



ON-SITE SEWAGE MANAGEMENT SYSTEM



INFORMATION PACK

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Notice To All Applicants Installing an On-site Sewage Management System

Please complete all relevant sections of the application form and return the form to Council. A site inspection must be conducted by a Council officer and approval issued **prior to plumbing works being undertaken.**

1. Complete the property, owner and plumber details on the front page.
2. A detailed copy of the house plan is required. A checklist is included which may assist you to complete the application.
3. A plan page at the rear has been provided for your plan of the site layout.
4. Information has been provided on "Septic Tank Care and Maintenance" and "Trees and plants suitable for Septic Systems". This information can be retained by yourself and may assist you in the planning of your system.

It is important to include all of the details listed above. The information is used to assess the application and ensure that the system you install will protect the health and safety of the inhabitants of the building and others in the immediate area.

It is advisable that an on-site meeting with the plumber of your choice and the Environmental Health Officer take place prior to any works. A permit to install the system is required prior to commencement of works. I trust this information package is of assistance.

Should you require further assistance please do not hesitate to call Council's Directorate of Strategic & Community Services on 69269345 during office hours.

Yours faithfully



Mark Gardiner
Manager of Natural Environment & Regulatory Services

CHECKLIST

When filling out an application for a permit to install or alter a septic system, please complete the following checklist:



- The site is clearly located and the distances to roads and property boundaries are included on the plan.
- The position of the septic tank can be located from the plans (It must be at least 3 metres from the house.)
- Fencing of the effluent disposal area and septic tank are indicated on the plan.
- The relative positions of the house, septic tank, and disposal area are clearly marked on the plan.
- Effluent lines are located: -
 - at least 4.5 metres on the uphill side or at least 2.5 metres on the down hill side of boundaries, buildings, easements, storm water systems, underground services i.e. phone, power and gas lines.
 - at least 6 metres on the uphill side or 3 metres on the down hill side of a swimming pool or wading pool.
- The septic tank and disposal areas are sited away from:
 - gardens / recreational areas existing Septic Systems and
 - trees, dams, gullies and wet areas (ie. stormwater disposal)
- A detailed plan showing plumbing layout and all fixtures on the house plan.
- When the plans are approved, you will be posted a copy of an approval to install the new system.

SEPTIC TANK PERMITS APPLICATION INFORMATION

1. APPLICATION AND FEE

When it is intended to install or alter a septic tank system, an application must be completed in full, signed by the property owner or authorised agent. The application must then be lodged with the Council together with the appropriate fee, plans and specifications. An approval in writing will then be issued by Council. Significant variations to the plan may only be made following discussions with Council. Work must not be commenced prior to the issue of the approval.

2. PLANS AND SPECIFICATIONS

Plans of the proposed location for the septic tank system, must be submitted for approval with the application and fee. A copy of the house plan to indicate the exact location of all fixtures and fittings must also be submitted.

The following information is to be clearly shown on plans:

- The location of the house in relation to property boundaries.
- The location of all buildings or proposed buildings, water tanks, swimming pools, driveways, excavations, stormwater drains, water pipes, easement drains, streams and water courses and existing septic tank systems. Where appropriate, the distances from the proposed effluent disposal area must be clearly indicated.
- The fall of land in the vicinity of the effluent disposal area.
- The position of the septic tank and layout of the effluent disposal area.

NOTE: For sand filters or commercial treatment systems, show the method of disposal of final effluent.

Specifications describing materials to be used in construction of the system to be noted on the plans or separately.

3. CONSULTATION

The Environmental Health Officer is normally available for on-site consultation with owners and/or contractors by prior appointment and is normally available with 24 hours notice. It is recommended that applicants consult with Council prior to the completion of an application for an approval particularly in the case of owner/builders.

4. PLUMBING AND SEWER DRAINS

All plumbing work must be carried out in accordance with the NSW Plumbing & Drainage Code, Local Government Act, 1993 and Approval Regulations and the AS3500 as amended.

Septic tanks for all-waste installations must have a minimum 3000 litre capacity and shall conform to Australian Standard AS1546. All tanks must be stamped with the Standards Australia marking. Septic tanks, aerated waste water treatment systems and other effluent treatment devices for household use must have a NSW Department of Health Approval. Septic tanks should be installed as close to surface level as practicable and filled with clean water. Grease interceptors are not required on all waste septic tank systems unless specially requested.

5. INSPECTIONS REQUIRED (MINIMUM)

- (a) Site inspection before approval granted
- (b) Completion of internal house drains.
- (c) Completion of external house drains with septic tank, and effluent disposal pipes in position prior to back filling.
- (d) Completion of backfilled installation and prior to the system coming into use.

