SEPTIC TANKS AND SOAKAWAY'S AND CONSERVANCY TANKS

CONTENTS

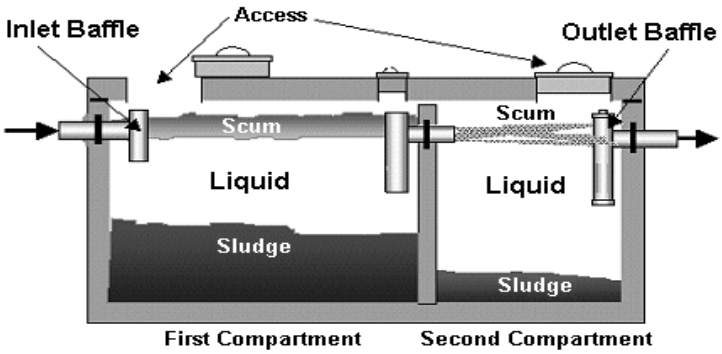
SEPTIC TANKS

What Is a Septic Tank?

If you live in a rural area or some place remote where there is no connection to the main sewer line, then you most likely have a septic tank or will need one. Far from being the city dweller's perception of them being of 'dirty old fashioned things', when respected and properly maintained, septic tank systems are the ideal, economical and trouble free sewage bio-digesters.

The invention of the septic tank is credited to a Frenchman by the name of John Louis Mouras, who, during the 1860's constructed a masonry tank into which was directed various household detritus from a small dwelling in Vesoul, France, subsequently overflowing to an ordinary cesspool. After a dozen years, the tank was opened and found, contrary to all expectations, to be almost free from solids. Subsequent to collaborations with one Abbe Moigno, a priest-cum-scientist of the period, Mouras was able to patent his invention on 2 September, 1881. It is believed that the septic tank was first introduced to the USA in 1883, to England in 1895 and to South Africa (by the British military) in 1898. The term "septic" refers to the anaerobic bacterial environment that develops in the tank and which decomposes the waste discharged into the tank.

A septic tank is basically a vessel buried underground, the purpose of which is the collection, storage, and, to some limited extent, treatment of sewage. On a simple hierarchy of sewerage facilities, the septic tank falls between the 'long-drop pit latrine', the function of which is to store and bury human waste, and a piped connection to an fully functioning sewage treatment works, the function of which is to convert human waste products into mostly harmless end products.



A typical septic tank system normally operates by gravity, and consists of a tank and a soakaway drain. Untreated wastewater from a property flows into the septic tank, where the solids separate from the liquids. Some solids, such as soap scum or fat, will float to the top of the tank to form a scum layer. Heavier solids, such as human and kitchen wastes, settle to the bottom of the tank as sludge. Self forming bacteria in the tank help the system "digest" these solids or sludge where a natural process of anaerobic decomposition occurs in the tank which reduces the amount of solid matter and provides *some* treatment of the waste. The remaining liquids flow out of the tank to a percolate into the soil (soakaway) and eventually taken up through the root system of plants or added to the groundwater. Baffles built into the tank hold back the floating scum from moving past the outlet of the tank.

But what you may not know is that an improperly sited, designed, installed or operated septic tank system can pollute drinking and surface water, and cause many problems, especially environmental. Because septic tank systems are underground, they are often ignored by people who own or use them. However because septic tank systems are generally out of sight they should not be out of mind. The effluent from a septic tank still

contains about 70% of the polluted matter in the sewage, and hence there is a need for further treatment of the liquid from the tank.

Septic tank care is crucial to maintain a healthy septic system. The septic tank is a passive system. There is nothing electrical or mechanical involved. Although the septic system is actually quite self-sufficient, there are things you can to help the system work efficiently. Microbes in your septic system will naturally break down the organic material that drains into your septic tank. The broken down material and water will naturally drain out of the septic tank and into the ground underneath it.

Some solids cannot drain out of the septic tank. This is normal. Regular septic tank care requires you to pump out these solids every three to five years. The size of your septic tank, the amount of use, and the kind of products you stick in your drains will determine how often your septic tank will need to be pumped.

General Information on the use of Septic Tanks

Combined and separate systems

Two types of disposal system are in general use, namely the one-pipe system whereby all the liquid household wastes are put into the septic tank, and the separate or two-pipe system whereby the kitchen and bathroom wastes bypass the septic tank and are diverted to the soil percolation (soakaway) system directly. Although a grease trap is generally provided for the waste from the kitchen, it certainly would not be amiss if provided for the combined system as well. Of the two systems, combined treatment of all wastes in the septic tank is to be preferred for the following reasons:

i. The absorptive capacity of the soil in the soil percolation system would not be affected to the same extent as in the separate system, because oils, fats and colloidal matter from the kitchen, which could escape the grease trap in the separate system, would now be removed to a greater extent in the septic tank thus reducing the soil clogging potential in the percolation system.
ii. In contrast to the separate system the combined system requires only one sewer although the septic tank may have to be sized some what larger. The total cost of the combined system may be less or of the same order as that or the separate system.
iii. In the combined system, the solid wastes from the kitchen, being mixed with the toilet wastes in contrast to the separate system, will have a greater chance of becoming digested (anaerobically) because of a better balance of nutritional conditions.
iv. Even if the grease trap was neglected and not regularly cleaned, the combined system would be less detrimentally affected than the separate system. On the other hand, the greater amount of oxygen-containing water flowing trough the combined system septic tank might affect the anaerobic reaction of the sludge, but this has not been proven, and the dissolved oxygen in the supernatant in septic tanks is generally very low.
v. The build-up of sludge in the combined system septic tank would occur at a greater rate owing to solid wastes in the washing-up water from the kitchen.

Grease Traps

In order to protect the soil percolation system, grease traps are commonly used in the separate or two-pipe system of disposal on the waste pipe from the kitchen, with the object of removing as much grease and fat as possible. In the combined system the use of a grease trap usually falls away since the septic tank fulfils this function. Nevertheless, it would be advantageous not to leave it out.

