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An AWTS is a purpose built system designed specifically for treatment of sewage from a single household or multiple dwellings. It consists of a series of treatment chambers combined with a land irrigation system. An AWTS provides people living in unsewered areas with a system that adds additional treatment to their wastewater to that normally provided by a septic tank.

HOW DOES AN AWTS WORK?

The aerated wastewater treatment system (AWTS) is an alternative to the conventional septic system which uses the processes of aeration, clarification and disinfection to treat the wastewater to a level which is suitable for above ground irrigation to Land Application Areas (LAA's) or sub- surface disposal (SSD).

Aerated wastewater treatment systems (AWTS) use aeration of wastewater as an integral part of the treatment process. A typical AWTS treats wastewater through the following process:

- Settling of solids and flotation of scum in an anaerobic primary chamber (septic tank);
- Oxidation and consumption of organic matter through aerobic biological processes;
- Clarification - secondary settling of solids;
- Disinfection using chlorine or other approved means if surface land application of treated wastewater is to occur; and,
- Regular removal of sludge to maintain the process.

IRRIGATION SYSTEMS ASSOCIATED WITH AN AWTS

a Surface Irrigation – Land Application Areas

The irrigation of wastewater is applied to the designated Land Application Area (LAA) from the AWTS. The most common method of application for surface irrigation is by sprayers or sprinklers with low pressure devices. The spray head plume radius should be restricted to not more than 2 metres with a maximum plume height of not more than 400 millimetres. Drip and trickle systems may also be used to allow water to drip to the soil, below at least a 100mm layer of bark, woodchip or mulch. The effluent which is applied to the area of irrigation is absorbed by the soil and is taken up by vegetation or evaporated. However, surface irrigation systems will only be permitted upon sites with suitable geology / soil depth (ie with no waterlogging) and flat to gently sloping land. The minimum area for surface irrigation must be calculated in accordance with AS /NZ 1547:2000 or the Environment and Health Protection Guidelines – Onsite Sewage Management for Single Households 1998.

b Sub-Surface Disposal

Sub-surface disposal is the method of discharging treated effluent below the ground to deal with on-site wastewater. Sub-surface or drip irrigation is the only acceptable method of reclaimed effluent disposal from an AWTS located within a high risk classification area.

The principle of AWTS subsurface disposal is similar to an evapotranspiration area in that the effluent is evaporated from the ground and transpired by the vegetation on the surface area. The sub-surface system involves the use of a series of drainage irrigation pipes to discharge effluent evenly along the length of the pipeline (ie pressure compensating line).

All AWTS are required to have a Council Approval to Operate and NSW Department of Health accreditation. They must be regularly serviced every quarter by a qualified service technician to ensure the proper functioning of the AWTS and records of servicing must be forwarded to Council for its record keeping purposes. Further information is available by contacting Wollongong City Council on 4227 7111.