

# sewage management



## composting toilet



*In unsewered areas, choosing an appropriate method for the onsite treatment and disposal of household wastewater is critical in preserving the health of the public and the environment. **Composting toilets** are one alternative that has been developed as a way of achieving sustainable sewage management on residential properties.*

### ◇ what is a composting toilet?

Composting toilets (also known as humus closets or biological toilets) are systems which rely on the principles of composting by micro-organisms to decompose human waste, paper and other materials into humus. They come in two varieties; dry (waterless) or wet.

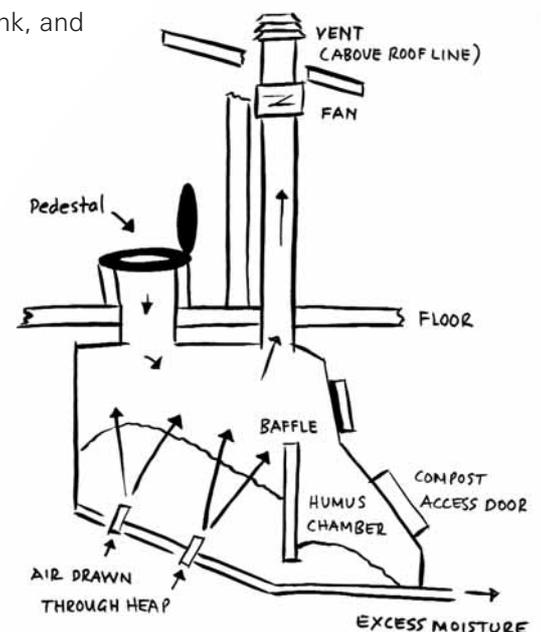
Dry composting systems can generally contain either a continuous or batch method of waste material collection. Continuous systems contain one chamber, whilst batch systems contain several bins, with rotation occurring after each bin is filled. Dry composting systems are typically installed directly below the toilet and treat toilet waste only. Wet composting systems on the other hand may be installed below floor level adjacent to the house and may treat wastewater from other sources such as showers, sinks and washing machines.

### ◇ how does a dry composting toilet work?

Excreta (both faeces and urine) are collected in a sealed chamber beneath the toilet seat. Extra organic matter such as wood shavings, paper or vegetable scraps are added to create an ideal composting environment. Micro-organisms decompose the material, with around three quarters of it being converted to carbon dioxide and water vapour.

Air drawn through an exhaust pipe removes these gases and assists in creating the perfect living environment for the micro-organisms.

Any remaining solid material slowly moves down a sloping floor as more material is added to the pile. It then moves under a dividing baffle into the humus chamber and becomes friable compost. Excess liquid either flows into the greywater stream, which includes all other wastewater generated in the bathroom, kitchen and laundry, or is directed to a separate land application area. Greywater is usually directed to a separate tank, and from there discharged to a land application area.



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### ◇ how does a wet composting toilet work?

Unlike dry composting toilets, wet composting systems can be used in conjunction with flushing toilets, and all liquid deposited into the system filters through the solid matter within the chamber. Extra organic material such as waste food residues, paper or vegetable scraps can be added to improve the decomposition process. Worms and bacteria work to break down the solids in a similar manner to the dry composting toilets, and compost is removed from the base of the pile via a separate chute.

Filtered wastewater is collected at the bottom of the tank and is either pumped or gravity fed to a land application area (trench).

### ◇ maintaining your composting toilet

The maintenance of the composting toilet is the responsibility of the owner/occupier and is not normally subject to a maintenance contract. Maintenance varies among composting toilets, and the needs of particular units should be specified clearly in a manual provided by the manufacturer. If maintenance is not undertaken properly there is an increased risk of disease and odour generation. It is recommended that an approved contractor service units annually. The minimum composting period should be 12 months. Unless otherwise permitted by Council or the NSW Department of Health, all compost from your system must be buried within the boundaries of your premises.

The cover of the soil over the deposited humus must be at least 300mm. Compost must also not be buried in an area used for the cultivation of crops for human consumption, unless:

- Compost is placed in a separate lidded composting bin providing aeration for at least three months with no further addition; or
- Compost has seasoned underground for at least three months.

### ◇ approval to operate

The NSW Government introduced the SepticSafe Program in 1998 to help property owners and Councils keep onsite sewage management systems working efficiently and safely. All owners of sewage management systems are now required to apply to Council for an Approval to Operate. This Approval is a means by which the Council can monitor and manage the cumulative impact of sewage pollution in local areas. The Approval also ensures that property owners are aware of their responsibility to efficiently operate and regularly maintain their system.

### ◇ further information

*Department of Local Government 'SepticSafe Program'*  
- [www.dlg.nsw.gov.au/dlg/dlghome/dlg\\_home.asp](http://www.dlg.nsw.gov.au/dlg/dlghome/dlg_home.asp)

*Local Government (Approvals) Regulation 1999*  
- [www.austlii.edu.au](http://www.austlii.edu.au)

*Approval to Operate Application Form*  
- [www.hornsby.nsw.gov.au](http://www.hornsby.nsw.gov.au)



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#### **FURTHER INFORMATION**

General information on composting toilet systems can be obtained from the Environmental Health & Protection Team on **9847 6829**.