A grease trap has special merit at a restaurant or kitchen where excessive amounts of fat and oil are likely to be released, which may cause accretions in the sewers or rapid accumulation in the septic tank. In a household the amount of solid matter contributed by the kitchens nowadays is quite considerable and it certainly seems worthwhile to remove especially the fatty material, as it would reduce the quantity and tenacity of the scum formed, in the tank.

The proper functioning of a grease trap is very much dependent on the regularity with which it is cleaned. Frequency of cleaning will depend on local conditions, and a weekly inspection should be carried out. In households where a grease trap is used, it should be cleaned at least once a week. The grease trap should be located as close as possible to the point of discharge from the kitchen sink. The design and construction of grease traps should provide for conditions, which are suitable to allow the fat in suspension to rise and collect at the surface.

Small grease traps are prefabricated from salt-glazed earthenware or plastic, but larger ones should be built from concrete, plastered masonry, or approved industrial plastic molded systems. The fatty material and solid matter removed from the grease traps must be removed with the garbage.

Synthetic detergents, soaps, disinfectants, chemicals and non-biodegradable matter

Provided that these substances are used sparingly in households, they should have no significant adverse effect on a septic tank system, but the uncontrolled use of disinfectants or chemical cleansers especially as is often the case at institutions such as hospitals, schools and hotels may inhibit the natural bacterial activity. Industrial or other potentially toxic effluent should not be allowed into septic tanks.
Coarse, non-degradable solids such as coffee grounds, cigarette butts, facial tissues, plastic bags, bottle tops, sanitary towels and nappies, must not be deposited into the septic tank.

Starters and cleaners

A new septic tank should be filled with water prior to use. It will however, still take a few weeks before normal operational condition are established, during which malodorous smells may be produced. After stabilization the functioning of a septic tank is almost odourless. The only starter, which is likely to bring about stabilization of the digestion process, is a few buckets of sludge from an operating septic tank. If this is not available, a handful of slaked lime may be added daily for the first two or three weeks to combat the formation of malodorous smells.

There are several cleaners for septic tanks and percolation fields on the market, which usually contain a high percentage of sodium potassium hydroxide (caustic soda or caustic potash). No permanent benefit can be derived from the use of these substances, and there is a possibility that harm can result from their use. In the septic tank belching of the sludge has been observed as a result of the use of these compounds, in which case there is likely to be an excessive discharge of sludge to the percolation system. In certain types of soil the

addition of these strong alkalis may cause permanent damage to the soil structure and complete sealing of the infiltration surface.

Garbage grinders and automatic washing machines

Although the use of garbage grinders in South Africa is still very limited, automatic washing machines are common household appliances as in the USA and Europe. Where these appliances are used, an increase in capacity of 20% and 40%, respectively, must usually be applied throughout the system. If both are used, the capacity should be increased by 60%.

Inspection and maintenance

Contrary to the normal practice of leaving septic tank systems well alone, it is important that these systems receive proper attention. When the sludge and scum have accumulated to a level where they might, start discharging with the effluent, the septic tank should be emptied and the sludge and scum removed, to avoid possible permanent damage to the percolation system.

When septic tanks are cleaned, they should not be washed or disinfected. In order that the digesting process can continue when the tank is put into use again a small quantity of sludge must be retained to serve as a starter. Although very little can be done to a soil percolation system once it starts clogging, usually seen by sogginess on the surface around the trenches, it should nevertheless be inspected regularly to assess it possible life.

Materials

The Septic Tank must be watertight at all times. Septic tanks should be constructed of materials such as concrete, Bricks & mortar or durable substances, which are not subject to excessive corrosion. The interior of brick tanks should be plastered with a waterproof mortar. Prefabricated tanks are usually available from commercial firms. Their design should be based on sound principles and the tanks should, be sturdy enough to withstand handling. If the tanks are delivered in several components/the joints should be sound enough to ensure that the tank remains watertight. Only prefabricated tanks approved by Council may be used. Any new system to be used must firstly obtain the approval from council before being utilized.

Access

All compartments and fittings of a septic tank must be accessible for inspection and cleaning. If loose precast slabs are not used as covers, a manhole must be provided in each compartment. It is also advisable to have inspection holes above the inlet and outlet T-pieces for ease in removing any blockages that may occur. Although it is desirable to cover the septic tank with a layer of soil it makes the tank less readily accessible for inspection, stirring and cleaning.

Conditions for the installation of a septic Tank (City of Cape Town)

These conditions must be read in conjunction with the Code of Practice for the Application of the National Building Regulations (NBR), SABS 0400-1990, and the Building Standards Act No. 103 of 1977 or latest revisions thereof.

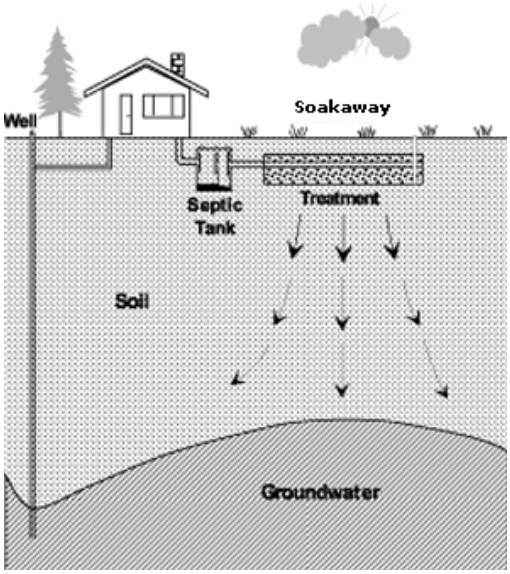
As a general policy the City of Cape Town is only prepared to permit the installation of septic tanks where all conditions are ideal. In broad outline the following requirements are insisted upon.

