

**SOIL PERCOLATION TEST DATA
(COUNTY DECLARED DISASTER)****WLS-040****PURPOSE:**

To determine soil percolation rates to site and design septic systems.

PROCEDURE:

Qualified Consultants shall independently perform soil percolation tests to determine soil application rates for design of onsite septic systems. A Qualified Consultant is a Civil Engineer, Environmental Health Specialist, Soil Scientist or Geologist currently licensed or registered in the state of California with expertise in septic systems. The Onsite Wastewater Treatment System Regulation and Technical Standards (OWTS Manual) shall be used as a reference along with this procedure document.

Soil percolation tests are required to be performed for proposed septic systems on undeveloped properties and for sites with soils classified as Zone 3 or 4. A Plasticity Index (PI) test (ASTM D 4318-84) must be performed for soils classified as Zone 3 or 4. If the soil has a PI of less than 20 then the soil percolation testing may be performed year-round. If the soil has a PI equal to or greater than 20 then the soil percolation testing must be performed during open wet weather testing periods. Permit Sonoma shall open wet weather testing periods based on the criteria within the OWTS Manual and shall provide a public notice online.

A. Soil percolation tests shall be configured per the following:

1. Prepare a minimum of six percolation holes spaced uniformly over the proposed primary dispersal area and the 100% reserve replacement area.
2. Prepare three additional percolation holes for sites requiring 200% reserve replacement areas (minimum total of nine holes).
3. Prepare additional percolation holes, as necessary, to justify extents of suitable soil for the anticipated system size.
4. Locate the percolation holes in manner to uniformly cover the area of the proposed design.
5. Create a site plan that includes all applicable features noted in the Required Site Plan Information section of this form. All percolation holes (passing and failing) shall be identified on the site plan using numbers, letters, or a combination of both, and by GPS coordinates within the table provided in this form.
6. A minimum of three passing holes are required to justify a septic system design. Each hole (passing or failing) shall be assigned a 25 foot radius. The septic system design shall only incorporate passing holes and avoid failing holes.

B. Soil percolation test holes shall be constructed per the following:

1. Dig or bore the holes four to eight inches in diameter to the required vertical depth of the proposed trench, at least 12 inches below the proposed effluent pipe and at the depth required to prove two to three feet of soil below the trench bottom. Different, inconsistent and more restrictive soil horizons within the three feet of soil below the proposed trench shall be tested. Use Tables 7.8a and 7.8b in the OWTS Manual as a reference.
2. Remove all loose material after scraping the bottom and sides to remove any smeared soil surfaces.

**SOIL PERCOLATION TEST DATA
(COUNTY DECLARED DISASTER)**

WLS-040

3. Add clean pea gravel, maximum of one inch deep, to stabilize the hole.
 4. Insert a three to four inch diameter pipe and place clean pea gravel around the exterior of the pipe, minimum 12 inches deep or to ground surface, to stabilize the test pipe.
 5. For percolation testing setups using backhoe excavations, a secondary four to eight inch diameter hole shall be bored to the depth of the proposed trench bottom in undisturbed soil and shall be a minimum of 12 inches deep (See OWTS Manual, Figure 7.8b). Do not back fill soil around pipe in backhoe holes.
- C. Presoaking of percolation test holes shall be performed per the following:
1. If the percolation test is completed during a 10 day wet weather groundwater testing period then presoaking of percolation test holes is not required.
 2. Presoak all percolation test holes within the 24 period before the percolation testing begins by filling the holes with clean water and refilling a minimum of four times.
 3. **Note:** Water remaining in the bottom of the percolation hole is indicative of impermeable soil at the bottom of the trench.
- D. Soil percolation tests and measurements shall be performed per the following:
1. Take accurate measurements to the nearest 1/8 of an inch.
 2. Record all readings and measurements taken in the tables provided within this form.
 3. If water remains in the percolation test hole from presoaking then:
 - a. Measure depth of water in inches.
 - b. Add clean water to the hole to adjust the water level in the hole to 12 inches above the gravel base.
 - c. Measure the drop in water level from a fixed point at the top of the pipe to the top of the water surface each hour for six hours.
 4. If no water remains in the percolation test hole from presoaking then:
 - a. Add clean water to the hole to a depth of 12 inches above the gravel base.
 - b. Measure the drop in water level from a fixed point at the top of the pipe to the top of the water surface each hour for six hours.
 - c. Add more clean water to 12 inches above the gravel base when the hole is empty or after any reading where the water level is less than two inches above the gravel base. Record the new water level.
 - d. Continue taking measurements for a minimum of six hours.
 5. If the percolation test hole is dry before the first 60 minutes then:
 - a. Add clean water to the hole to a depth of 12 inches above the gravel base.
 - b. Measure the drop in water level from a fixed point at the top of the pipe to the top of the water surface every ten minutes for two hours.
 - c. Add more clean water to 12 inches above the gravel base when the hole is empty or after any reading where the water level is less than two inches above the gravel base. Record the new water level.
 - d. Continue taking measurements for a minimum of two hours.
- E. Complete all remaining fields within this form and sign, stamp, and date the Qualified Consultant Certification section.
- F. Submit a completed copy of this form with the septic permit application.

