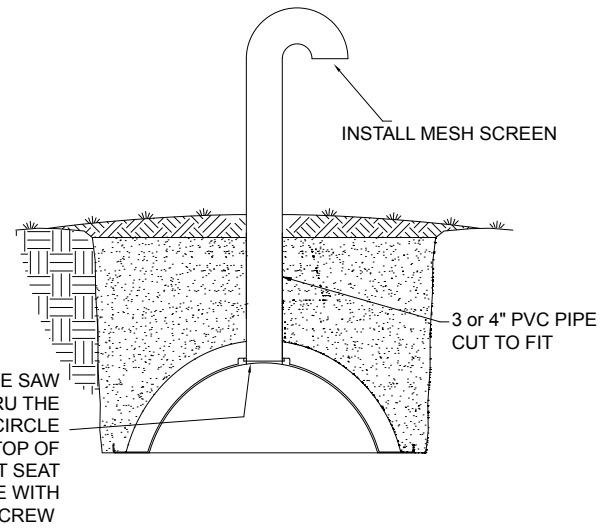


Notes:
1. Drawings show Quick4 Standard chambers. Design also applies to Quick4 Equalizer 24, Quick4 Equalizer 24 Low Profile and Quick4 High Capacity chambers.
2. Number of rows determined by design.

Venting Detail (if required)

(not to scale)

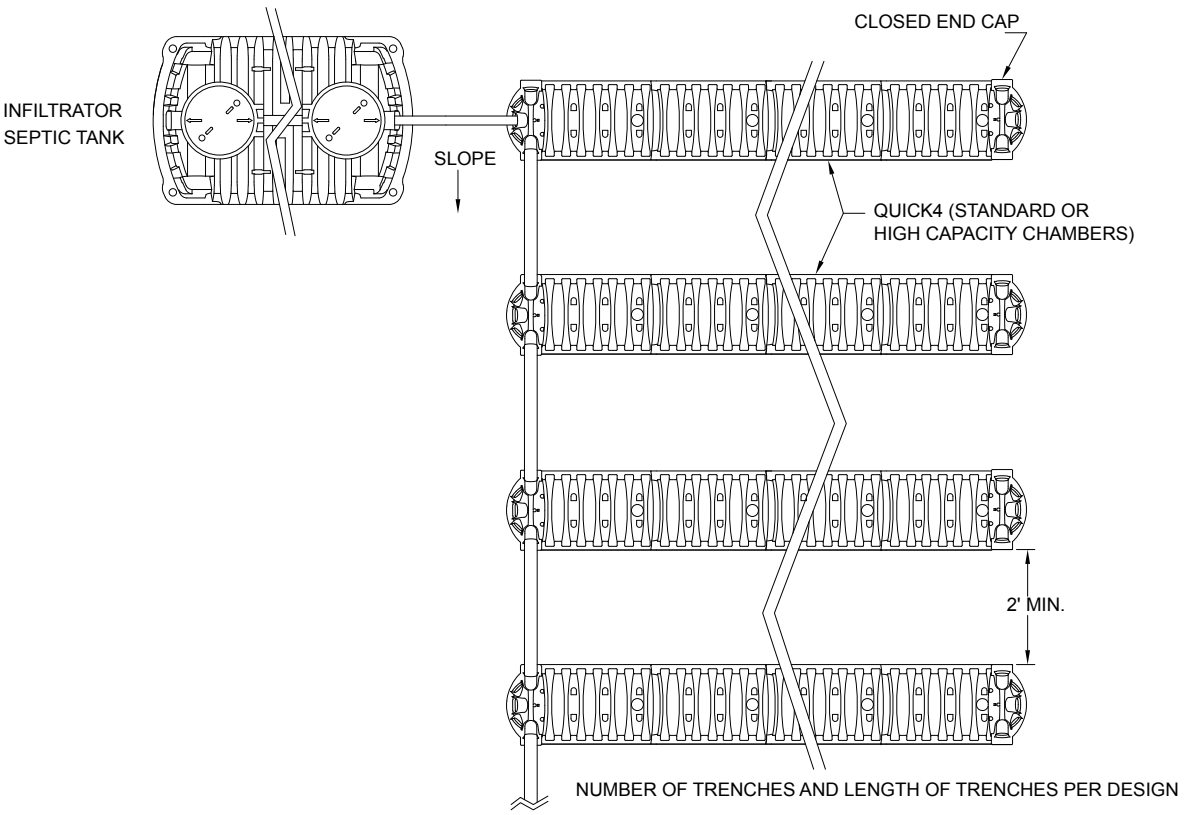
Per Env-Wq 1017.03 (c) Chambers having louvered side-walls or other such openings that allow air from the surrounding soils to flow into the chamber shall not need additional venting unless more than 18 inches of backfill and loam will be placed on the chambers. One vent per system is sufficient.