ALL SYSTEMS ARE TO BE WATER TESTED PRIOR TO BACKFILL

**PROXIMITY OF SEPTIC TANK AND DISPOSAL AREAS
TO SITE FEATURES**

**Please Note: For flat sites use distances indicated by the Low side
or as otherwise stated**

DESCRIPTION	DISTANCE IN METRES	
Allotment Boundary	High	4.5
	Low	2.5
Building	High	6.0
	Low	3.0
Cuttings, escarpments		25.0
Driveways		2.0
Lakes	Large, well flushed	100.0
	Small, poorly flushed	400.0
Septic Tank	High	2.5
	Low	2.5
Streams	Major	100.0
	Minor/Intermittent	25.0
Sub-surface disposal bed of trench	High	2.5
	Low	2.5
Swamp	High	50.0
	Low	30.0
Swimming Pool	High	6.0
	Low	3.0
Trees		3.0
Underground water tank	High	15.0
	Low	15.0
Water Supply Reservoir	High	200.0
	Low	100.0
Wells, Dams, Ponds		100.0

AS1547 2.6.4 - SURFACE IRRIGATION AREAS(aerated) shall be in a location away from regular pedestrian traffic and recreation areas, so that there is no risk of direct spray or wind-driven spray onto such areas. Effluent shall not be used for irrigation of fruit and vegetables.

SEPTIC TANK SYSTEMS **CARE AND MAINTENANCE**

A Septic Tank installation is a biological system where anaerobic bacteria, which thrive where light and oxygen are excluded, gradually break down solids from human sources (including household sullage where the septic tank is of an 'all waste' type).

Most of the solids will decompose over a period of time, but some will not and there is a gradual accumulation of sludge. The rate that such sludge accumulates depends on a number of factors including the number of persons using the system, the temperature of the sewage in the tank, and the excessive use of disinfectants.

Households using septic tank systems must accept the fact that these systems require regular inspection and maintenance for successful long term, low cost operation.

Septic waste disposal systems have two main parts:

1. A Septic Tank which reduces the solid waste load by bacterial decomposition to produce a sludge which collects at the bottom of the tank; a floating mat of scum; and a liquid effluent which requires further treatment or disposal (refer to diagram).
2. Effluent Disposal/Treatment System which absorbs the septic tank effluent into the ground or treats it to an acceptable standard before discharge to a stormwater drain or stream.

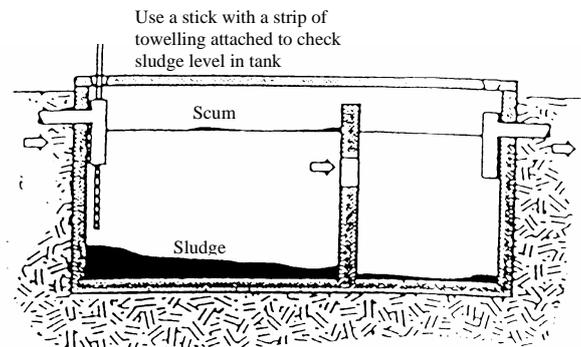
The following information will assist in the efficient operation of your septic tank system:

- Do not pour waste cooking oils/fats down the drain; instead allow these to cool and solidify, or absorb into paper towel, and put into the rubbish bin.
- Restrict food scraps from entering the system by use of a sink strainer. Do not use garbage disposal units.
- Restrict the use of germicides in the household – ie. strong detergents, disinfectants, acidic toilet cleaners, nappy sanitisers, bleaches etc, as they will kill the bacteria which make the septic tank work.
- Do not pour disinfectants directly into the pan. The pan should be cleansed with a pan brush and a solution of warm water and disinfectant. The pan brush may be stored in a container holding disinfectant.
- At least once a year, lift inspection covers over inlet and outlet pipes to determine the depth of the scum mat and sludge. Failure to clean out a tank when required may cause sludge or scum to be carried out of the tank, which will clog the underground disposal system. In this case, not only does the tank have to be cleaned, but the disposal system may also have to be reconstructed.

If the tank is more than half full of sludge (measured from the bottom of the tank to the water level at the inlet inspection hole), or if the water leaving the tank is high in solids, it

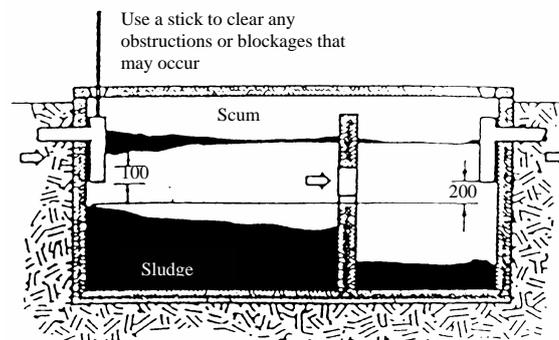
should be de-sludged. Failure to do so will lead to early failure of the effluent disposal/treatment system. The sludge depth can be determined by pushing a stick with a small lid (50-70mm) nailed to the bottom, down the inlet inspection hole until resistance is felt from the top of the sludge.