1. All septic tanks **shall** discharge to a soakaway. (SABS 0400-1990 PP10.3)
2. The soil and subsoil must be suitable and the size of the plot adequate. Generally speaking **900 m²** is considered to be the minimum size acceptable.
3. Adequate water supply must be available at all times.
4. Combined drainage may be permitted where absorptive capacity is adequate and subject to detailed approval of a septic tanks and a soakaway by the Executive Director: City Health.
5. No buildings will be permitted on the site of the septic tank or soakaway.
6. The inlet to and outlet from the septic tank must be accessible from the inspection covers in the top of the tank.
7. The minimum size of a septic tank that will be allowed is **1700 litres** and be capable of receiving one (1) day's sewerage flow as given in Table 1. The tank shall be designed and constructed in accordance with the information contained within SABS 0400 – 1990, PP10.4, and must also be in accordance with the Council's specifications, it being noted that interceptors are not required. It is essential that septic tanks be WATERTIGHT.
8. Where the tank is to serve any building other than a dwelling house/unit, it shall be of a designed capacity to receive not less than three (3) times the daily flow from such building, using the per capita sewerage flow given in Table 2.
9. The septic tank shall be so constructed that: -
    a. It is provided with a means of access for the purpose of emptying and cleaning; and
    b. The depth in such tank below the outlet invert is not less than **1m** and there is an airspace of not less than **200mm** between the surface of the liquid contained therein and the underside of the top cover.
10. It is recorded that the precast concrete and the "Everite" asbestos cement tanks have been approved of by the City of Cape Town and may be permitted in certain circumstances but not in the present form in conjunction with the combined drainage system.
11. No industrial effluent shall be allowed to flow into any septic tank.
12. If the septic tank and soakaway fail to operate, thereby causing nuisance, the owner will be held responsible for abating the nuisance forthwith or for closing down the system.
13. When a water borne sewerage system is constructed in the area, all properties must be connected to the sewer and the septic tank and soakaway closed down.
14. The City of Cape Town reserves the right to insist on the closing down and removal of a septic tank at any time, in its sole discretion.

SOAKAWAY

What Is a Soakaway?

The soakaway or percolation trench is an underground soil treatment system, which receives partially treated sewage from the septic tank. The soil on a site must be suitable for a soakaway to work properly. It is noted here that the effluent from a septic tank is by no means fit (in terms of health) for discharge into a water course (e.g., a river, vlei or an aquifer) or onto the ground where it could be accessible to animals, humans included.



Not all sites are suitable for septic tank and soakaway systems. Of primary concern is the type and porosity of the soil at the site. Soils that are too coarse or too fine can limit the effectiveness of the treatment system. Also the depth of the seasonally high water table or bedrock can also cause problems. Some of these problems may possibly be overcome by altering the design of the septic system. It is good practice to carry out percolation tests on the ground soil to ascertain its suitability for a soakaway and generally you cannot improve an unsuitable site to the point where a soil treatment system will work. It is always better to contact your Local Municipal office for help in finding out if your property would be suitable for installation of a septic system.

In some areas of the South Africa, the seasonally high water table is within a 600mm of the ground surface. Therefore a soakaway may be typically installed close to the surface of the ground, but care must be exercised as it is possible that the polluted water may break through the ground surface. In other areas there may be clay ground present close to the ground level, and where this occurs then it is very unlikely that the use of a soakaway will prove satisfactory.

The size of your septic tank soakaway is determined by the size of not only your septic tank but the size of your dwelling as well. You cannot simply construct a soakaway to the specifications that you wish. There are other considerations including where the soakaway is built. It cannot be built near any open water such as a river or a vlei because of the possibility of seepage from the soil into the water. This would result in contamination of the water source which could lead to many problems including health concerns.

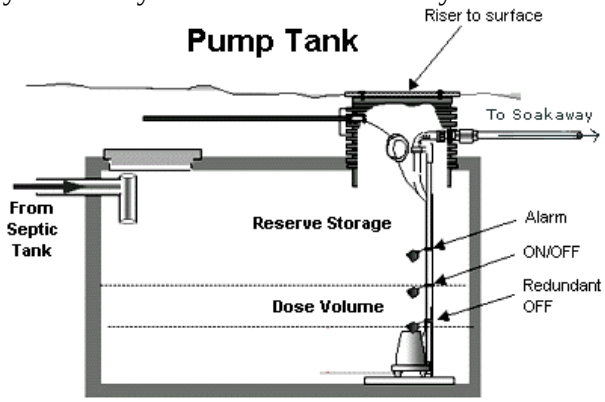
Conditions for a soakaway (City of Cape Town)

The standard of a soakaway constructed in the City of Cape Town's area leaves much to be desired and the haphazard system of digging a hole and filling it with stone or various kinds of builder's rubble will no longer be permitted.

1. The following are now laid down as types of a soakaway acceptable to the Council and no other type of soakaway will be considered unless the type and manner of construction has been specifically approved.

a. A circular soakage pit constructed of cement blocks or hollow clay tiles with cavities in the horizontal plane. Two meters in diameter and to such depth as circumstances dictate. Reinforced slab over the top to contain a **600mm x 450mm** inspection cover.
b. A trench-type soakaway with walls of cement blocks, hollow tiles or honeycomb brickwork. If either of the first two are used the cavities to be in the horizontal plane. Length and depth according to circumstances. Width of the trench to be such as to permit of coverage by standard **600mm x 600mm x 750mm** paving slabs. The trench must have a surround of stone or well burned half bricks to a width of at least **450mm** and to the full depth of the walls. The stone or bricks must be suitably covered.
c. A system of agricultural drainpipes. Extent to be guided by circumstances.
d. A soakaway shall be so constructed and located as not to cause the pollution of any spring, stream, well or other source of water which is used for drinking, domestic or kitchen purposes.
e. As a general rule no soakaway shall be less than **3m** from any building or boundary of the site on which it is situated.
f. The soakaway shall have a level base throughout its length, and be parallel to the contours of the ground and on sloping sites only types mentioned in paragraphs (2b) and (2c) above are acceptable.
g. The length of each soakaway will be established in relation to soil and site conditions and number of appliances served by the soakaway.
h. In low-lying ground with a high water table a circular soakage pit as described in paragraph (2a) above may be permitted but then only subject to the following safeguards –

    i. The level of the site of the building and round the soakaway to be raised above the level attained by storm-water. Extent and degree of filling to be dictated by circumstances.
    ii. Damp-proofing of the building to be at least **2 courses** above the level of the filling.
    iii. All roof water to be carried to the nearest road and well away from the soak-away by means of gutters, down pipes and channeling.
    iv. A minimum of **225mm** clearance to be allowed for between the invert level of the final discharge pipe into the soak-away and the maximum water table in the soakage pit.
    v. Soakage pit to be of adequate size, the depth being dependent upon the summer water table in any particular area.
    vi. Where a soak-away is unlikely to function satisfactorily and where arrangements exist for the removal of wastewater, a watertight sump/pump may be permitted in place of or in addition to a soak-away. Such sump to be at least **4500 litres** capacity, properly ventilated, watertight, and situated not more than **12m** from a vehicular approach to permit future servicing which will be the responsibility of the owner.



