On-Site Sewage Disposal Systems

Santa Barbara County Environmental Health Services
On-Site Sewage Disposal Systems

- History
- Standard Septic Systems
- Regulation and Inspection of Septic Systems
- Septic System Upgrades and Maintenance
- Available Resources
Historical Background

- Pre-civilization
- 735 BC Rome
  The first sewer system
- 1370 AD France
  The first covered sewer was constructed
- 1539 AD France
  Cesspools were ordered to be built for each new dwelling constructed
- 1849-1854 London
  Over 20,000 people died from cholera
- 1897 England
  The first tank to be patented as a septic tank was introduced
Today

- Today 25% - 30% of U.S. households use onsite or individual septic disposal systems (OSDS or ISDS)
- One-half million new systems per year
- Only 32% of the total land suitable soil for septic system siting
Standard Septic Systems

- An onsite septic disposal system is like a small sewage treatment plant

  - Septic tank
    Primary treatment by anaerobic bacteria

  - Disposal field
    Secondary treatment through aerobic and an aerobic bacterial action
Onsite septic disposal system
Disposal Fields

Approved methods
- Leach lines
- Drywells

Currently Unapproved
- Seepage Pits
- Cesspools
Leach Lines

- Always the first choice
- Aerobic bacteria
- Evapo-transpiration

Effluent from tank entering disposal field
Drywells

- Deep disposal
- Less area required for installation
Regulatory Authority

- Authority
- Permit types
- Servicing (pumping)
  - Voluntary servicing
  - Mandatory reporting
  - Licensed pumpers
  - Recommended frequency
Inspection Reports

- Record system deficiencies
  - Corroded concrete
  - Lack of risers
  - Conditions that may be hazardous

- Report to homeowners and EHS (within 30 days)
- Qualified inspectors
Typical Problems

Terms on a septic system inspection form

Structural and operational problems

Solutions

<table>
<thead>
<tr>
<th>Deficiency</th>
<th>Typical Corrective Action</th>
<th>Permit Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insufficient access to both compartments</td>
<td>Install risers &amp; septic tank to meet current code requirements</td>
<td>No</td>
</tr>
<tr>
<td>Access ports deeper than 24 inches</td>
<td>Install risers to within one foot of grade</td>
<td>No</td>
</tr>
<tr>
<td>Deteriorated lid(s)</td>
<td>Replace lid(s)</td>
<td>No</td>
</tr>
<tr>
<td>Deteriorated top of tank</td>
<td>Replace / repair</td>
<td>No</td>
</tr>
<tr>
<td>Deteriorated baffle between compartments</td>
<td>Replace / repair</td>
<td>No</td>
</tr>
<tr>
<td>Severely damaged or deteriorated septic tank</td>
<td>Replace septic tank</td>
<td>Yes</td>
</tr>
<tr>
<td>Unfilled septic pit</td>
<td>Fill w/ rock or abandon</td>
<td>Yes</td>
</tr>
<tr>
<td>Cesspool (porous sides &amp; bottom)</td>
<td>Abandon &amp; replace with approved septic tank and disposal field</td>
<td>Yes</td>
</tr>
<tr>
<td>Failed disposal field with discharge to</td>
<td>Add new field w/ diversion valve - match or exceed existing</td>
<td>Yes</td>
</tr>
<tr>
<td>surface</td>
<td></td>
<td></td>
</tr>
<tr>
<td>System constructed without required permit</td>
<td>Obtain permit</td>
<td>Yes</td>
</tr>
<tr>
<td>Discharge of greywater to ground surface or</td>
<td>Direct wastewater to approved disposal field</td>
<td>Yes</td>
</tr>
<tr>
<td>drainage course</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disposal field not adequately absorbing</td>
<td>Clean blockage / repair pipe</td>
<td>No</td>
</tr>
<tr>
<td>septic tank effluent</td>
<td>Replace / septic disposal field</td>
<td>Yes</td>
</tr>
<tr>
<td>Septic tank constructed of metal or wood</td>
<td>Replace with EPA approved tank made of approved material</td>
<td>Yes</td>
</tr>
<tr>
<td>Inadequate tank capacity</td>
<td>Replace with proper size tank</td>
<td>Yes</td>
</tr>
<tr>
<td>Missing inlet / outlet tee(s)</td>
<td>Replace missing tee(s)</td>
<td>No</td>
</tr>
</tbody>
</table>

[Table 8.1101]
Mandated System Upgrades

Modifications*

- Cesspools and hollow seepage pits
  - Abandonment/Destruction
  - Conversion to drywell
- Adding system components
  - Septic tank
  - Disposal field
- Upgrading failed systems to current standards

*Permit Required
Mandated System Upgrades (continued)

- Repairing deteriorated concrete
  - corroded baffles
  - lids
  - tops
  - inadequate access to tank (unable to inspect)

- Retrofitting access risers to reach grade level

Note: No permit required from EHS for these repairs, but report of maintenance to EHS is required.
Maintenance and Service

- Maintenance means replacement of any septic tank components:
  - lid*
  - tees
  - ell
  - baffle plate*
  - sewer lateral*

* mandatory repair or replacement
Care and Feeding

- Management of the system is the key
- Have the tank inspected and pumped every 3 to 5 years
Keep Records

- **System locations on your property**
  - Map or drawings triangulate off house feature

- **History of servicing and inspection**
  - Inspection reports
  - Permits for system repair or expansion
Check for Signs

Be alert to signs of a failing system

- Sewage surfacing over the drain field
- Soggy, very green areas
- Sewage back-ups in the house
- Slow draining toilets or drains
- Sewage odors
Never inspect a septic tank alone!

Never enter a septic tank, NEVER!

Toxic, DEADLY gases can be present in septic tanks!
What goes into a septic tank?

- Toilet leaks 5%
- Toilet 28% (Blackwater)
- Bath 9%
- Shower 21%
- Clothes Washer 22%
- Faucets 12%
- Dishwasher 3%
Do Not Flush

- **Materials difficult to break down**
  - cigarette butts
  - paper towels
  - disposable diapers
  - feminine products

- **Hazardous materials**
  - pesticides
  - paints
  - waste oil

Septic system additives are **not** recommended.
Graywater Systems

- Graywater is considered waste water.
- It consists of:
  - ONLY water from bathtubs, showers, bathroom sinks, clothes washing machines, and laundry tubs
  - NO toilet water, kitchen sink or dishwasher water
- Graywater systems must be permitted
Future Changes and Benefits

- **Assembly Bill 885 (enacted 9/27/00)**
  - Additional regulations

- **Phase III septic system ordinance review**
  - Potential local code changes

- **Special state funding**
  - Septic System Sanitary Survey Project
  - Septic to sewer conversion loan program
More Future Changes and Benefits

- **Loan program elements**
  
  Funding for:
  
  - Proper abandonment of septic system
  
  - Installation of sewer lateral
  
  - Connection to sanitary district sewer mains
Even More Future Changes and Benefits

- **Additional incentives**
  - Reduced or eliminated permit costs and connection fees (not for all districts)
  - Low interest rate (2-3%)
  - Discounts from septic system contractors
  - Most or all costs may be tax deductible
Environmental Health Services

Ask for your District Specialist

(805) 681-4900   South County
(805) 346-8460   North County

Website:  www. sbcphd.org/ehs
Email:  PHD-Septic@co.santa-barbara.ca.us
Questions