

CHAMBER SYSTEM EQUIVALENT AREAS

WDEQ Rules and Regulations Chapter 25 Section 8 allows for a 30% reduction in the leachfield area when using chambers in place of traditional pipe and stone systems. To calculate the reduction in square footage required to achieve the same amount of infiltrative surface as pipe trenches or beds, use the dimensions provided by the chamber manufacturer.

- In a trench configuration, the equivalent area is equal to Length * [(Chamber Width * 1.43) + (2 * Effective Sidewall Height)].
- In a bed configuration the sidewall is not counted, so the equivalent area is equal to Length * (Chamber Width * 1.43).

Use dimensions provided in the table below to design leachfields utilizing chamber technology on pages 13 (chamber trenches) or 17 (chamber beds) of the application package.

Chamber Class	Chamber Name	Nominal Dimensions			Effective Dimensions			Equivalent Area	
		Length (ft)	Width (in)	Height (in)	Length (ft)	Width ¹ (in)	Height ² (in)	Trench Layout (sf/unit)	Bed Layout (sf/unit)
High Capacity	Quick4 High Capacity	4.4	34	16	4.0	34	11.5	23.9	16.2
	Quick4 Plus High Capacity	4.4	34	14	4.0	34	8.0	21.5	16.2
	Arc 36 High Capacity	5.3	34	16	5.0	34	10.5	29.0	20.3
	BioDiffuser 16" High Capacity	6.3	34	16	6.2	34	11.2	36.7	25.1
Standard	Quick4 Standard	4.4	34	12	4.0	34	8.0	21.5	16.2
	Quick4 Plus Standard	4.4	34	12	4.0	34	8.0	21.5	16.2
	Arc 36	5.3	34	13	5.0	34	7.0	26.1	20.3
	BioDiffuser 11" Standard	6.3	34	11	6.2	34	5.8	31.1	25.1
Standard Low Profile	Quick4 Plus Standard LP	4.4	34	8	4.0	34	3.3	18.4	16.2
	Arc 36 LP	5.3	34	8	5.0	34	3.8	23.4	20.3
Narrow	Quick4 Equalizer 36	4.4	22	12	4.0	22	6.0	14.5	10.5
	Arc 24	5.6	22	12	5.0	22	6.3	18.3	13.1
	BioDiffuser Bio 3	7.3	22	12	7.2	22	6.4	26.5	18.9
Narrow LP	Quick4 Plus Equalizer 36 LP	4.4	22	8	4.0	22	3.3	12.7	10.5
Ultra-Narrow	Quick4 Equalizer 24	4.4	16	12	4.0	16	6.0	11.6	7.6
	Arc 18	5.6	16	12	5.0	16	6.3	14.7	9.5
	BioDiffuser Bio 2	7.3	16	12	7.2	16	6.4	21.3	13.7
Ultra-Narrow LP	Quick4 Equalizer 24 LP	4.4	16	8	4.0	16	2.0	9.0	7.6

¹ The equivalent areas calculation used the outside width of the chamber.

² The effective height is the height of the slotted sidewall of the chamber or depth below the flow line of the inlet pipe, whichever is less.



Planning & Zoning
225 9th Street
Evanston WY 82930
(307)783-0318

UINTA COUNTY
WYOMING

SMALL WASTEWATER SYSTEM SITE SUITABILITY & TEST PROCEDURES

In order to determine if the site is suitable for a small wastewater system, it is necessary to determine the depth of any impermeable soil and depth of groundwater. Also factoring the slope will help establish the best location for the septic system. The Uinta County Planning & Zoning Office will perform tests to conclude the depth of impermeable soils, depth of ground water, and the slope.

LOCATION: The percolation test holes shall be spaced over the proposed leach field site. Isolation distances are key when selecting the site. **A minimum of six test holes is required.**

Six or more percolation tests are performed, the design percolation rate for the leach field is the **average** of all holes tested. It is generally to your advantage to have **six tests** performed since averaging results allows a higher percolation rate to be used, which means a smaller leach field will be necessary. If only three to five percolation tests are performed, the design percolation rate for the absorption system is the **slowest** rate from all the holes tested.