i. No soakaway shall be constructed in any ground where: -
    i. Such ground has a percolation rate exceeding 30 minutes;
    ii. Any effluent may flow out due to the contours of or the strata forming such ground;
    iii. The site to be affected by such effluent is of insufficient size to accommodate the soaking away of the effluent;
    iv. The level of the water table is or may be such as to prevent adequate percolation; or
    v. Any site may be affected by the presence of such soakaway.

2. Drainage general
    a. Only drainpipes of approved material may be used in conjunction with septic tank installations.
    b. Inspection chambers must be installed at all bends and junctions of the drains.
    c. The soil drain shall be properly vented and the vent pipe shall be carried up above eaves level.

NB. All owners will be required to connect their properties to the local Municipal water-borne sewer system if and when in place.

Ground Investigation

It is important that these investigations and tests are carried out within the area of ground where it is proposed to locate the soakaway system. A trial hole must be dug to determine the depth of the water table and soil conditions. The trial hole will also enable the subsoil type to be determined.

The trial hole must be excavated to at least **1m** below the level of the proposed soakaway and should be left covered for a period of **48 hours** before measuring any water table level. For safe and effective dispersal of effluent, the ground water below the soakaway system must be at least **1m** below the bottom of the distribution pipes. It should also be noted that it is the seasonally highest level of the water table that should be determined for the soakaway area.

Percolation Test

To determine the area of ground required, a percolation test must be carried out within the area where the proposed soakaway system is to be located. This percolation test needs to be done in accordance with SABS Code 0400-1990, Section PP28.

The Test: The area chosen must be representative of the general ground conditions. This test involves digging an excavation **300mm²** x **estimated proposed depth** for the soakaway. The sides of the bottom **350mm** of such excavation shall be roughened to provide a natural infiltration surface. A **50mm** thick layer of gravel is to be placed at the bottom of this excavation to prevent scouring when filled with water.

The hole is filled with water to a height of not less than **300mm** and maintained at this level for a period of not less than **4 hours**. At the end of this period the water level shall be marked and the times noted. The drop in level of such water as it soaks away over a subsequent period of **30 minutes** shall be measured. This test must be carried out in at least two locations within the area proposed for the soakaway system; the test must also be

repeated three times in order to obtain consistent results. Where such percolation rate is less than 30 minutes, the soil shall be deemed suitable for the construction and use of a soakaway. See Table 3 for percolation rates.

Dimensions

The size of a septic tank system is determined by the number of bedrooms in a dwelling and the rate at which water flows through the soil (percolation) on the property. When planning a septic tank system, be sure to consider future needs for expansion. A septic system cannot function properly if it is overloaded.

CONSERVANCY TANKS

What is a Conservancy Tank?

A conservancy tank is any covered tank without an overflow which is used for the reception and temporary retention of sewerage and that requires routine emptying at intervals.

Conditions for a Conservancy Tank (In the City of Cape Town)

1. A conservancy tank shall not be used for the collection of sewage unless:
    a. In the opinion of the City Engineer, it is impracticable to connect the premises concerned to a public sewer, and
    b. It is possible for the City Engineer to arrange for the clearance of such tank, having regard to -
        i. the accessibility of the premises concerned by road;
        ii. the level of such premises in relation to the level of the abutting road;
        iii. the quantity of sewage discharged or to be discharged from such premises, and
        iv. the availability of vehicles for the clearance of such tank.
2. Every conservancy tank shall comply with the following requirements:
    a. Such tank shall be provided with a fresh air inlet and an intercepting trap,
    b. Such tank shall be constructed with **215mm** brick or **150mm** reinforced concrete walls on a foundation slab of mass concrete not less than **150mm** thick. The tank shall be at ground level and shall be provided with one or more airtight manhole covers to allow access to the tank for cleaning it.
    c. The floor of the tank shall be graded to a point, which is vertically below one of the manholes referred to in paragraph (b) and a sump not less than **300mm** or more than **450mm²** in plan and not less than **150mm** or more than **225mm** deep shall be constructed at such point.
    d. Such tank shall be impervious to liquid.
    e. The tank shall have a capacity of not less than -
        i. **5400 litres**, or
        ii. the maximum amount of sewage likely to be discharged into it over a period of **2 days**, whichever of these figures is the greater; provided that the capacity of the tank shall be an exact multiple of **5400 litres**.
3. The owner of the property served by such tank shall provide and maintain at his own expense a suitable road or other means of access to enable the vehicle used by the City of Cape Town to empty such tank to reach and empty such tank, and any person contravening the provisions of this sub-regulation shall be guilty of an offence.

4. Such owner shall pay the City of Cape Town for the clearance of such tank in accordance with such tariff as may from time to time be prescribed by the City of Cape Town.
5. The City of Cape Town shall not be liable for any loss or damage the owner or occupier of the premises concerned may sustain or for any nuisance he may suffer due to the inability of the City of Cape Town to provide a clearance of a conservancy tank.
6. No person other than the City of Cape Town shall clear a conservancy tank except by arrangement with and under the supervision of the City Engineer.
7. No industrial, trade or manufacturing waste, refuse or effluent shall be discharged into any conservancy tank except by special arrangement with the City Engineer.
8. Where a new conservancy tank has been installed and put into use the owner or occupier of the premises concerned shall give the City Engineer at least two clear days' notice of his requiring such tank to be cleared for the first time. **The initial request is to be in writing to the City Engineer.**

Examples of Calculating Dimensions of a Septic Tank and Soakaway

Dwelling houses or dwelling units

Calculating the capacity of a septic tank:

