

# NATSOL SITE LAYOUT, EXCAVATIONS AND URINE AND RAINWATER SOAKAWAYS – see site layout and excavation drwgs

The drawings and instructions included with this guide show:-

1. The **Site Layout for the COMPUS TWIN** toilet
2. The required **Excavations for Urine and Rainwater Soakaways**
3. The method of installing or constructing these.

As levels of use, site conditions and local regulations will vary considerably, **NatSol** is unable to provide site-specific advice on disposal of urine from the toilet or rain from the roof. These notes are provided as an illustration of typical requirements to allow the planning of an installation but do not guarantee compliance or adequate performance for a given site. Whilst the volumes discharged are generally too small to cause concern, Building Control and the Environment Agency should have been consulted prior to installation.

Although volumes of urine or roof run-off are small under-sized soakaways in heavy soil, or where there is a high water table, will fail. This could result in surface water backing up and flowing into the compost chamber via the urine outlet. **It is essential that this toilet is not installed on sites which may become waterlogged or flooded at any time during the year without first consulting NatSol to discuss possible solutions. If clay is discovered unexpectedly during installation then please consult with us. Sites which have traditionally been fairly dry may become waterlogged or flooded under the currently worsening climatic conditions.**

## Roof-water

This must be directed away from the building foundations. We recommend that it is kept out of the urine soakaway and directed to a separate soakaway, although an option to send it to the urine soakaway does exist and may be acceptable for some installations. Please read the **Checklist** below to help decide. We supply a rain diverter for connecting the downpipe to a water butt but you must not rely on this alone to deal with rain. A few days of heavy rain will quickly fill a butt

A soakaway for rain could be a pit 600mm square by about 600mm deep filled with broken bricks, or similar, to a depth of 600mm. This should suffice unless the ground is waterlogged. See fig 1. A layer of geo-textile excludes soil and the pipe enters just beneath this. You may need to buy additional 110mm fittings over and above those we supply.

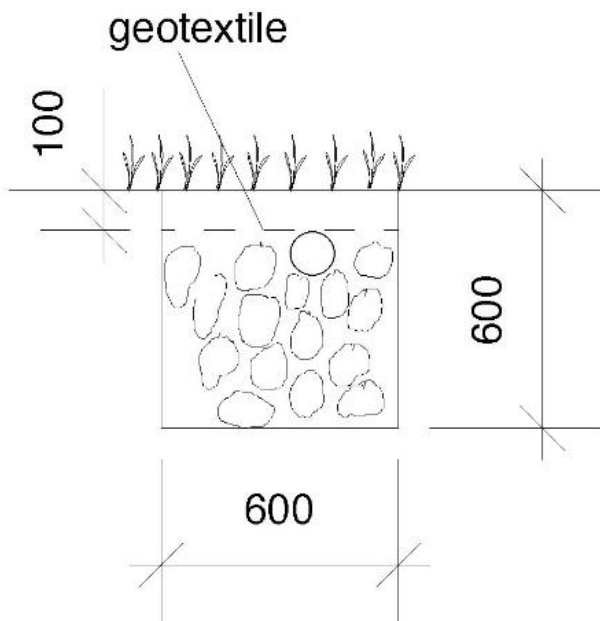


Figure 1. Rainwater soakaway.

## Urine

For most toilets we now supply this ready made GRC soakaway for urine.



Please examine photographs (above R and below) and excavation drawings before installing.



Without rain water



With rainwater – use separate pipe

Rainwater may enter the GRC soakaway **only** if the ground is free draining or the soakaway is downhill from the toilet. **See checklist below.**

Excavate an area of ground measuring 1.3 m by 1.3m and **380mm** deep. It should be no closer than **1m** from the side of the vaults and in a position that the urine exit pipe (on the RHS of the

vaults looking from the front) can be connected easily to the soakaway unit. If there is no room on the RHS then find an alternative position but make sure this is not uphill from the vaults. To have sufficient gradient on the pipe the soakaway should be no further than **3m** away on a flat site.

You will have to judge the precise excavation depth so that when you eventually backfill with soil the **finished ground level is level with the aluminium cover on the gully**. The soakaway unit is intentionally shallow so that the urine goes into the biologically active topsoil. The pipe from the vaults should fall at not less than 1:60 and will only be a few inches beneath the ground.

Position the unit in the centre of the hole so that a 110mm underground pipe from the vaults can connect to the brown 110mm pipe stub projecting through the near end of the unit shown above. Place hardcore or left over aggregate to each side of the unit where the slots occur. Cover the whole unit and the hardcore or aggregate with the geo-textile provided and cover with earth.

As mentioned above it may be acceptable in some cases for the rainwater to go to this soakaway as well. In which case this must be arranged before backfilling – see below.

**CHECKLIST - to decide on whether rainwater can go to the GRC soakaway too.**

1. This is only possible when the urine pipe from the vaults exits wholly above ground level (cubicle floor 250mm above ground) **OR** if the urine soakaway is downhill from the toilet.
2. Only rainwater from the roof of a NatSol Full Access toilet building could possibly go to the soakaway. Rainwater from other buildings **cannot** go to this soakaway.
3. The subsoil must be free draining e.g. sand, chalk, loosely compacted stone, no clay.

If these conditions are satisfied then use a layout like one of those shown on the attached **Excavations** drawing and connect the rain pipe into the spare hole. **The rain pipe must NOT join the urine pipe en-route but enter the soakaway separately.** Joining en-route will risk compromising the ventilation system if the rain gully dries out.

If the conditions are **not** satisfied then blank off the spare hole in the end of the soakaway with the blanking plug provided, held in place with SIKAFlex. Then construct a separate soakaway for rainwater as shown above.

