



Management instructions for the Mk 2 COMPACT toilet

www.natsol.co.uk

Dear Customer,

Thank you for purchasing our **COMPACT** toilet. By following the user guide below your compost toilet should operate with the minimum of maintenance for many years.

Overview

The **COMPUS COMPACT** toilet is a ventilated, urine separating box toilet. Due to its small size composting is not completed inside the toilet but in an **outdoor composting facility** which you can construct in line with our specification. The toilet separates urine from seated users. Solids enter the removeable inner container which should be lined with a biodegradable corn starch bag, as supplied, for ease of emptying. Wood shavings, sawdust or similar carbon based “**soak**” material are added to cover solids in the container. No addition is necessary if only urinating providing men do not stand.

Using your composting toilet

Use the toilet in the same way you would a WC. Add a handful of **soak** material to the inner container to cover solid wastes. The soak should be kept in a container in the toilet cubicle.

Toilet paper should be dropped into the inner container of the toilet.

No other types of waste should enter the toilet. Sanitary towels should be disposed of separately to a rubbish bin. Paper hand towels, if used, can be added to the outdoor composting facility.

Urination only:

For the urine separation to work **males must sit to urinate**. Alternatively, you may wish to supply a standard wall mounted ceramic urinal, especially if there are unfamiliar users, and connect it into the urine waste from the toilet. If you decide to do this please consult us about the details. The best way to do this is **not** how a plumber would normally go about it.

It is not necessary to add soak material to the chamber if you have only urinated. Simply close the lid.

NB. Another way of dealing with urine from males in an outdoor private toilet is to supply a “pee-can”. This normally consists of a 5 litre liquids container with a funnel. You could use the collected urine on a garden compost heap, particularly one which is high in woody materials. You need to be aware that a pee-can may smell.

Hand cleansing:

You may have been supplied with a waterless hand disinfectant dispenser. Please read the instructions for use if supplied.

Management of the toilet

Apart from normal good hygiene practice of cleaning external surfaces, as you would a conventional WC, your COMPACT toilet needs little day to day maintenance. The pedestal is designed to minimize fouling in normal use. It is essential to have a standard toilet brush to assist with cleaning and it is very useful to have a pump up sprayer. This might be obtained from a garden store.

After every few uses

Check that the inner container has not filled close to its rim with solids, paper and wood shavings. If it is getting close to this point take action as described below - **Emptying**.

Daily or weekly procedures depending on level of use

You must check the removable urine plate hanging on the front internal face of the toilet pedestal. You can clean this in situ by spraying with a non-chlorine cleaning solution and using a standard toilet brush. However, it is good to remove it regularly for cleaning away from the toilet. Wearing gloves grasp the side of the plate, lift to unhook it, and then turn it through 90 degrees and remove it through the pedestal aperture. Clean in water and disinfectant. With the plate out take the opportunity to clean the inside surface of the pedestal further down using the brush and sprayer.

The part of the pedestal that can't be seen could be accessed by lying the pedestal on its side over the base box with the trug missing – see RH picture below - **but don't make the mistake of repositioning it on the base box without the trug installed as somebody might use it like that !** Alternatively, you could take it outside.

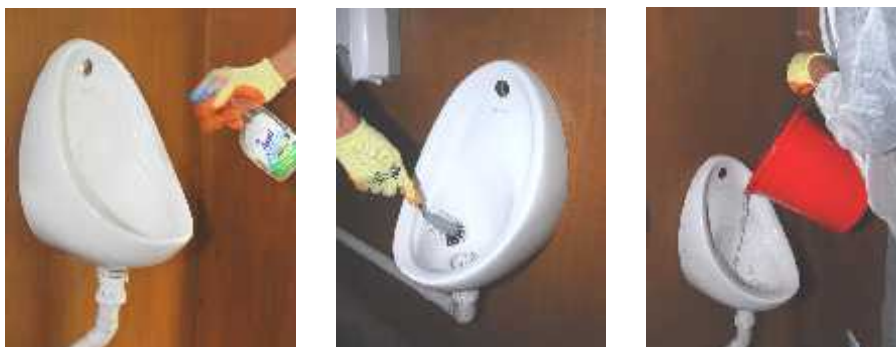
When the pedestal is clean refit it to the toilet and then reinstall the short plate through the top. If you would like to have a spare short plate we can supply this at reasonable cost. You could then leave one to soak and clean it off later. The pedestal will separate urine quite well without the short plate installed but there is an increased likelihood of urine entering the trug.

