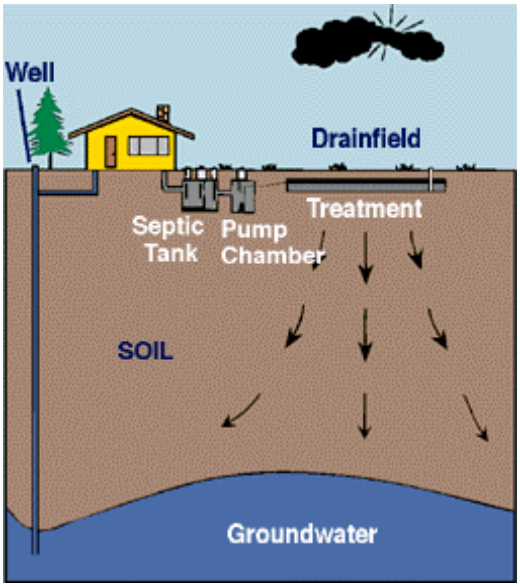
WASHINGTON STATE UNIVERSITY
MASON COUNTY EXTENSION

LANDSCAPING YOUR DRAINFIELD

On-site sewage systems and their drainfields represent an important investment for the homeowner. Proper planning and protection of your system from damage can save substantial time, work and money. It is important to identify the location of your septic system's components before doing any landscaping, gardening or construction work. In order to do so, a basic understanding of how your system is designed and constructed is essential. A design drawing or an "As-Built" drawing of your system may be available from your local county health department. Knowing how a basic system works may help you understand your particular system.



Basic Septic System Operation: Residential septic systems are designed to collect, treat and dispose of household wastewater. Typical systems consist of these basic working parts: septic tank, pump chamber (not always), drainfield and the soil below the drainfield.

The primary function of the **septic tank** is to separate and store solids. As wastewater, containing large quantities of suspended matter enters the tank, a simple physical separation or settling occurs. Heavy solids settle to the bottom of the tank forming the *sludge layer*. Lighter solids, primarily paper products, soaps and greases float to the top forming the *scum layer*. What remains in the center of the tank is a clarified liquid known as *effluent.* Bacterial action in the tank helps to further reduce suspended organic material, which also contributes to effluent clarification. The septic tank is designed so that just the clarified effluent then moves out into the drainfield. The **pump chamber** takes the effluent from the septic tank and spreads it out across the entire drainfield usually in timed doses of specific amounts.

The function of the **drainfield** is to distribute the clarified effluent over a large area of soil. Flow to the drainfield may be accomplished by using a pump chamber (pressure distribution) or by allowing the effluent to flow by gravity from the septic tank to the drainfield.

The **soils below the drainfield** provide the third and final step in the treatment process. As the effluent slowly trickles downward through the soil, it comes in contact with the surface of the individual soil particles and undergoes various chemical and bacteriological reactions. Beneficial bacteria and other micro-organisms that live in the soil provide a vital role in removing contaminants from the effluent.

Treated effluent eventually joins nearby groundwater. This groundwater may be eventually discharged to streams or area wells.

Proper care and planning for your drainfield includes the following:

- Do not build structures or use impermeable materials such as concrete or plastic over your drainfield. Doing so will reduce evaporation and the supply of vital oxygen to the micro-organisms that live in the soil.

- Observe surface water runoff and divert water from flowing towards the drainfield area. Do not over-irrigate plants in the area. Excess watering reduces the soils ability to treat wastewater.

- Do not allow vehicles, heavy equipment or livestock on the drainfield area. The pressure may compact the soil and possibly damage components or pipes.

- Keep aggressive, deeply rooted plants away from the drainfield. These may invade and clog drainpipes. Do not plant trees on or immediately adjacent to the drainfield. "Nearby" trees pose a risk proportional to proximity and should be evaluated on an individual basis.

- Use planters, birdbaths, sundials or other decorative accessories to mark the location of important system components.

- When planning a new landscape for your drainfield area you should avoid deeply rooted plantings and plants with high water requirements. Remember that natural landscapes and native grasses do not need much maintenance or mowing. They also provide food and cover for small birds and animals. By mixing with shallow rooting native flowers, you can create a prairie or meadow.

