



# Percolation Tests

Demonstrates how quickly water moves through the soil under saturated conditions

Technical Standards Section VII  
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 Connecticut Department of Public Health  
 Keeping Connecticut Healthy
 

## DPH Percolation Tests (pg. 33)

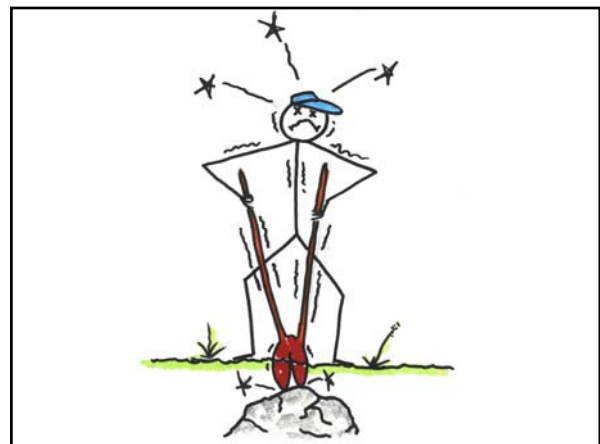
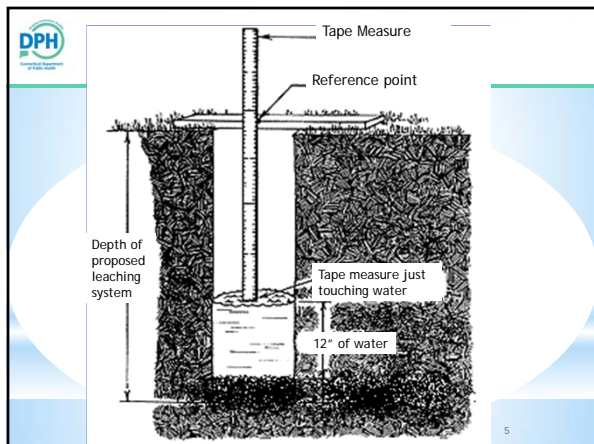
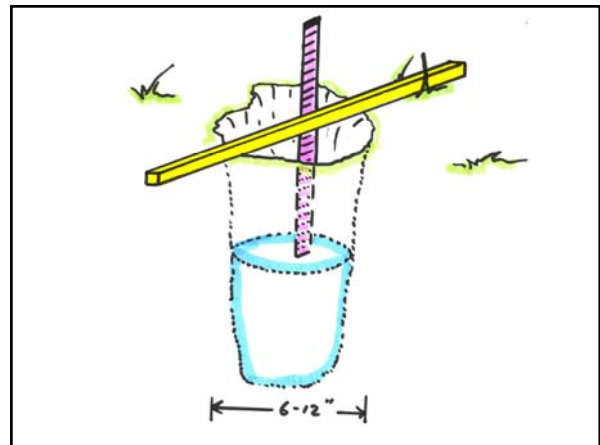
- \* Percolation tests are conducted in the primary and reserve leaching areas prior to the septic system design
- \* The number of percolation tests conducted depends on:
  - \* Consistency of results
  - \* Variation of soil types found in the proposed leaching system area

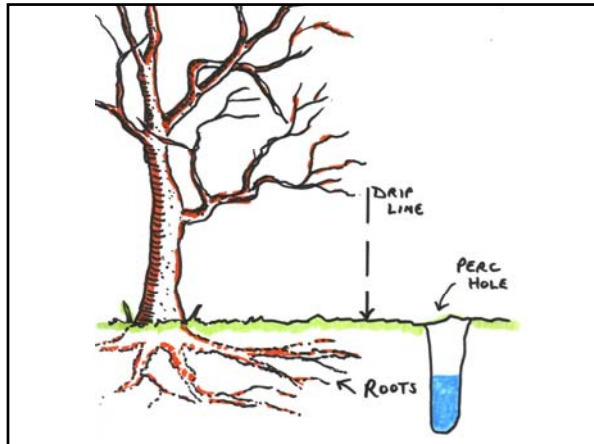
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## DPH Percolation Tests

- \* The test is conducted in a 6 -12 inch deep hole dug to the depth of the proposed leaching system
- \* The percolation test is done in only one soil strata or horizon at a time
- \* Readings are conducted at regular intervals and continue until there is 2 to 3 inches of water remaining in the hole
- \* Percolation testing is generally not recommended when extremely dry conditions are present

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## Step one: Presoak

- \*The hole is pre-soaked to allow clay in the soil to saturate and swell and replicate saturated conditions
- \*If water seeps away in 2 hours the hole may be refilled with 12 inches of water and the test may begin
- \*If water remains after 2 hours re-fill the hole with 12 inches of water and allow to presoak for an additional 2 hours

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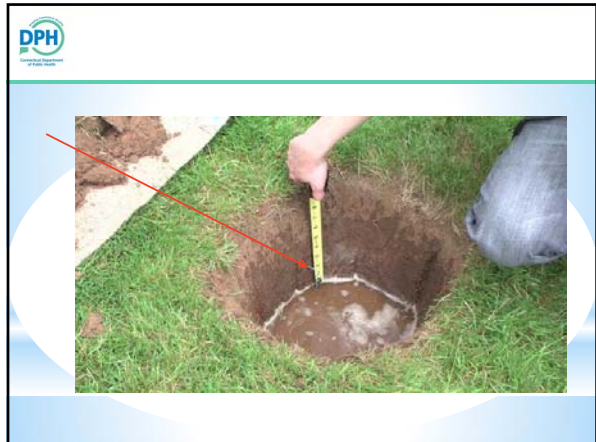
## Step Two: Re-fill

