LIQUID WASTE LAWS

PORTER COLOGNE WATER QUALITY ACT

Creates the State Water Resources Control Board

Water Resource Control Board is divided into 9 Regional Water Quality Control Boards.

Each Regional Board has developed a Basin Protection Plan and implemented guidelines for on-site sewage.

MOU grants county the authority to oversee on-site program. Local ordinance and regulations are reviewed by RWQCB to ensure compliance with Basin Plan.
LIQUID WASTE LAWS

CALIF. HEALTH AND SAFETY CODE

Section 5411 - Prohibits improper discharge of waste.

17920.3 - substandard housing code sections.

UNIFORM PLUMBING CODE

Adopted by local ordinances and CA state law.

Governs prohibitions, construction, materials, and inspections.
LIQUID WASTE LAWS
LOCAL ORDINANCES
FUNCTION OF A SEPTIC SYSTEM

• TREAT SEWAGE SO THAT IT IS MADE HARMLESS.
  KILL DISEASE CAUSING BACTERIA, VIRUSES, ANDPROTOZOANS.
  REDUCE HOUSEHOLD CHEMICAL CONCENTRATIONS.
  REDUCE BIOLOGICAL OXYGEN DEMAND.

• DISPOSE OF SEWAGE (MAKE IT GO AWAY).
LIQUID WASTE
STEPS TO INSTALLING A SEPTIC SYSTEM

SITE EVALUATION

WITHOUT THOROUGH SITE EVALUATION TO DETERMINE THE BEST LOCATION AND DESIGN OF THE SEPTIC SYSTEM EVEN A WELL CONSTRUCTED AND PROPERLY USED SYSTEM MAY PREMATURELY FAIL.

ON SITE REVIEW

SOIL PROFILE EVALUATION
HYDROMETER TEST
PERCOLATION TEST
Figure 4.9 - Steps in soil texturing

Start

Place approximately 25 g soil in palm. Add water dropwise and knead the soil to break down all aggregates. Soil is at the proper consistency when plastic and moldable, like moist putty.

Add dry soil to soak up water.

Does soil remain in a ball when squeezed?

YES

NO

Is soil too dry?

YES

NO

Is soil too wet?

YES

NO

SAND

Place soil of soil between thumb and forefinger gently pushing the soil with the thumb. Squeezing it upward into a ribbon. Form a ribbon of uniform thickness and width. Allow the ribbon to emerge and extend over the forefinger, breaking from its own weight.

LOAMY SAND

Does soil form a ribbon?

NO

YES

Does soil make a weak ribbon less than 2.5 cm long before breaking?

NO

YES

SANDY LOAM

Does soil feel very gritty?

YES

NO

SANDY CLAY

Does soil feel very smooth?

YES

NO

SANDY LOAM

Does soil feel very gritty?

YES

NO

SANDY CLAY

Does soil feel very smooth?

YES

NO

SILTY LOAM

Does soil feel very gritty?

YES

NO

SILTY CLAY

Does soil feel very smooth?

YES

NO

SILT LOAM

Neither grittiness nor smoothness predominates.

SILTY CLAY

Neither grittiness nor smoothness predominates.

SANDY CLAY

Neither grittiness nor smoothness predominates.

CLAY

Neither grittiness nor smoothness predominates.

CLAY

Excessively wet a small pinch of soil in palm and rub with forefinger.
<table>
<thead>
<tr>
<th>Class</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sand</td>
<td>0.05 - 2.0 mm</td>
</tr>
<tr>
<td>Silt</td>
<td>0.002 - 0.05 mm</td>
</tr>
<tr>
<td>Clay</td>
<td>&lt;0.002 mm</td>
</tr>
</tbody>
</table>
SITE EVALUATION

PLAN REVIEW

IF THE DESIGN DOES NOT ADDRESS CONDITIONS AT THE SITE, EVEN THE BEST CONSTRUCTED AND PROPERLY USED SEPTIC SYSTEM MAY FAIL PREMATURELY OR CAUSE ENVIRONMENTAL CONTAMINATION.
LIQUID WASTE