If the plate has deposits that are difficult to remove then take the pedestal outside and rest it on a non-scratching surface. It may be useful to use wire wool or an old pot scourer. Mortar cleaning acid available from builder's merchants will shift calcium deposits but make sure you **wear appropriate protection – goggles, gloves and protective clothing**. Vinegar would do the same job over a longer timescale.



Check that the soak bin [if situated in the cubicle] is full. Wood shavings OR sawdust make good soak material for a COMPACT toilet. Chopped barley straw is a good soak material as it assists rapid decomposition but it's less convenient to add. Shredded paper and card should also work well. We shred confidential documents and put them down the office toilet! Manure worms could be introduced into the outdoor composting facility and they will speed up decomposition. They can usually be found in animal manure and rich garden compost heaps.

If a ceramic, wall mounted male urinal has been fitted in the toilet cubicle clean this with a non-chlorine cleaning solution and flush with approximately a litre of clean water.



Emptying the toilet and other maintenance

The frequency of emptying solids depends on the amount the toilet is used. In any event solids should be emptied at least once a month even if the container is not full.

It's not an unpleasant job but nicer if the toilet has not been used in the last hour or so. Wearing gloves [supplied] lift off the pedestal and place to one side or outside.

Use more soak as necessary to cover the solid wastes in the trug and gather together the edges of the biodegradable liner over the contents. You could tie the top with a rubber band or a piece of biodegradable string. Lift out the **entire trug** with liner and contents. After 20 defecations it should weigh under 10kg if free of urine. Carry outside and empty into your composting facility. Do not attempt to lift the contents out of the trug using the neck of the liner. This may tear and deposit the contents over your feet or on the floor or ground! If necessary clean the trug using a small amount of water and a brush kept strictly for this purpose and empty this water into the composting facility. This will keep the compost damp and avoids dumping contaminated water elsewhere.



Fit a new biodegradable liner into the trug and before replacing it in the toilet check to see that the base box of the toilet is clean. If not, use a bucket of water and the same brush to clean out the container. Tip the waste water into the box. This will simply flow away to the urine soakaway. Rinse with clean water. Make sure the edges of the liner get tucked down between the side of the trug and the wall of the base box **and between the front of the trug and the brown plastic board**. This board pushes back the front edge of the trug, squeezes it out sideways and clamps the liner out of the way of the urine plate.

Annually:

Once or twice a year it is advisable to check and clean the back inlet gully leading to the soakaway. Remove the three screws holding on the lid. Tip a bucket of water down the trap to sluice through. If the water does not disappear quickly then pull out the black plastic inner using the metal gully rod we supply. Hook the rod under the bottom edge and pull up firmly. Clean and refit the black inner making sure the splines locate correctly in the side slots. **Wear appropriate protection when cleaning the gully including goggles, gloves and boots.**



If you have a fan driven vent check to see if the fan is still running. If the fan runs but there are noticeable odours it may be that the pipe has become blocked with spiders' webs though this would usually take several years. This could happen with a passive vent too. Use a flue brush to clean through after switching off and removing the fan, if fitted.

Management of the composting facility

Your composting facility should have at least two chambers to allow for batch processing of solid wastes. Each stack should be large enough to take the entire solids from at least one year's use of the toilet. This ensures a minimum one year decomposition period before the compost is removed.

The compost should be used or disposed of in accordance with Environment Agency and Local Authority guidelines.

In the absence of any official advice, further composting can be carried out in the same composting facility or another on site before eventual use or disposal. Most pathogens will have been eliminated by composting for a one year period - which is the minimum period we recommend between vault change-overs. However, human parasites may survive longer. A further 2 to 3 year period of composting should deal with most of these. If human roundworm eggs are present an even longer period is necessary and for this reason **we do not recommend the use of finished compost on food crops - with the possible exception of burying around fruit trees. Human roundworms [*Ascaris suum*] are generally only found in tropical or sub-tropical populations where there is poor sanitation but travellers to these regions could conceivably become infected and so with toilets used by the public [e.g. allotment sites where there are many users] it is wise to take precautions against it.**

SUPPLIES, SPARES and OTHER USEFUL ITEMS:-

BIODEGRADABLE LINERS

These can be obtained from The Bin Company. The product is an 80 litre biodegradable corn starch bag available in rolls of 20.