For a dwelling or dwelling unit (Table 1) with up to 6 rooms, a minimum capacity of 1700 litres (1, 7 m3) is required. For 7 rooms or more add 200 litres per additional room.
e.g.: capacity of septic tank for 8 bed roomed house
= minimum capacity + (no. additional rooms x 200)
= 1700 + (x 200) = 2100 litres

Calculating the length of a soakaway:

Septic tank capacity + percolation rate (Table 3) + 2 (for the two sides of a soakaway) = length in meters. e.g.: For the abovementioned dwelling, on soil with reasonable drainage.
= 2100 + 83 + 2 = 12, 5 meters

Buildings other than dwelling houses or dwelling units

Calculating the capacity of a septic tank:

No. of persons inhabiting the building x daily sewage flow rate for the building (Table 2) x 3 (for retention time) = capacity in litres. e.g.: for a boarding house of 30 persons.
= 30 x 110 x 3 = 9900 litres

Calculating the length of a soakaway:

Number of persons inhabiting the building x daily sewage flow rate for the building (Table 2) + percolation rate (Table 3) + 2 (for the two sides of a soakaway) = length in meters e.g.: For the abovementioned building on soil with reasonable drainage
= 30 x 110 + 83 + 2 = 20 meters

ANNEXURE 1

TABLE 1	
Sewerage Flows From Dwelling Houses/Units	
Number of bedrooms	Sewerage flow (litres/day)
2	700
3	900
4	1100
5	1400

TABLE 2	
Sewerage Flows From Buildings Other Than Dwelling Houses/Units	
Type of establishment	Sewerage flow Litres/person/day
Boarding houses	110
(Additional kitchen wastes for non-resident boarders)	23
Hotels without private baths	110
Hotels with private baths	140
Restaurants (toilet and kitchen wastes per patron	20
Tourist camps or caravan parks with communal bathhouse	90
Day schools	37
Day workers at office per shift	90
Hospitals	500
Factories (litres/person/shift, excl. industrial wastes)	140
Swimming baths	9
Motels (per bed)	90
Drive-in theatres (per car)	9

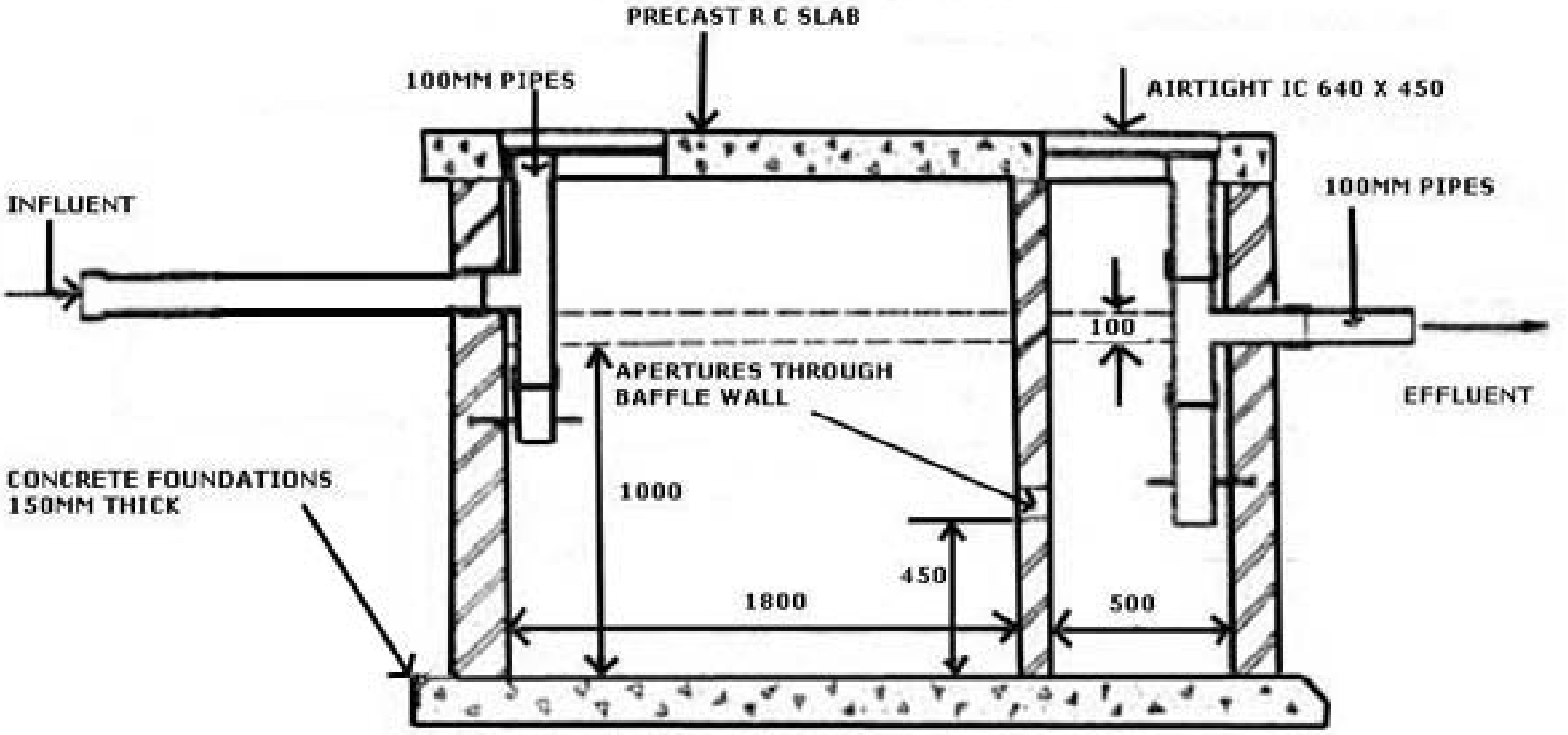
TABLE 3	
Rates of Percolation and Effluent Application	
Percolation rate: Average time for 25mm fall of test water level in minutes	Rate of application of effluent to sub soil infiltration areas (litres/m² of soakaway wall area/day
0 – 3	108 Maximum
3 – 5	108 – 100
6 – 10	99 – 80
11 – 15	79 – 65
16 – 20	64 – 53
21 – 26	52 – 40
27 – 30	39 – 33
Over 30	Not permitted