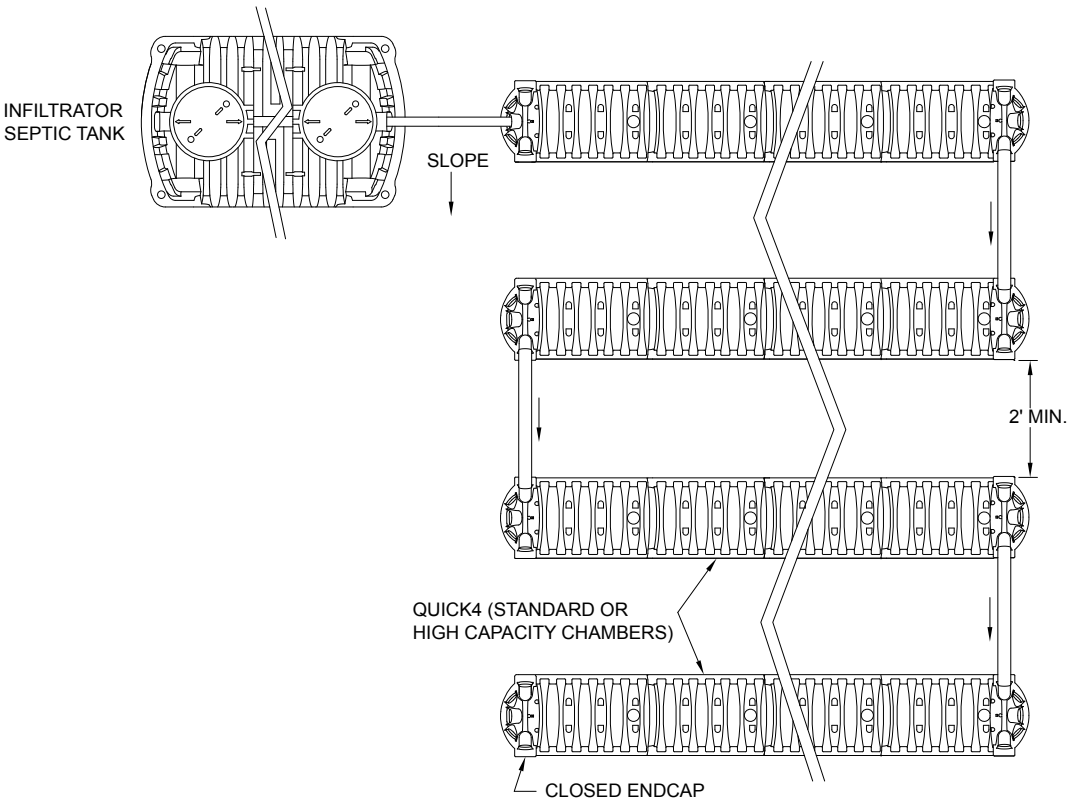
Note:
All Infiltrator chamber models may be designed for this application. For Quick4 Plus chambers the endcap may also be used for the vent or a manifold may be installed at the end of the system and tied to a single vent.