**Soil Percolation Test Data Form
(Sonoma Complex Fire)**

Site Information:

Site Address

City/Town/Location

Assessor's Parcel Number(s)

Date of Testing

Qualified Consultant:

Name

Company (if applicable)

Address

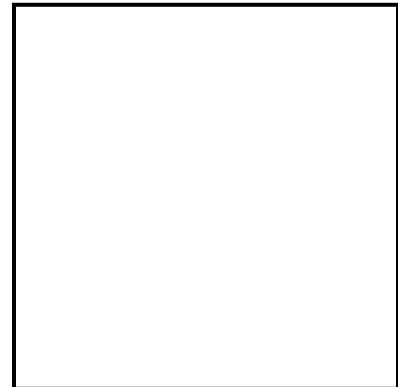
City/State/Zip Code

Email

Phone

Qualified Consultant Certification:

"I certify the soil percolation tests have been performed by me, or under my responsible charge, in compliance with the procedures contained within this document and the County of Sonoma Onsite Wastewater Treatment System Regulations and Technical Standards (OWTS Manual). The information reported on this form represents the true and accurate results of work performed at the site address on the date of testing noted above."



Signature of Qualified Consultant

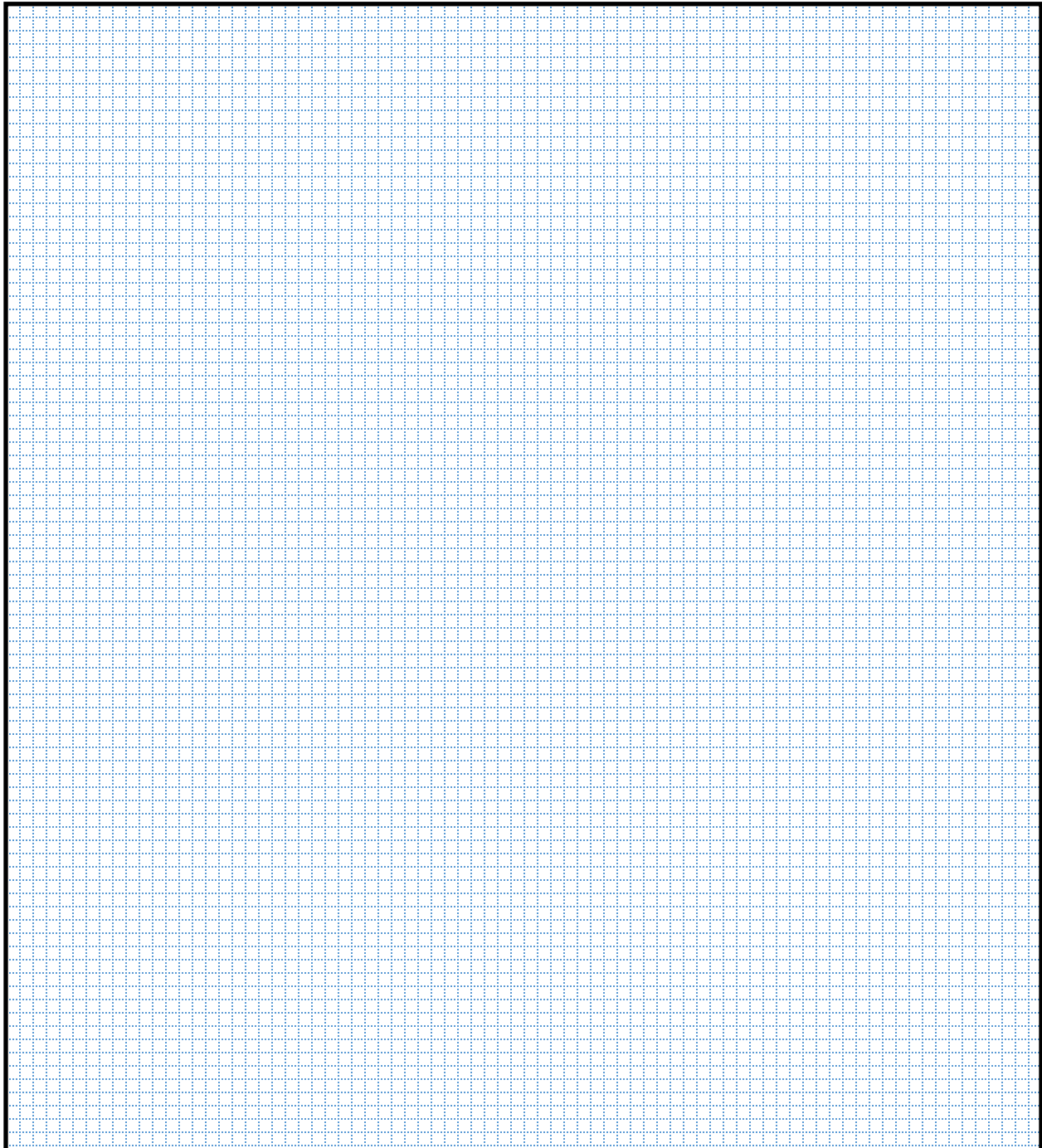
Professional Seal

Date

License/Registration Expiration Date

Required Site Plan Information:

A site plan is required to identify the location of soil percolation test holes and significant features of the property. The site plan must be of sufficient clarity to identify the following minimum requirements: all soil percolation test holes clearly labeled and identified, north arrow, property lines, water wells, waterways and drainage features, ponds, cut banks, rock outcrops, building locations, roads, existing septic system