Tables and calculations as per SABS Code 0400-1990

Compiled and drawn up by: -
Michael McSweeney (Environmental Health Practitioner)
City of Cape Town - 2007

CONCRETE SEPTIC TANK

ANNEXURE 2



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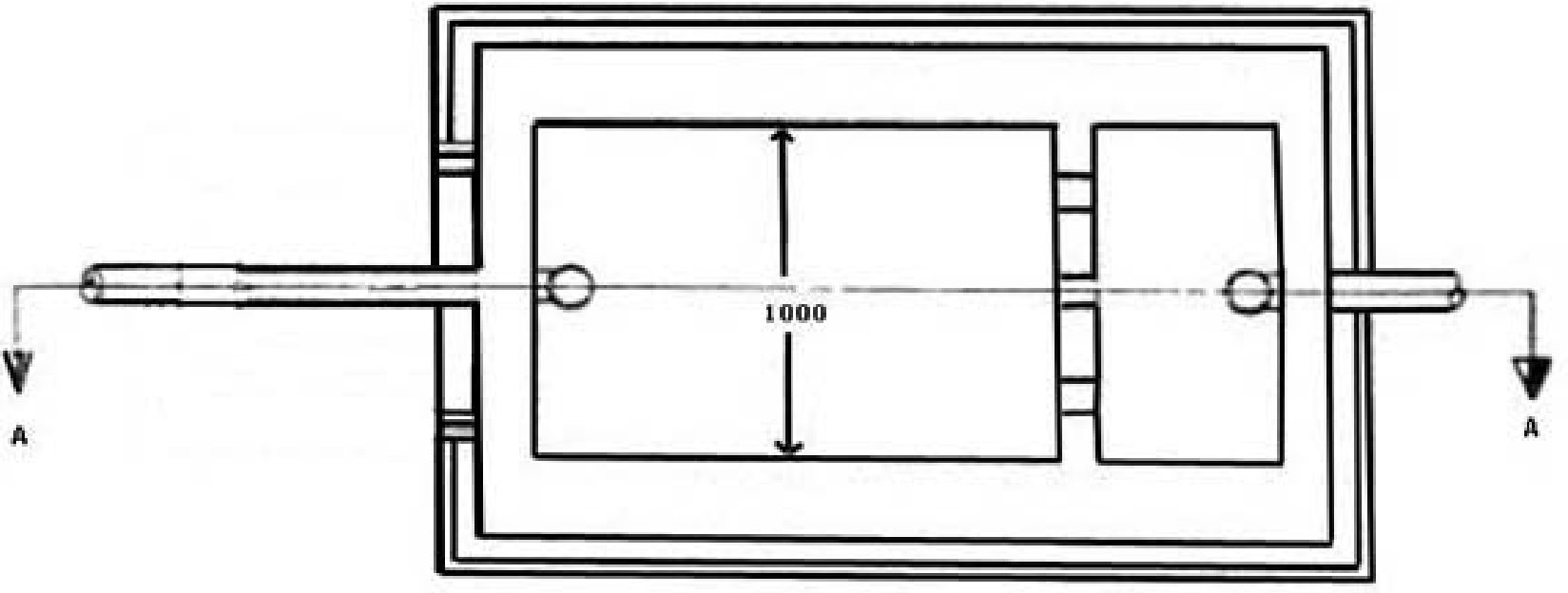


PLAN

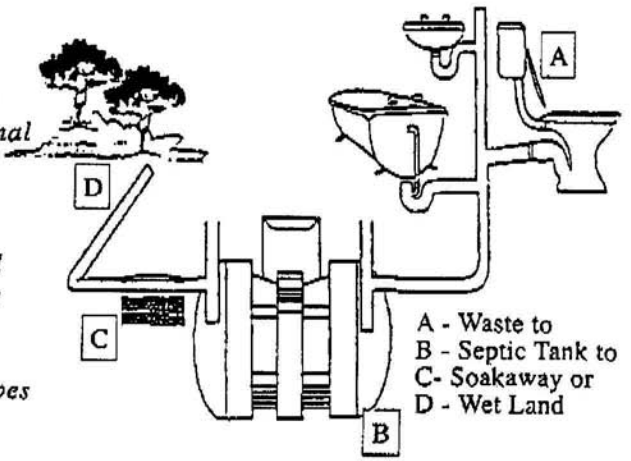
ANNEXURE 3

SEPTIC TANKS

Capacity	Length		Width		Height	Serve
1400 litre	*1.3m*	*x*	*1.3m*	*x*	*1.5m*	*Informal*
2200 litre	*2.0m*	*x*	*1.2m*	*x*	*1.4m*	*8*
3600 litre	*2.5m*	*x*	*1.4m*	*x*	*1.7m*	*13*

Robust low profile tanks designed to withstand high water table, clay soil and compensate the Cape's unpredictable terrain.

Supplied with all junctions, connectors, bends, pipes and manhole covers.

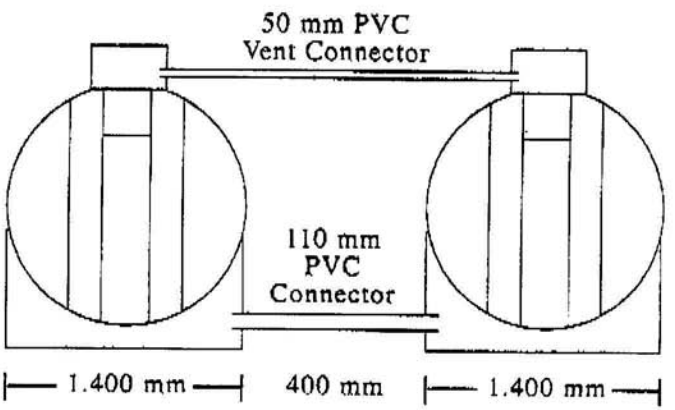


CONSERVANCY TANKS

Factory prepared to capacity of your need, for simple D.I.Y. link-up on site.