CHAMBER CONFIGURATION

Serial Distribution (not to scale)



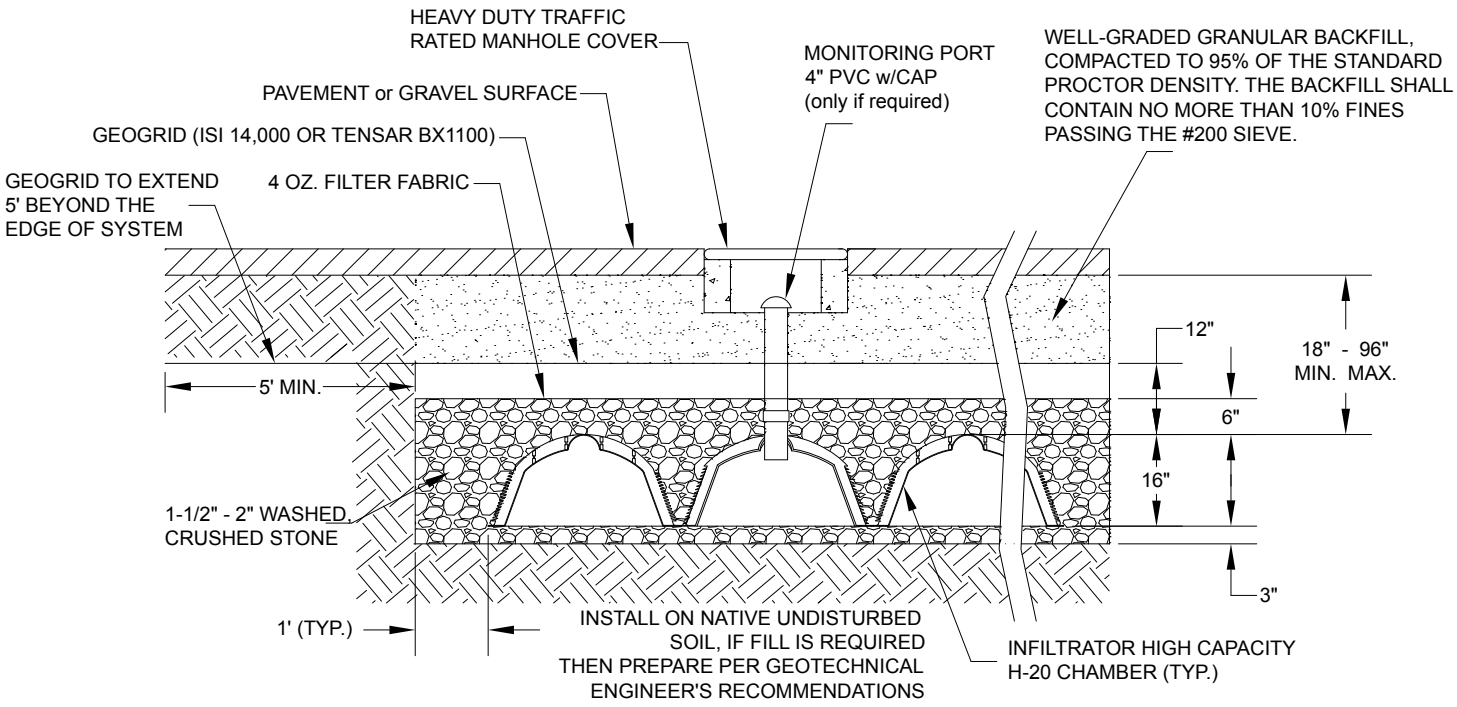
TYPICAL SERIAL DISTRIBUTION ALTERNATE-END INLET PLAN VIEW (not to scale)



High Capacity H-20 Chamber: AASHTO H-20 Wheel Load Cross Section

Typical (not to scale)

Rating size per 310 CMR 15.242



Note: For H-20 applications stone is required, therefore no reduction is allowed for septic tank effluent applications. Advanced treatment system reductions are allowed per code requirements (if applicable).

Quick4 Chamber Systems

Before You Begin

Quick4 Chambers may only be installed according to State and/or local regulations. If unsure of the installation requirements for a particular site, contact the local health department.

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

Materials and Equipment Needed

- ☐ Quick4 Chambers
- ☐ Endcaps
- ☐ PVC Pipe and Couplings
- ☐ Backhoe
- ☐ Laser, Transit, or Level
- ☐ Shovel and Rake
- ☐ Tape Measure
- ☐ Utility Knife
- ☐ Hole Saw*
- ☐ 2-inch Drywall Screws*
- ☐ Screw Gun*
- ☐ Small Valve-Cover Box*
- ☐ 4-inch Cap for Inspection Port*

*Optional

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 down the length of the trenches.
- ☐ To avoid additional soil compaction, never drive heavy vehicles over the completed system.

