



# SANTA CLARA COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH

## PERCOLATION TEST PROCEDURES CONSULTANT CONDUCTED TESTS

The person verifying the validity of the percolation tests must attest, in writing, that the test was set up and conducted in accordance with county standards, including the presoak procedure that he/she personally observed the site and at least a portion of the tests.

Test results shall be submitted on forms provided by or equivalent to those provided by the Department of Environmental Health.

## General Information

Consultants who conduct percolation tests must be a California state registered environmental health specialist, a California state registered civil engineer, or a California state certified engineering geologist.

The Department of Environmental Health will determine the number of percolation holes, their depths, and locations. Department of Environmental Health staff may elect to witness the drilling of the percolation holes, verify presoaking, and be present during all or part of the testing. Upon satisfactory review of the data, department staff will determine the appropriate leachfield length.

A base rate will be charged for the first 1½ hours. Extended service will be charged at an hourly rate. Contact this department or visit our website at [www.ehinfo.org](http://www.ehinfo.org) for our current fee schedule.

The consultant shall notify the appropriate Department of Environmental Health office at least 24 hours prior to drilling the percolation holes and 48 hours prior to conducting the percolation tests. Percolation tests may be conducted Tuesday through Friday. The consultant must remain on-site for a minimum of 2-hours on the day of the test.

Test readings are to be submitted on forms approved by the Department of Environmental Health.

## Hole construction (see the attached diagram)

**Diameter** – 12-inches

**Pipe Size** – 4-inches

**Depth** – as determined by the Department of Environmental Health.

**Gravel Size** – ½ to ¾ inch clean washed drain rock.

**Number** – the minimum number of percolation holes shall be 6 per site. Additional holes will be charged at the same rate as the initial 6 holes. Only those holes agreed upon prior to the test will be used to determine the leaching system requirement. If the percolation rate falls between 61 and 120 minutes/inch an additional 6 holes will be necessary to test the required expansion area. Check with your local Department of Environmental Health office for more details.

## Pre-soak

Percolation hole locations must be sited and approved by Department of Environmental Health staff prior to presoaking. A site map, showing the location of all percolation holes must be maintained by the consultant and submitted with all percolation test readings.

All percolation holes must be pre-soaked before the test begins. Pre-soaking is to consist of filling each percolation hole to at least 6-inches from the ground surface, two times (once in the morning and once in the evening) the day before the test.

Filling each percolation hole is best accomplished by adding water through the pipe rather than into the gravel.

## Materials

Adjacent to each percolation hole there should be a hose connected to a plumbed water source or a water filled container of 5-gallons or larger. Fifty (50) gallon drums or garbage cans are often preferred for faster percolating soils.

A water truck or other water source is to be available for refilling containers as needed during the course of the percolation test.