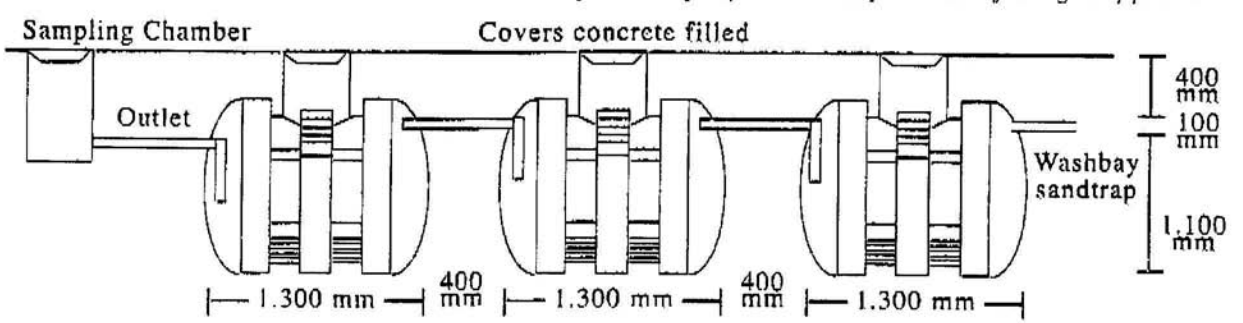
Supplied with all junctions, connectors, bends, pipes and manhole covers.

'As are' with all relevant connections and fittings for other tanks.

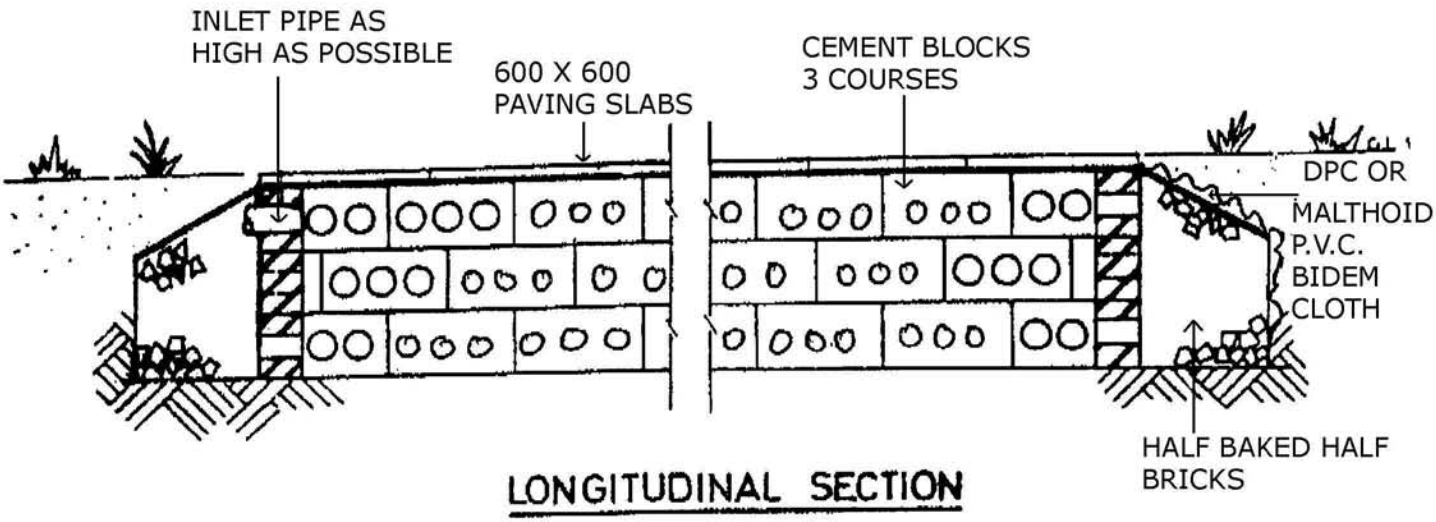


PETROL OIL INTERCEPTOR

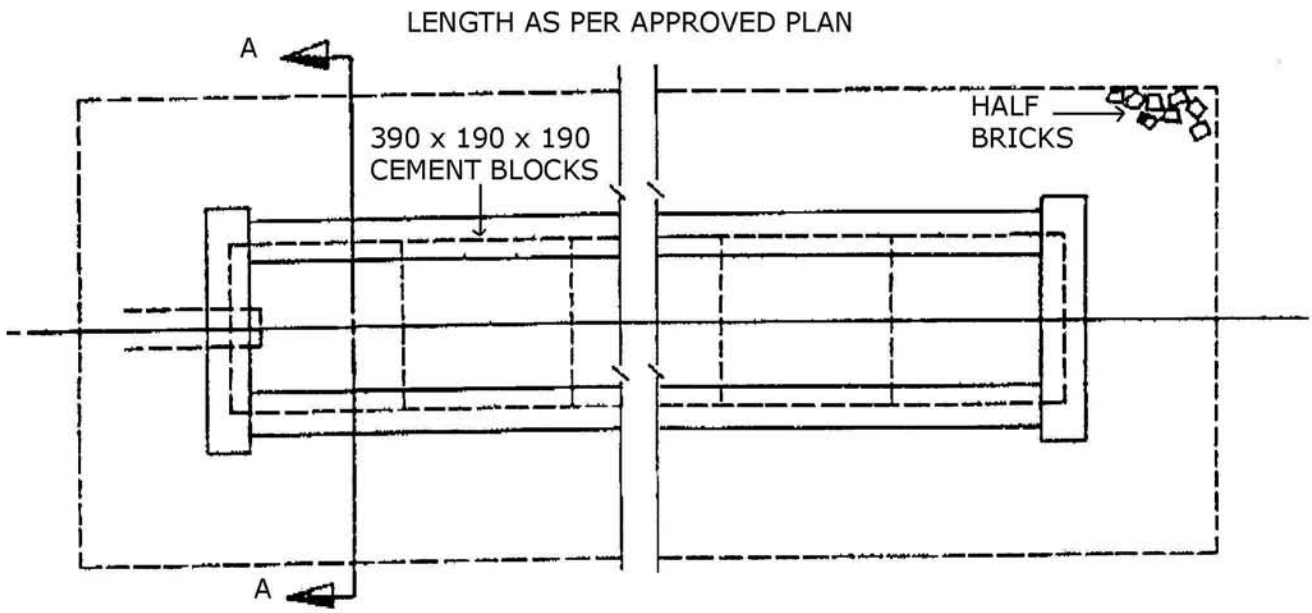
Municipality regulated for use in vehicle wash bays and service stations to separate and prevent oils, greases, petrol and diesel waste entering sewerage systems. All parts and fittings supplied.