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 the location of all trenches and lines. Set the 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 trenches with proper center-to-center separation. Verify that the trenches are level or have the prescribed slope.

Note: if the system will be contoured, over excavate the trench width in areas.

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.

Placing the Specified Sand Fill

If the fill material is not specified then the fill shall meet the following specification:

Medium to coarse textured sand, with an effective size of 0.25 to 2.0 mm, no greater than 5% passing the number 200 sieve, and no particle size larger than 3/4 inch; or Materials meeting the ASTM C-33 specification.

1. Place the specified sand fill on the edge of the site. Use a dozer or other track equipment to evenly spread the first 12" lift of fill over required area.

2. Stabilize sand fill without compacting by driving a track vehicle over entire area.

3. Place consecutive lifts following Steps 1 and 2 until desired elevation is achieved. Lifts should not exceed 12" in height.



3

4. Once the required vertical separation is obtained, rake to level the area. Chambers are to be installed without any prescribed slope.

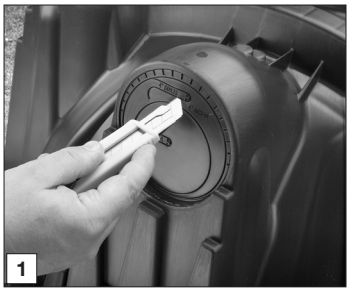
Preparing the Endcap

1. With a utility knife start the tear-out seal at the appropriate diameter for the inlet pipe. The seal allows for a tight fit for 3-inch, 4-inch SDR35, and 4-inch SCH40 pipe.

2. Pull the tab on the tear-out seal to create an opening on the endcap.

3. Snap off the molded splash plate located on the bottom front of the endcap.

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


1
Start tear-out seal at upper inlet.


2
Pull tab on tear-out seal.

5. Insert the inlet pipe into the endcap at the beginning of the trench. The pipe will go in several inches before reaching a stop. (Screws optional.)


4
Install splash plate.


5
Insert inlet pipe.

Quick4 Chamber Systems

Installing the System

1. Check the inlet pipe to be sure it is level or has the prescribed slope. It may be firmly supported on a solid base of unexcavated soil (not required).

2. Place the inlet end of the first chamber over the back edge of the endcap.


2

Place first chamber onto endcap.

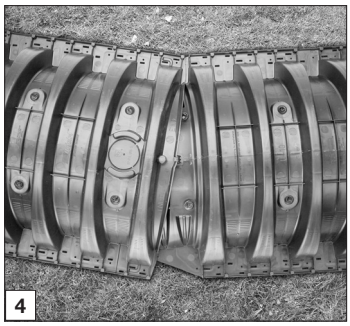
3. Lift and place the end of the next chamber onto the previous chamber by holding it at a 90-degree angle. Line up the chamber end between the connector hook and locking pin at the top of the first chamber. Lower it to the ground to connect the chambers.


3

Note: When the chamber end is placed between the connector hook and locking pin at a 90-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 the chamber joint. Broken hooks will not affect the structure nor void the warranty.

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

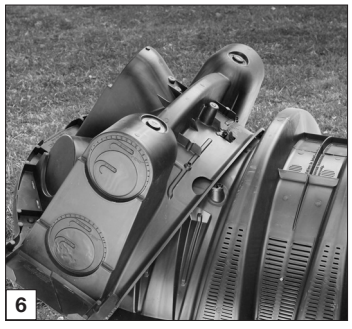

4

Note: The Quick4 Standard chamber and Quick4 High Capacity chamber allow 10º of swivel in either direction at each joint. The Quick4 Equalizer 36 and Quick4 Equalizer 24 allow for 15º of swivel.

5. Continue connecting the chambers until the trench is completed.

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

6. The last chamber in the trench requires an endcap. Lift the endcap at a 45-degree angle and insert the connector hook through the opening on the top of the endcap. Applying firm pressure, lower the endcap to the ground to snap it into place. Do not remove the tear-out seal.