- \*After the percolation hole has been properly presoaked it is filled with 12 inches of water
- \*The test must be conducted within 30 hours of pre-soaking
- \*A reading is taken and recorded every 1 to 20 minutes depending on how quickly the water drains

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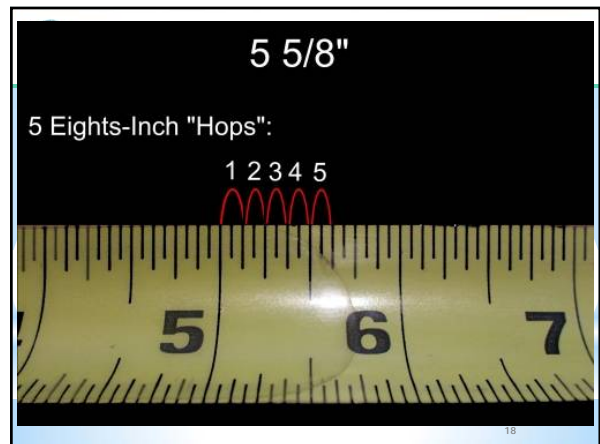
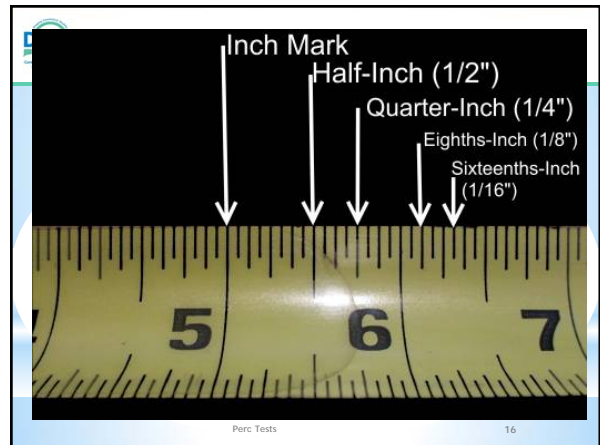
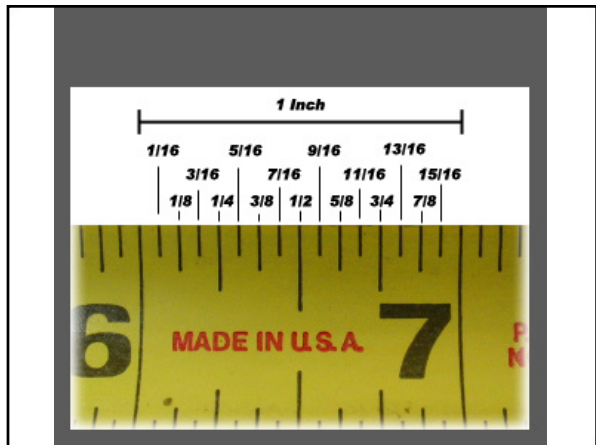


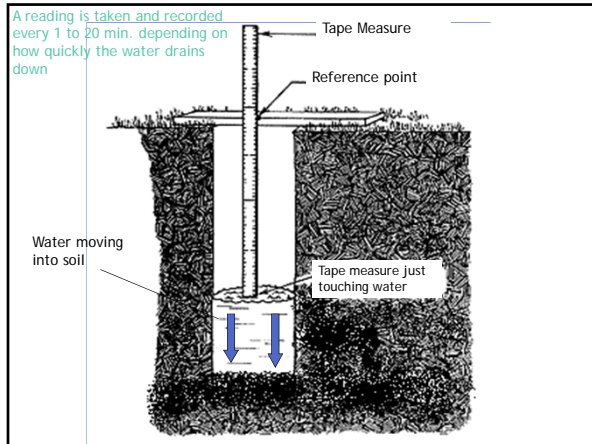


**Step Three: Monitor and Record**

\*Record the water level drop from the fixed reference point using timed intervals between 1 and 20 minutes

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### Step four: Determine Rate

- \*Readings should be converted to decimal form
- \*To determine the drop, subtract the last reading from the previous reading
- \*Then divide the time interval by the difference in the readings (Time difference ÷ drop)
- \*Generally speaking, the highest/slowest percolation rate is used for design purposes unless additional testing proves otherwise

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### Math Class Review

Calculating fraction to decimal

Fraction	Decimal
1/8	= .125
1/4	= .25
3/8	= .375
1/2	= .5
5/8	= .625
3/4	= .75

### Determine Percolation Rate

Time difference ÷ drop in water = rate

Time	Diff. (Inches)	Reading Decimal	Drop	Rate (min/inch)
10:00	12-3/8	12.375		
10:10	10	14-5/8	2.25	4.44
10:20	10	15-7/8	1.25	8
10:30	10	16-5/8	.75	13.33
10:40	10	17-1/8	.5	20
10:50	10	17-7/8	.5	20
11:00	10	18-1/8	.5	20

### Soils with Slow Percolation Rates

- \* No leaching product rated at or more than 7.4 square feet per linear foot effective leaching area credit shall be used where the receiving soil has a percolation rate slower than 30 minutes per inch

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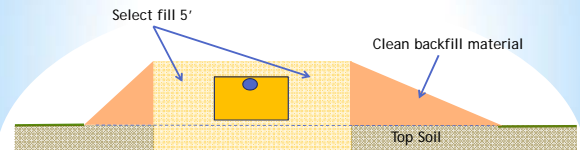


## Elevated in Select Fill

Whenever a leaching system is elevated entirely in a select fill package, the system can be sized (ELA) based on the percolation rate of the select fill provided the select fill is tested after placement.



## System Entirely in Select Fill



\*means leaching system bottom above existing grade.