PREPARATION: The test site will be prepared by either the property owner, or the installer of the small wastewater system.

Isolation Distance

From	Feet to Septic Tank of Equivalent	Feet to Absorption System
Wells (includes neighboring wells)	50	100
Public water supply wells	100	200
Property lines/right of ways	10	10
Building foundation(without foundation drains)	5	10
Building foundation (with foundation drains)	5	25
Potable water pipes	25	25
Septic tank	--	10
Stream of surface body of water(including seasonal)	50	50
Cisterns	25	25

GROUNDWATER / BEDROCK EVALUATION:

At the time of the percolation test, the planning technician will also inspect the site for high groundwater, bedrock, and impermeable soil. ***A 7 to 8 foot deep pit shall be dug for this purpose in the area of the leach field. Before digging, call Wyoming-One-Call at 1-800-348-1030 to confirm there are no electric, gas or telephone lines where you plan to dig. Call before you dig.*** A backhoe may be used to dig this hole since it is for visual inspection only.



Address:
514 Grand Ave. #502
Laramie, WY 82072

Hours
24 / 7

Prepare Site

Step 1. Call Planning & Zoning Office to establish any previous site testing for the property.

- *If no prior testing, schedule Planning Technician for on site testing with minimum of a 24 hour notice.*

Step 2. Dig Observation Pit near the proposed leach field seven (7) to eight (8) feet deep, width of backhoe bucket.

Step 3. Dig six (6) vertical walled percolation holes near the proposed leach field, anywhere from four (4) to twelve (12) inches wide and thirty (30) to forty (40) inches deep. An auger or post hole may be used.

Step 4. Presoak the percolation holes, maintaining eighteen (18) inches of water, allowing them to soak overnight.



PRESOAKING: The purpose of presoaking is to have the water conditions in the soil reach a stable condition similar to that which exists during continual wastewater application. The minimum time of presoaking varies with soil conditions but must be sufficiently long so that the water seeps away at a constant rate. The following presoaking instructions are usually sufficient to obtain a constant rate.

In sandy soils, place 12 inches of water in the hole and allow it to seep away. Fill the hole again with 12 inches of water; and, if the water seeps away in 10 minutes or less, it indicates that the soil is excessively permeable and the Compliance Officer in the Surveying/Planning office should be contacted at (307)783-0318. If the water remains after 10 minutes, additional saturation is necessary. In other soils, maintain 12 inches of water in the hole for at least 4 hours. After the 4 hours of water contact, allow the soil to swell for 12 hours before starting percolation test.

SCHEDULING TESTS: After the percolation test holes and inspection pit have been dug, call the County Surveying/Planning office at (307)783-0318 or toll free from the valley 782-7432 to schedule the test. The test will be performed at no charge. Soak the holes, as described, 24 hours before the percolation test is done.

BACKFILLING SYSTEM: Once the permitted system is installed, you will need to contact the Planning Office at (307)783-0318 to schedule a final inspection **BEFORE** backfilling. *If the system is backfilled prior to final inspection, we can require the system to be unearthed.* Once the final inspection is complete, if approved, we will issue a Small Wastewater Facility Permit.

Percolation Rate Minutes/Inch	Loading Rate Gallons Per Day Per Square Foot of Infiltration Area
5	0.80
7	0.71
9	0.65
12	0.58
15	0.52
17	0.49
20	0.46
25	0.42
30-31	0.39
34-35	0.37
41-43	0.34
44-46	0.33
50-52	0.32
51-55	0.31
60	0.30

Residential Design Flow Rates

Per Bedrooms	Gallons Per Day
1 Bedroom	150
2 Bedrooms	280
3 Bedrooms	390
4 Bedrooms	470
5 Bedrooms	550
6 Bedrooms	630
7 or more Bedrooms	Increase by 80 gallons for each additional Bedroom