The following pages lists plants that are suitable for use on drainfield areas.

Covers Suitable for Drainfields

	SPECIES	COMMON NAME
1. Grasses		
	Agrostis alba*	Redtop bentgrass
	Agrostis palustris	Creeping bentgrass
	Agrostis Stolonifera L.	Creeping bentgrass
	Agrostis tenuis*	Colonial bentgrass
	Agrostis canina	Velvet bentgrass
	Deschampsia Cespitosa ssp. Beringensis*	Tufted hairgrass
	Danthonia intermedia*	Timber oatgrass
	Dactylis glomerata*	Orchardgrass
	Festuca rubra*	Red fescue
	Festuca Rubra var.fallax	Chewing fescue
	Festuca longifolia	Hard fescue
	Hordeum jubatum*	Foxtail barley
	Lolium perenne*	Perennial ryegrass
	Poa nemoralis	Wood meadow grass
	Poa annua*	Annual bluegrass
2. Mosses		
	Lycopodium clavatum*	Running clubmoss
	Lycopodium complanatum*	Ground cedar
	Lycopodium selago*	Fir clubmoss
	Lycopodium stichense*	Alaska clubmoss
3. Ferns		
	Asplenium trichomanes*	Spleenwort
	Polystichum munitum*	Sword fern
	Blechnum spicant*	Deer fern
	Chellanthes gracillima	Lace fern
	Cryptogramma crispa*	Parsley fern
	Gylmnocarpium dryopteris*	Oak fern
	Polystichum andersonii*	Anderson’s sword fern
	Athyrium filex-femina*	Lady fern

* -Indicates that varieties of this species are native to western Washington.

Note: Although it is never recommended to grow edible crops over drainfields, herbs grown for ornamental purposes also provide excellent drainfield cover.

Plants Suitable for Drainfields

1. **Herbaceous annuals.** (There are many others).
   Ageratum (Ageratum houstonianum)
   Wax Begonia (Begonia semperflorens)
   Coleus (Coleus species)
   Impatiens (Impatiens species)
   Lobelia (Lobelia erinus)
   Sweet alyssum (Lobularia maritima)
   Geranium (Pelargonium x hortorum)
   Petunia (Petunia x hybrida)
   Salvia (Salvia species)
   Marigold (Tagetes patula)
   Zinnia (Zinnia elegans)

2. **Herbaceous perennials such as:**
   America, Seathrift (Armeriac maritima)
   Astilbe (Astilbe x arendsii)
   Basket of Gold (can also be used as a ground cover) (Aurinia saxatilis)
   Campanula (Campanula species)
   Snow in summer (Cerastium tomentosum)
   Lily of the Valley (Convallaria majalis)
   Sweet William (Dianthus barbatus)
   Cottage (and other) Pinks (Dianthus species)
   Coral Bell (Heucheria sanguinia)
   Candytuft (Iberis sempervirens) evergreen
   Lavendar (Lavenduia angustifolia) evergreen
   Moss Pink (Phlox subulata)
   Heather (Calluna vulgaris)
   False Lily of the Valley (Maianthemum dilatatum)*

3. **Ground Covers (all perennial)**
   Carpet Bugle (Ajuga reptans)
   Kinnickinnick (Arctostaphylos uvi-ursa)*
   Irish moss (Arenaria verna)
   Bunchberry (Cornus Canadensis)*
   Twinflower (Linnaea borcalis)
   Wintergreen (Gaultheria procumbens)
   Salal (Gaultheria shallon)*
   Lydia broom (Genista Lydia)
   Pachysandra (Pachysandra terminalis) Shaded area only!
   Stone Crop (Sedum species)
   Hens and Chicks (Sempervirum tectorum)
   Periwinkle (Vinca minor)
   Thyme (Thymus species)

*- Indicates that varieties of this species are native to western Washington.

List compiled from information provided by Jim Freed, Ray Maleike and the Master Gardeners of WSU Mason County Extension. Author, Bob Simmons, Rev. 10-2006