The Bin Company [UK] Ltd:

The Colin Sanders Innovation centre,
Mewburn Road, Banbury,
Oxfordshire
OX16 9PA

Phone: 0845 6023 630

Fax: 01295 817601

email: info@thebincompany.com

www.thebincompany.com/contact_us.htm

HAND DISINFECTANT GEL

The product is Gojo PURELL Instant Hand Sanitizer – 4 x 2 litre refills pack. Product code: 2256-04

For supplies try:-

Excalibur Chemicals Ltd,

Dadsford Bridge Industrial Estate,
Plant Street, Wordsley,
Nr Stourbridge,
DY8 5SY

Phone: 01384 400690

Fax: 01384 402223

Email: sales@hand-cleaners.co.uk

TOILET SEAT

Should you need to replace the toilet seat at any time it is probably a **Celmac Calypso**. Other plastic Celmac seats should fit OK. They should be available from general plumbers' merchants. It will be cheaper for you to buy this yourself than to get us to send you one.

APPENDIX A

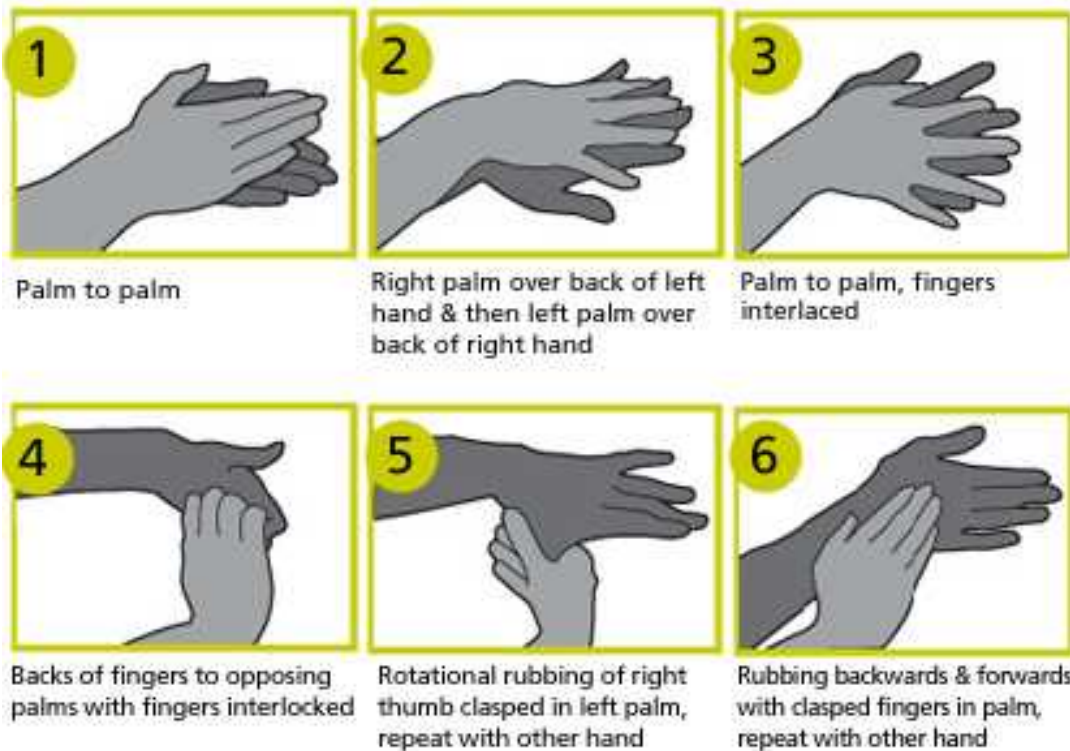
HYGIENE PRECAUTIONS WHEN CLEANING AND MANAGING COMPOST TOILETS



Wear gloves for all cleaning operations



Wear overalls when switching vaults or emptying compost



Clean hands after all toilet cleaning or management procedures.