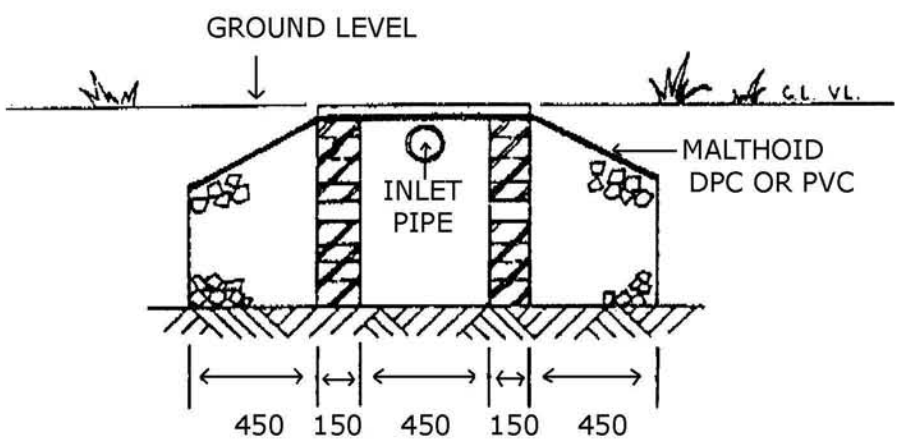
SOAKAWAY



LONGITUDINAL SECTION

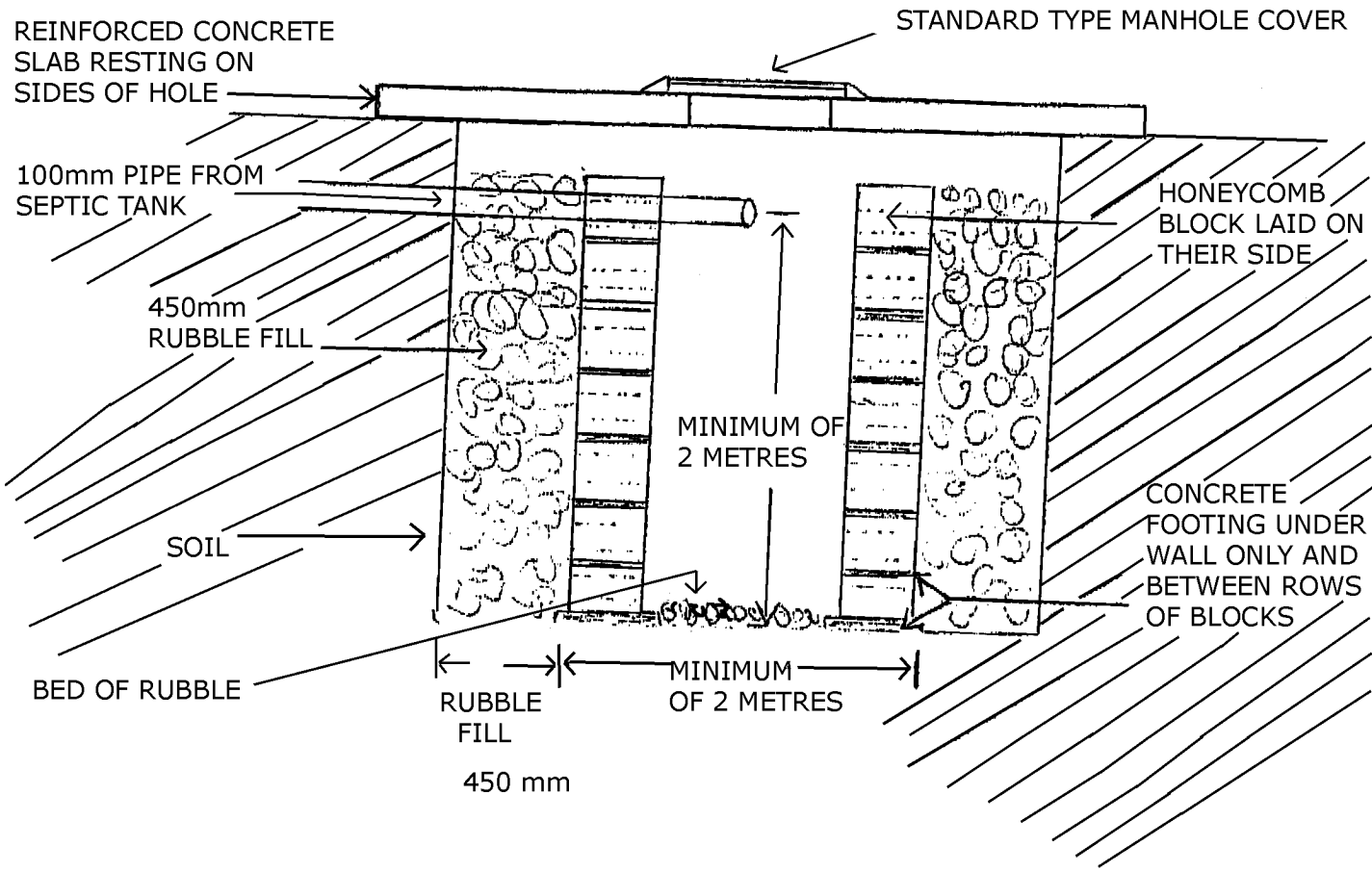


PLAN



SECTION A-A

CIRCULAR SOAKAWAY AS PER SECTION AA



CIRCULAR SOAKAWAY AS VIEWED FROM THE TOP