6

Attach endcap to chamber.

7. 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.

8. Pack down the fill by walking along the edges of the trench and chambers. This is an important step in assuring structural support.

9. Proceed to the next part of the system and begin with Step 1.

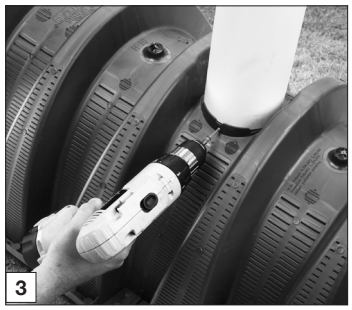
Installing Optional Inspection Ports or Vents

1. With a hole saw, drill the pre-marked area in the top of the chamber to create a 4-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 a 4-inch SCH40 pipe.

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

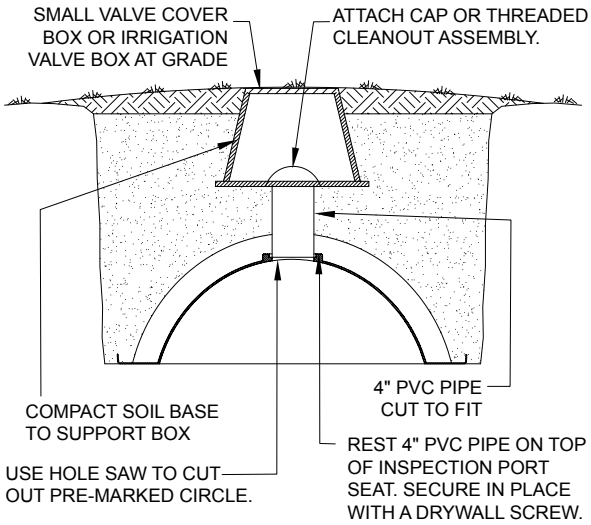

3

Fasten the pipe.

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 inspection port is below the desired grade.

6. For venting detail see page 16.



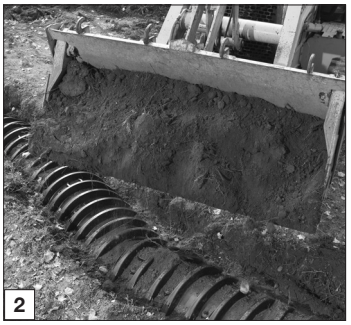
Quick4 Chamber Systems

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.



Walk the soil in.



Backfill the soil.

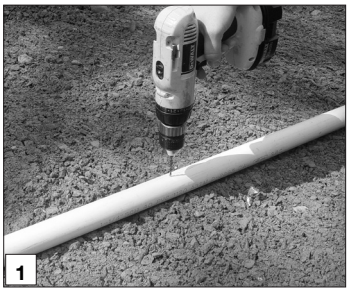
1. Backfill along the sides of the chambers and walk the soil in.

2. Continue backfilling the soil to the top of chambers.

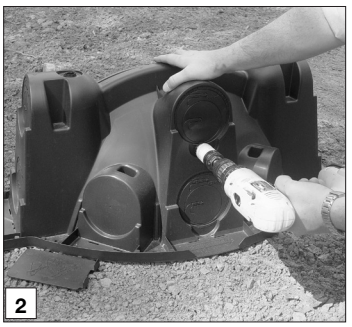
Note: When backfilling a cluster system use a dozer, small box blade or a tracked Bobcat machine or ladle the fill material out over the chambers.

Installing the Chambers and Endcaps

Note: For the Quick4 Plus Chamber with pressure distribution please contact Infiltrator Water Technologies.

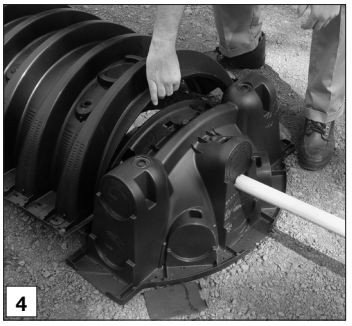


1. To allow pressure laterals to drain after each dose, it is recommended that the first and last orifice be drilled in the bottom of the pipe. Place the snap-off splash plate or a paving block at the bottom of the trench to protect the infiltrative surface from erosion.