components (if applicable), and any other significant site features. The site plan shall either be drawn in the space provided below or be created using conventional drafting techniques or software and be submitted as an addendum to this form.



Soil Percolation Test Results:

Use the tables provided below to record soil percolation test results. Attach additional sheets as needed.

Soil Percolation Hole #: _____ GPS Coordinates: _____ (Latitude, Longitude)

Hole Depth: _____ in Pipe Length: _____ in Presoak Remaining: _____ in

	Measurements							Rate (MPI)
	Start	1	2	3	4	5	6	
Time								
Inches								

Comments: _____

Soil Percolation Hole #: _____ GPS Coordinates: _____ (Latitude, Longitude)

Hole Depth: _____ in Pipe Length: _____ in Presoak Remaining: _____ in

	Measurements							Rate (MPI)
	Start	1	2	3	4	5	6	
Time								
Inches								

Comments: _____

Soil Percolation Hole #: _____ GPS Coordinates: _____ (Latitude, Longitude)

Hole Depth: _____ in Pipe Length: _____ in Presoak Remaining: _____ in

	Measurements							Rate (MPI)
	Start	1	2	3	4	5	6	
Time								
Inches								

Comments: _____

Soil Percolation Hole #: _____ GPS Coordinates: _____ (Latitude, Longitude)

Hole Depth: _____ in Pipe Length: _____ in Presoak Remaining: _____ in

	Measurements							Rate (MPI)
	Start	1	2	3	4	5	6	
Time								
Inches								

Comments: _____