Tyre stack composters

One method of making secure composters is to use old car tyres to construct a modular composting bin. This idea has been around for some time and may have been developed by the Centre for Alternative Technology. It makes good use of a waste product.

Some useful points to consider when making and using a tyre composter:

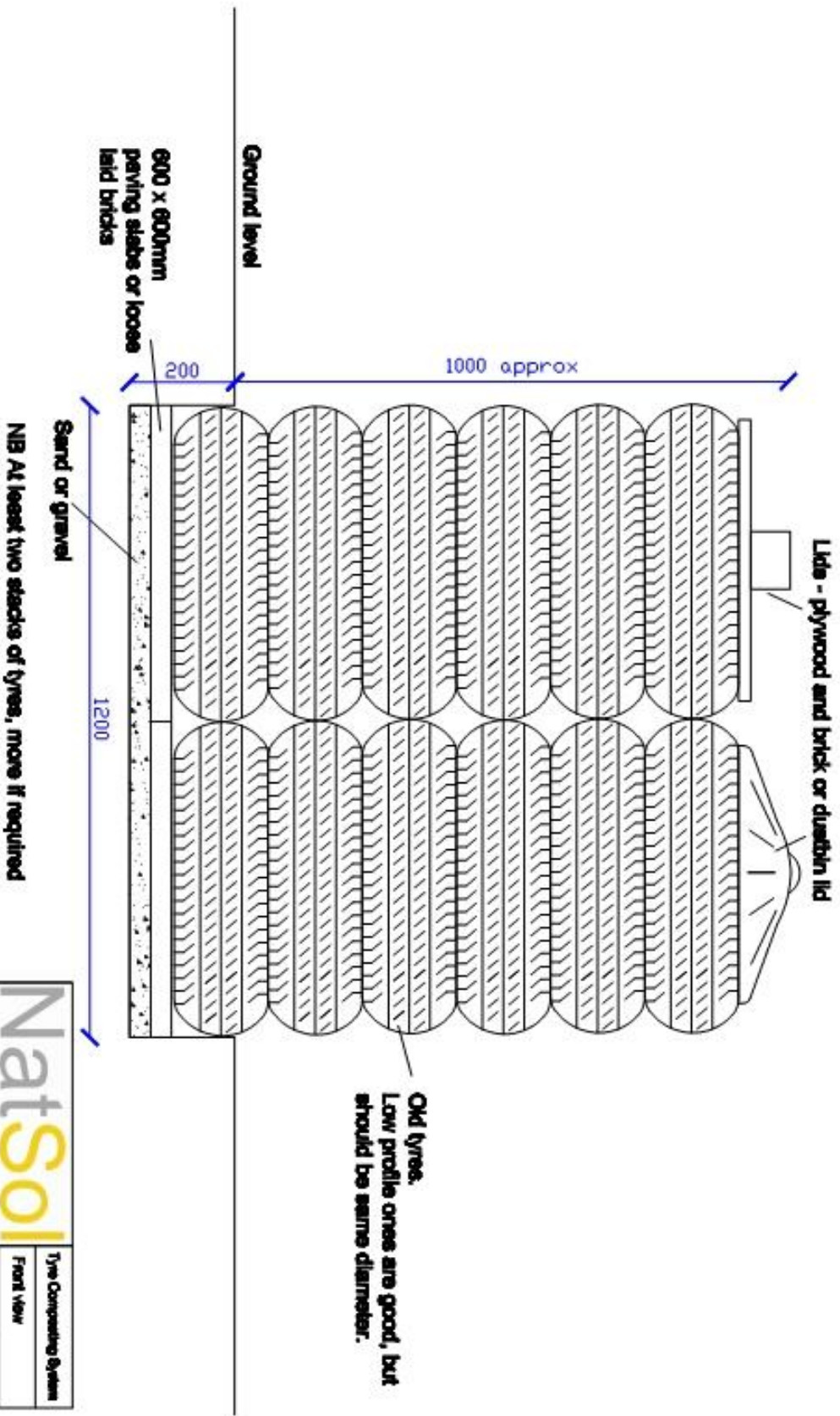
- Radial tyres have steel wire in them making them rat proof.
- The stack should stand on a concrete paving slab or wire mesh (weld mesh) so as to prevent rats finding their way in from underground.
- Using car tyres, the volume of a stack 1.2m high might be around 0.3m³ depending on how much material gets into the rim.
- If you intend to carry out further composting of compost from a COMPUS TWIN FULL ACCESS (or REMOTE) toilet you may need several stacks. Four grouped together in a square would take up an area approximately 1.2m square (4' x 4').
- It is inadvisable to go higher than 1.2m (4') as the stack will become unstable.
- You must keep a record of when stacks were filled. We suggest that they are left for a few years after which the compost should be safe **but we generally advise against the use of finished compost on food crops where the edible part is contact with the soil or might come into contact with the soil.**
- When the stack is eventually dismantled the tyres will have to be shaken or stood on edge to get the compost out of the rim. Low profile tyres are better since the rim is very shallow.
- In the drawings, notice how the bottom tyre is partly underground. This means that any liquid from the composting process disappears into the ground without risk of human contact.
- If using a concrete paving slab it may be wise to drill some 10mm diameter holes around the tread of the lowest tyre to admit soil organisms e.g. worms. Manure worms can also be added from an existing muck heap and will speed up decomposition.
- Some rain ingress into the stack is useful. The lid need not prevent this.
- The fence keeps children and animals away and prevents the stack from being knocked over. Pallets make good fences or old corrugated sheeting.