2. With a hole saw, drill out the appropriate diameter hole to accommodate the pressure lateral pipe.

3. Insert the pressure lateral pipe into the endcap's drilled opening and slide it into the manifold pipe. Glue the pressure lateral pipe to the manifold pipe.



4. With the pressure lateral pipe through the endcap, place the inlet end of the first chamber over the back edge of the endcap.

Note: Health Departments may require a wet-run pressure check be done prior to chamber installation when the pipe is laying on the ground. Check with your local Health Department for the proper procedure.



5. (Method A) Secure the pressure lateral pipe to the top of the first chamber with a plastic pipe strap at the outlet end of the unit. Slide the strap up through a slot in the chamber top, down through the other slot, and cinch the two ends around the pipe.

6. (Method B) With the holes pointing up, stabilize the pressure lateral pipe on the ground to prevent it from moving.

7. Lift and place the next chamber onto the previous one 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 it to the ground to engage the interlocks.

8. (Method A) Secure the lateral pipe to the top of the next chamber once in place. Follow the same method in Step 5.

9. Continue interlocking chambers and securing the pipe until the trench is completed.

Pressure Distribution Systems

10. Before attaching the final endcap, remove the tongue of the connector hook on the last chamber with a pair of pliers.


10

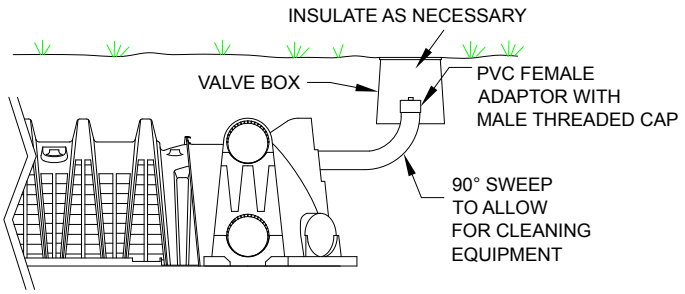
11. Insert the pressure lateral pipe through the hole in the final endcap and slide the endcap towards the last chamber. Lift the endcap over the modified connector hook and push straight down to secure it to the chamber.

Note: If cleanout extensions are required, use a hole saw to cut a hole in the endcap at the proper elevation so that the lateral pipe can extend. For clean- out access, a 90-degree sweep that extends to the soil's surface can be attached to the lateral pipe.


11

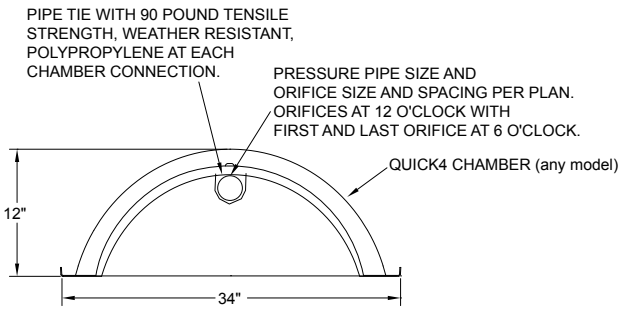
12. If installing multiple rows of chambers, follow Steps 1-9 to lay the next row of chambers parallel to the first.

ACCESS FOR DRAINFIELD MAINTENANCE AND FLUSHING



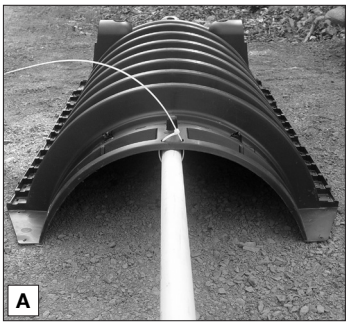
Pressure Pipe Design Options

TYPICAL METHOD A TOP PLACEMENT

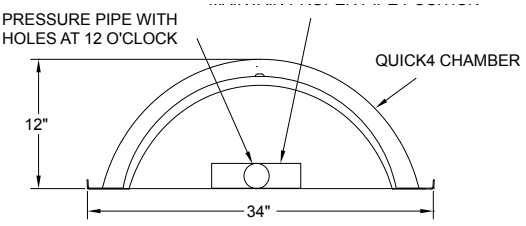


Advantages of Method A

- Pipe and orifice placed closer to chamber dome offer improved distribution.
- Pipe positioned at top of chamber places it well above effluent.
- Plastic pipe hanger easily secures pipe in place.