Satisfactory
Operation



Reasonably clear
effluent is discharged to
the disposal area for
further treatment

Desludging of
Tank required



When the scum is within
100mm of bottom of inlet
and/or sludge is within
200mm of bottom of
outlet, desludging of the
tank is required to prevent
any solids passing
untreated and so clogging
the disposal area.

All dimensions are in millimetres

- Tanks should not be washed or disinfected after the sludge and scum have been pumped out, but simply refilled with water to reduce odours on start up. The means and place of disposal of the tank contents should be approved by Council.
- Dishwashers are not recommended with septic systems, but if used, use a detergent with low alkaline salt levels and low chlorine level.
- Do not flush sanitary napkins or disposable nappies down the toilet.
- Use a soluble type of toilet paper and never use newspaper or similar paper.
- Odour may be experienced shortly after initial use or after addition of a large quantity of germicide. To abate odour, discontinue use of all germicides for a few days and flush one cup of lime down the toilet each day for a few days.
- The use of proprietary or chemical additives is not recommended at any time for septic systems (except for lime used as above).

TREES AND PLANTS SUITABLE FOR USE WITH SEPTIC TANKS

Agapanthus blue or white variety

Cannas red, pink, orange – both tall and dwarf varieties

Japanese Irises two to three feet, colourful variety with flat topped blooms

White calla lillies, Japanese Anenomes, white or pink

Heleniums, Dwarf bamboos (golden or striped stems)

Phormium (NZ flax), Hesta (Plantain lily), Bonfire Salvia

These are all strong growing perennials which form clumps and (excepting Salvia) can remain without much attention for several years.

Keep them tidy by removing dead blooms and leaves.

If not exposed to frosts, even the Salvias will last two or three years, although they are usually treated in gardens as annuals.

The following evergreen shrubs usually tolerate poorly drained soil and should flower.

Sprengelia pink, three feet

Zenobia white flowers, grey feet, several colours

Kalmia angustifolia not latifolia pink, three feet

Bauera sessiliflora rose, four feet

Leycesteria purple and white, six feet

Melaleuca gibbesa tiny leaves, purple, six feet

If more are required, the following deciduous shrubs without leaves in winter may be distributed among the evergreen.

Clethra Ahifolia white, fragrant (not arborae) six feet

Cornus Stololifera red winter stems, four feet

Itea verginica white fragrant, four feet

Spiraea donglasi pink, six feet

Vaccinium corymbosum autumn leave, blue berries, four feet

Virburnum opulas (Guelder Rose) white, six feet

Weigela pink, white, red, four to six feet

Melaleuca squamea pink, five feet cream, scented eight feet

Melaleuca nesohila mauve, eight feet

EFFLUENT DISPOSAL SYSTEMS

There are three main types of domestic disposal systems – Sub-soil Absorption; Sand Filter; and Mechanical Treatment Plant.

1. **Sub-soil Absorption** The specific tank effluent is absorbed into the ground via slotted plastic pipes, or rein drain, in an underground trench system. The effluent water and nutrients are then absorbed by the plants and microbes in the disposal area.
2. **Sand Filter** The effluent is further treated by organisms living within the filter sand to an acceptable standard, then discharged to a stormwater drain or stream.

The following information is important for these two systems:

- Do not place more than 300mm of soil over the effluent absorption drains. Grass roots need to be able to reach the effluent and some grasses are shallow rooted.
- Establish a lawn over the effluent disposal area as soon as possible and keep it well maintained.
- Do not allow vehicles to pass over the drains as they are close to the ground surface and may be crushed; this would then require costly replacement.
- Do not construct paths or sealed surfaces over the area.
- Do not use the effluent disposal area for vegetable cultivation.
- Do not discharge swimming pool water over areas where the disposal system is located.
- Do not construct sheds etc over the area.
- Take care with tree and shrub planting in these areas to avoid root damage to underground system.
- Ensure air vents are not covered with soil or blocked with grass.
- Check pumps, alarms and pits for proper function on a regular basis.
- Do not turn the sand filter effluent pump off when the system is in use, otherwise the sand filter will flood.
- The use of absorption drain “enhancing” products and root killing additives are not recommended at any time.

3. **Mechanical Treatment Plant** The effluent is further treated by organisms within the plant before being irrigated on a disposal area.

- Regular maintenance by a qualified service person is essential. A maintenance contract is usually provided.
- Regularly check the alarm system which indicates a plant malfunction.
- Do not turn off the power supply when going on holidays as continuous operation is essential.
- Check the disinfectant (chlorine) levels at least monthly where applicable.
- Check operation after power failures.

Further advice may be obtained from Council's Directorate of Strategic & Community Services on 6926 9345 during office hours.