Use the following drawings as a guide and extend as necessary:-

TYRE STACK COMPOSTERS

Shown here without protective fence

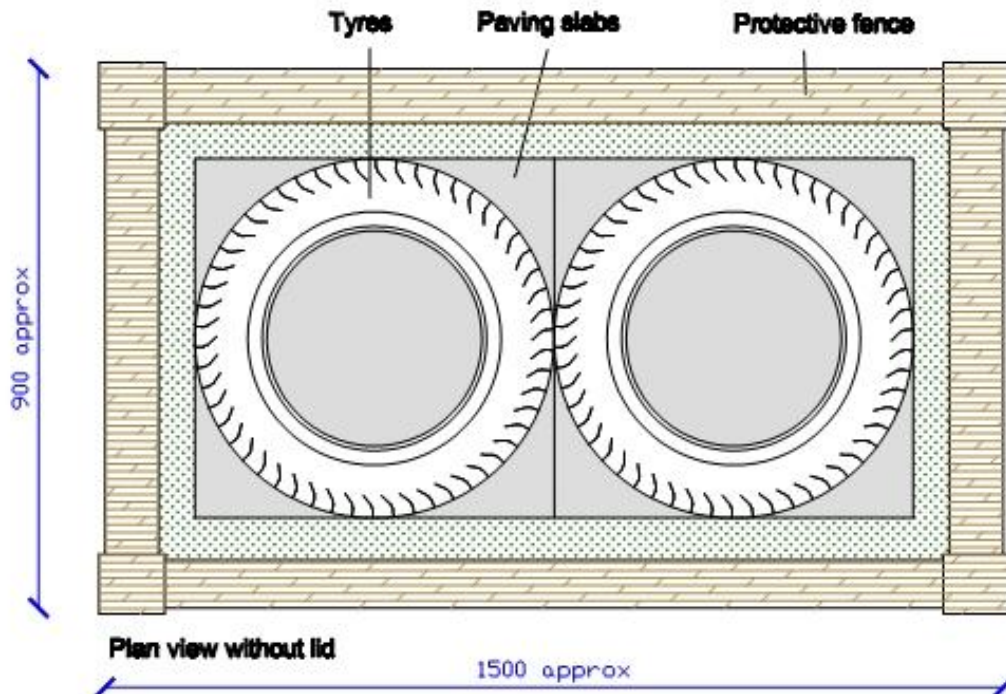


NatSol
THE COMPOST TOILET SPECIALISTS

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| | |
|------------------------|------------|
| Type Composting System | |
| Front view | |
| Date 04/07/09 | Scale 1:50 |
| Dwg. No. | |
| Dra. B. Woods | |