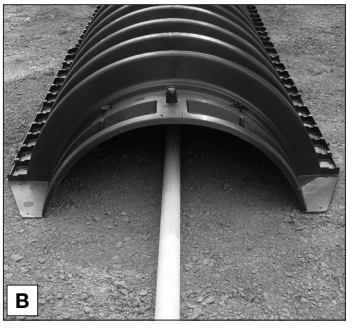

A

TYPICAL METHOD B BOTTOM PLACEMENT



Advantages of Method B

- Pipe resting on trench bottom allows easy installation and maintenance.
- Stabilizing "T's" or "J-hooks" keep pipe level.
- System promotes efficient pressure checks.
- Pipe resting on trench bottom allows easier inspection if monitoring ports are installed.


B

WARRANTY

INFILTRATOR WATER TECHNOLOGIES STANDARD LIMITED WARRANTY

(a) The structural integrity of each chamber, endcap and other accessory manufactured by Infiltrator (collectively referred to as "Units"), when installed and operated in a leachfield of an onsite septic system in accordance with Infiltrator's installation instructions, is warranted to the original purchaser ("Holder") against defective materials and workmanship for one year from the date upon which a septic permit is issued for the septic system containing the Units; provided, however, that if a septic permit is not required for the septic system by applicable law, the one (1) year warranty period will begin upon the date that installation of the septic system commences. In order to exercise its warranty rights, Holder must notify Infiltrator in writing at its corporate headquarters in Old Saybrook, Connecticut within fifteen (15) days of the alleged defect. Infiltrator will supply replacement Units for those Units determined by Infiltrator to be defective and covered by this Limited Warranty. Infiltrator's liability specifically excludes the cost of removal and/or installation of the Units.

(b) THE LIMITED WARRANTY AND REMEDIES IN SUBPARAGRAPH (a) ARE EXCLUSIVE. THERE ARE NO OTHER WARRANTIES WITH RESPECT TO THE UNITS, INCLUDING NO IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

(c) This Limited Warranty shall be void if any part of the chamber system (chamber, endcap or other accessory) is manufactured by anyone other than Infiltrator. The Limited Warranty does not extend to incidental, consequential, special or indirect damages. Infiltrator shall not be liable for penalties or liquidated damages, including loss of production and profits, labor and materials, overhead costs, or other losses or expenses incurred by the Holder or any third party. Specifically excluded from Limited Warranty coverage are damage to the Units due to ordinary wear and tear, alteration, accident, misuse, abuse or neglect of the Units; the Units being subjected to vehicle traffic or other conditions which are not permitted by the installation instructions; failure to maintain the minimum ground covers set forth in the installation instructions; the placement of improper materials into the system containing the Units; failure of the Units or the septic system due to improper siting or improper sizing, excessive water usage, improper grease disposal, or improper operation; or any other event not caused by Infiltrator. This Limited Warranty shall be void if the Holder fails to comply with all of the terms set forth in this Limited Warranty.

Further, in no event shall Infiltrator be responsible for any loss or damage to the Holder, the Units, or any third party resulting from installation or shipment, or from any product liability claims of Holder or any third party. For this Limited Warranty to apply, the Units must be installed in accordance with all site conditions required by state and local codes; all other applicable laws; and Infiltrator's installation instructions.

(d) No representative of Infiltrator has the authority to change this Limited Warranty in any manner whatsoever, or to extend this Limited Warranty. No warranty applies to any party other than the original Holder.

The above represents the standard Limited Warranty offered by Infiltrator. A limited number of states and counties have different warranty requirements. Any purchaser of Units should contact Infiltrator's corporate headquarters in Old Saybrook, Connecticut, prior to such purchase, to obtain a copy of the applicable warranty, and should carefully read that warranty prior to the purchase of Units.

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Contact Infiltrator's Technical Services Department for assistance at 1-800-221-4436