STEPS TO INSTALLING A SEPTIC SYSTEM

SITE EVALUATION

PLAN REVIEW

CONSTRUCTION

Even if a system is sited and used properly, it may have a shortened lifespan if faulty construction materials are used, or proper materials are used, but installed wrong.
Structure

Note: The sewage disposal system must be installed so that all minimum setbacks are maintained between individual components of the system and conditions existing on the property. All plans submitted for review must show the system drawn to scale, meeting all minimum setbacks, and installed on contour.
Existing Grade

4 inch perforated drain pipe (holes placed downward)

Filter Fabric

Native Soil Backfill

12 inches

Inspection Well with threaded cap or plug (as required by the Environmental Health Division)

Existing Ground

Flow

3/4 to 2 1/2 inch. Washed Drain Rock

2 inches of drain rock above drain line

18 inches of effective drainfield depth

Solano County Standard Detail

Figure 9 - Drainfield Side View

DATE: 05.18.00  SCALE: N.T.S.  DRAWN BY: koc
FIGURE 7-31
DISTRIBUTION NETWORK FOR EXAMPLE 7-2

3 in. Manifold

From Dosing Chamber

Hole Spacing 30 in.

1½ in. Laterals

40 ft.

3 ft.

9 ft.

9 ft.

9 ft.

9 ft.
System overlaying a permeable soil lens over creviced bedrock.
Estimated Linear Loading Rate = 8 to 10 gal/day/ft

System overlaying a deep permeable soil lens over a fluctuating water table.
Estimated Linear Loading Rate = 6 to 8 gal/day/ft

System overlaying a shallow permeable soil lens over a semi-permeable soil layer.
Estimated Linear Loading Rate = 2 to 6 gal/day/ft

System overlaying a shallow permeable soil lens over an impermeable soil layer.
Estimated Linear Loading Rate = 3 to 4 gal/day/ft
Figure 16: Profile View of Typical Mound System.

Figure 17: Plan View of Typical Mound System.

Mound Width = (b)+(d)+(g)
Mound Length = (e)+(2i)

LEGEND
MW = MONITORING WELL
PD = 1 1/4" PVC SCH 40 PIPES
3/16" HOLES 24" O.C.
AV = ADJUSTING VALVE
1 1/4" PVC SCH 60 GATE VALVE
PV = PLEBCE VALVE
1 1/4" PVC SCH 60 BALL VALVE
PM = 3" PVC SCH 40
Introducing FAST Wastewater Treatment Systems

You won’t see, hear or smell it working.

1. FAST wastewater treatment systems process all the wastewater from single-family homes, clusters of homes, small communities or even the high-strength wastes from restaurants or commercial facilities.

2. Natural separation and settling processes occur in the first compartment of the underground tank.

3. Remote blower (the system’s only moving part) delivers large volumes of air into the heart of the system, creating vigorous water movement. FAST is oxygen-rich and self-cleaning.

4. Proven, reliable FAST treatment module provides the perfect environment for “friendly bacteria” to grow and multiply. FAST consistently processes and removes more than 95% of common impurities. Special patented technology allows exceptional Total Nitrogen reductions (including nitrates) of more than 70%.

5. Clear, odorless treated water is ready for standard or innovative dispersal.

MicroSepTec

- High Efficiency Blowers
- On Board Computer
- Disinfection Unit
- At Ground Level
- Thermal Processor
- Primary Compartment
- Sludge Transfer Pump
- Aeration Diffusers
- Bio Solid Transfer & Denitrification Pump

IAPMO TANK CERTIFICATION FOR:
600 Gallon per day - 1200 Gallon per day - 1500 Gallon per day
LIQUID WASTE
AFTER INSTALLATION

Operation and Maintenance

EVEN WITH PROPER SITING, DESIGN, AND CONSTRUCTION, A SYSTEM WILL HAVE A SHORTENED LIFESPAN IF NOT PROPERLY OPERATED OR MAINTAINED.