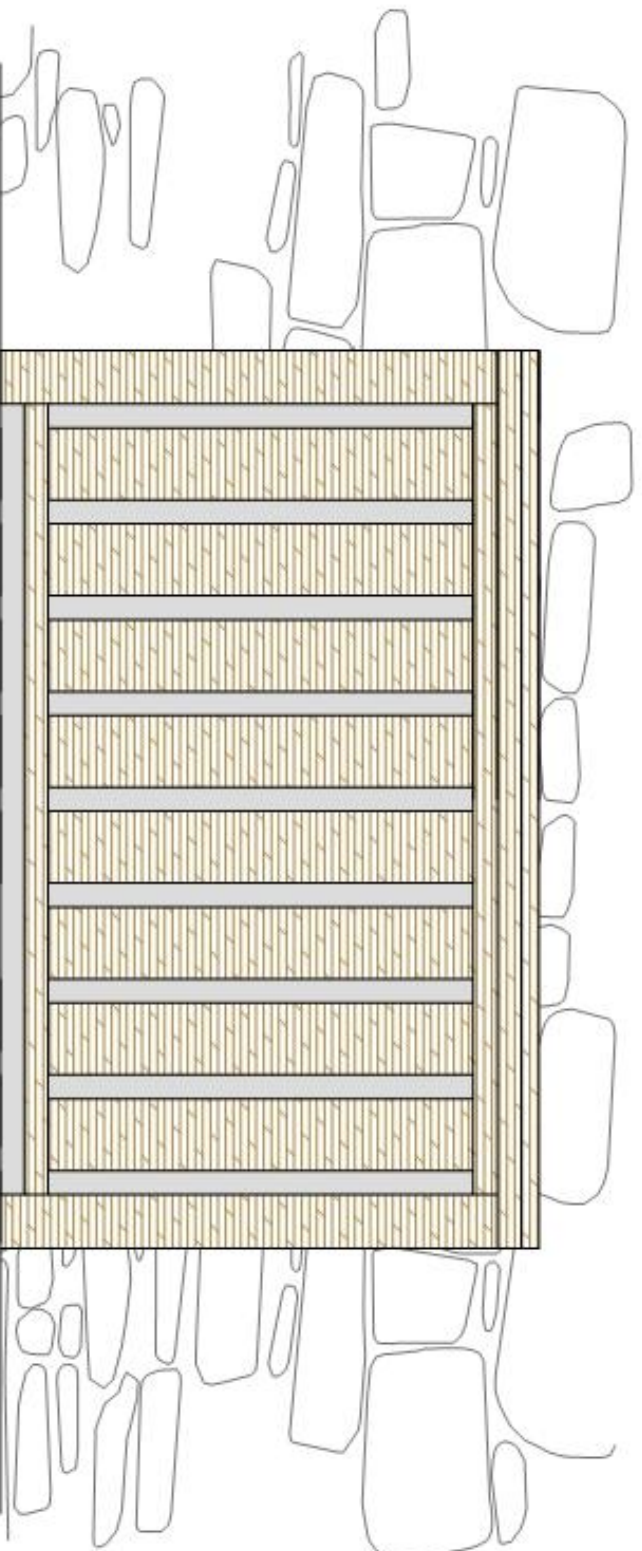
PLAN OF TYRE COMPOSTING SYSTEM



Slatted lid if required

| | | |
|--|------------------------|------------|
| NatSol <small>THE COMPOST TOILET SPECIALISTS</small> | Tyre Composting System | |
| | Plan views | |
| NatSol Ltd Tel: 01888 412863 www.natsol.co.uk | Date 01.07.09 | Scale 1:10 |
| | Dwg. No. | |
| | Dwn. S. Wade | |

FRONT ELEVATION OF FENCED OFF TYRE COMPOSTING SYSTEM



Notes:-

1. Protective fence around tyre stacks. Approx 3'-4' (900-1200mm) high. Lid is hinged shut. Front section removable.
2. Ideally timber to be larch (European), Douglas or Oak - which are naturally durable. Or make it from recycled pallets!

| | | |
|---|------------------------|-------------|
| NatSol THE COMPOST TOILET SPECIALISTS | Tyre Composting System | |
| | Fence front view | |
| Natural Ltd Tel: 071808 412803 www.naturltd.co.uk | Date: 01/07/08 | Scale: 1:10 |
| | Dwg. No. | |
| | Dtn. B. Woods | |