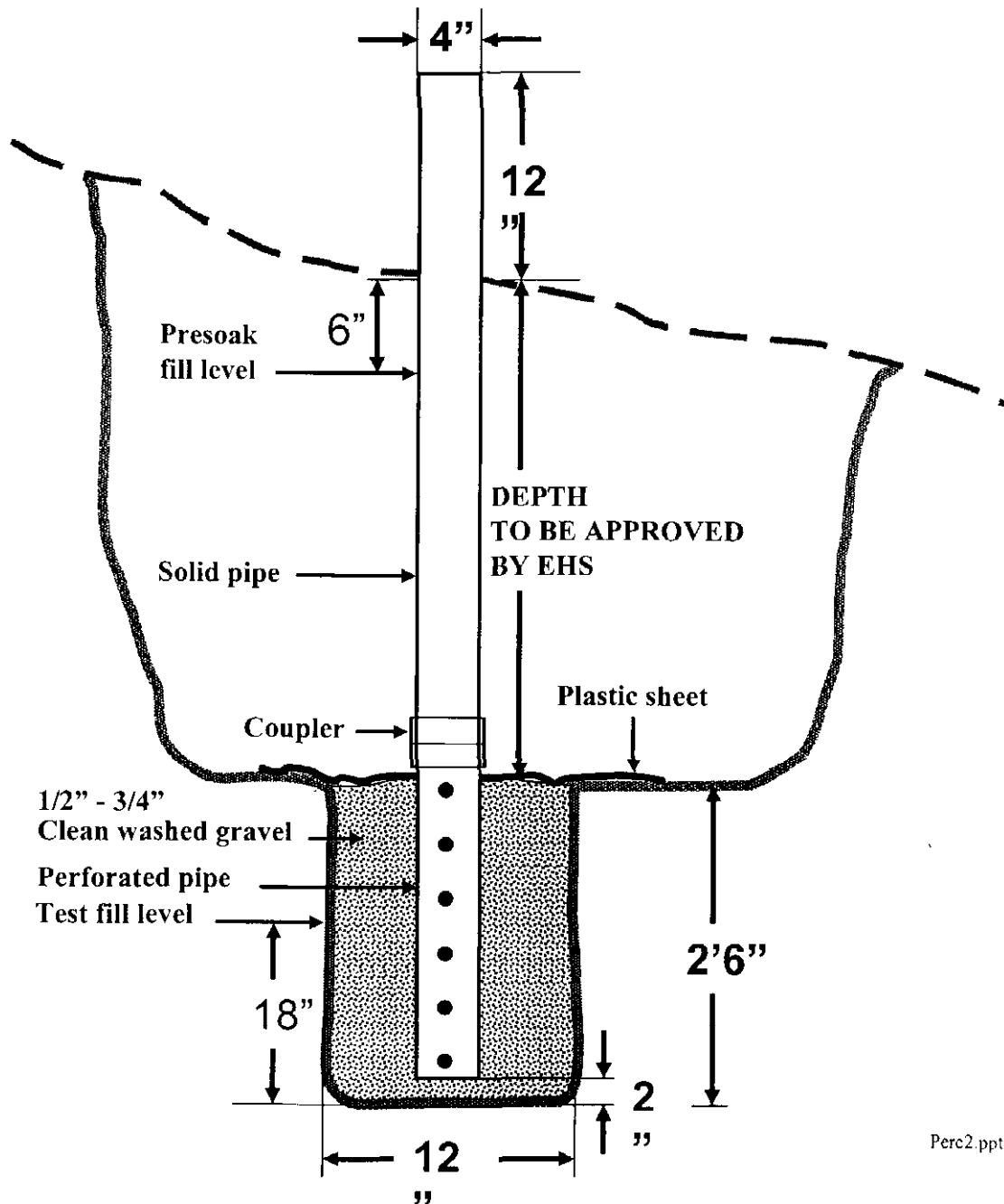
During the percolation test, holes may best be filled and re-filled to 18-inches by using a small, easily managed bucket of ½ to 1-gallon capacity.

## Test Procedures

1. On the day of the test, if more than 18-inches of water remains in any test hole, use a pump to lower the water level to reach the 18-inch depth.
2. Carefully fill the holes to 18-inches of water above the gravel bottom.
3. Measure the distance from the top of the pipe to the water surface with a 1/8-inch accuracy. Record the reading, record the time.
4. After 30 minutes from the first recorded measurement, refill each hole to 18 inches above the gravel bottom and repeat the above procedure. Continue the readings maintaining 1/8-inch accuracy for a period of not less than two (2) hours until the water level drop stabilizes and three (3) consecutive readings are within 10% or 1/8 inch. **Note: The water level must be readjusted to 18 inches above the gravel bottom after each reading.**
5. If after one hour the water level is dropping so rapidly to make 30-minute readings infeasible, switch to 10-minute readings. Refill the hole to 18-inches above the gravel bottom and repeat procedure until the water drop stabilizes and three (3) consecutive readings are within 10% or 1/8-inch.
6. Continue 30-minute readings for a minimum of 2-hours. If the readings were taken at 10-minute intervals, continue the test for a minimum of one hour. All readings are to be reported in minutes per inch.
7. Data for all percolation holes must be submitted to the Department of Environmental Health for evaluation. This data is to be included with a copy of the site map showing the location of the numbered percolation holes.

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ALTERNATIVE METHOD OF CONSTRUCTION**

1. An additional fee will be charged for this method of construction.
2. Backhoe excavation with the bottom of the excavation no greater than 5½ feet in depth.
3. Hand auger or machine auger a 12-inch hole.
4. Scarify the glazed sidewall, if any.
5. Insert the perforated pipe in the center of the 12-inch hole.
6. Gravel pack the hole around the pipe with ½-inch to ¾-inch clean washed gravel.
7. The excavation shall be back filled prior to conducting the percolation test.



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METHOD OF CONSTRUCTION**

1. Hand auger or machine auger a 12-inch hole.
2. Scarify the glazed sidewall, if any.
3. Insert the perforated pipe in the center of the 12-inch hole.
4. Gravel-pack the hole around the pipe with ½-inch to ¾-inch clean washed gravel to the ground surface.