**Site constructed urine soakaway – if for some reason you don't have a GRC one.**

On some sites a urine soakaway constructed on site purely from hardcore may be more appropriate – figure 2. **This will have been agreed before supply of goods.** If constructed it should be shallow to allow dispersal and treatment in the biologically active topsoil. Length in the region of 1.5m on permeable sites.

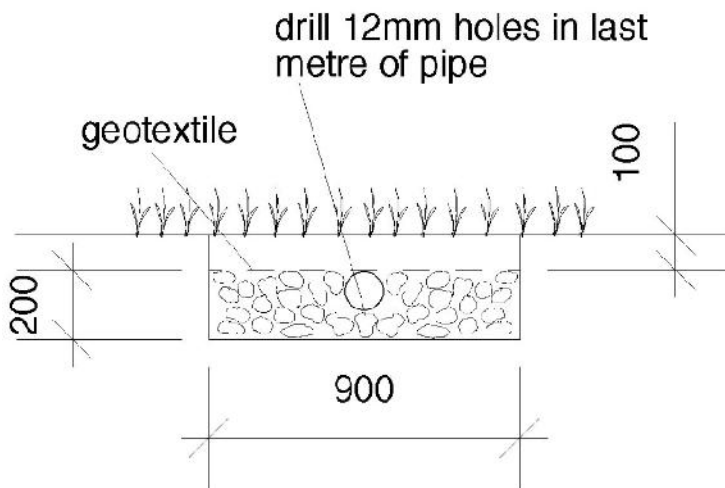
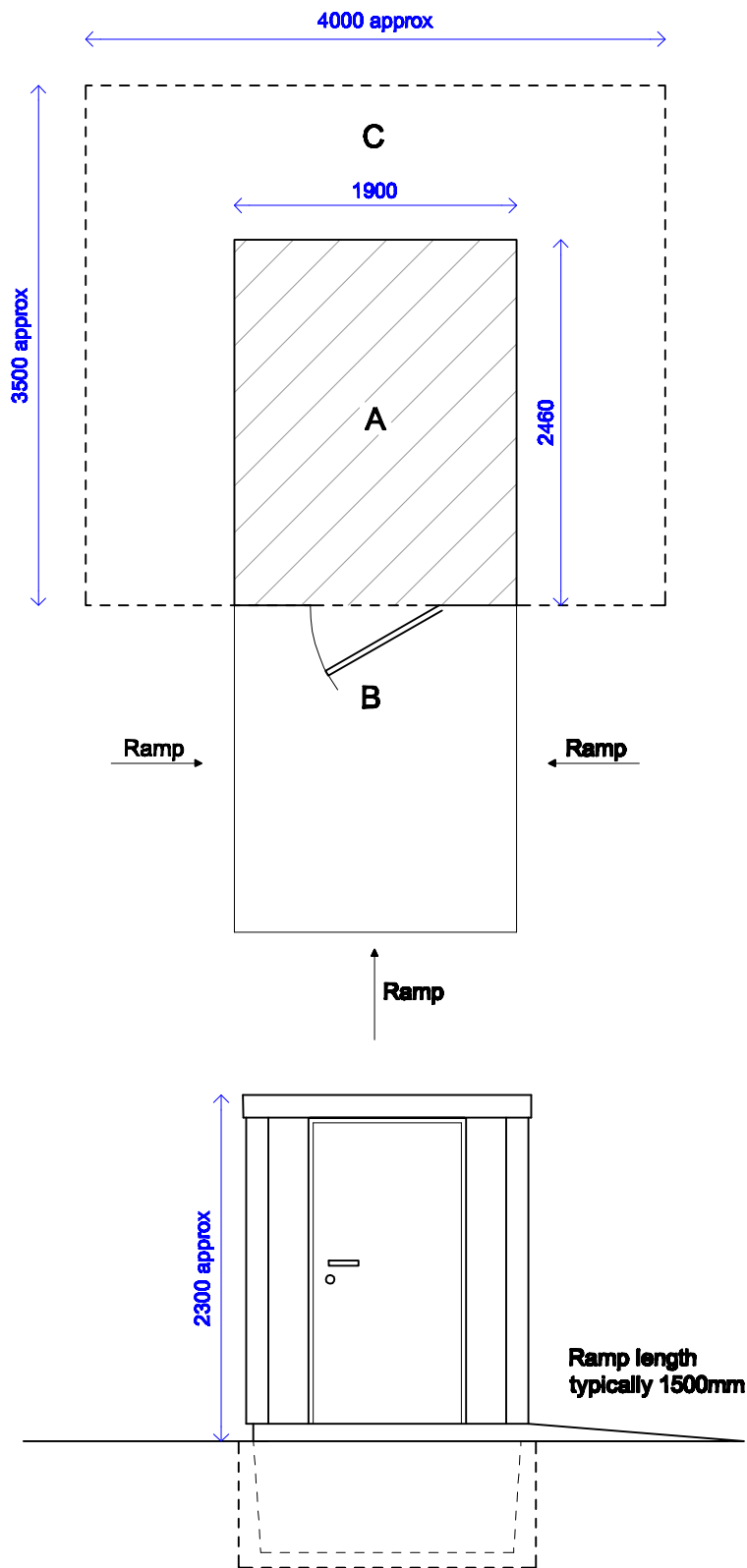


Fig 2. Site urine soakaway



**KEY**


Hatched area 'A' is building footprint and excavation area. Excavations approx 2m x 2.5m. Depth as agreed for each site with Natsol in advance but usually between 760mm and 860mm.

'B' is level area in front of door about 150mm above surrounding ground level and a minimum 2200mm front to back.

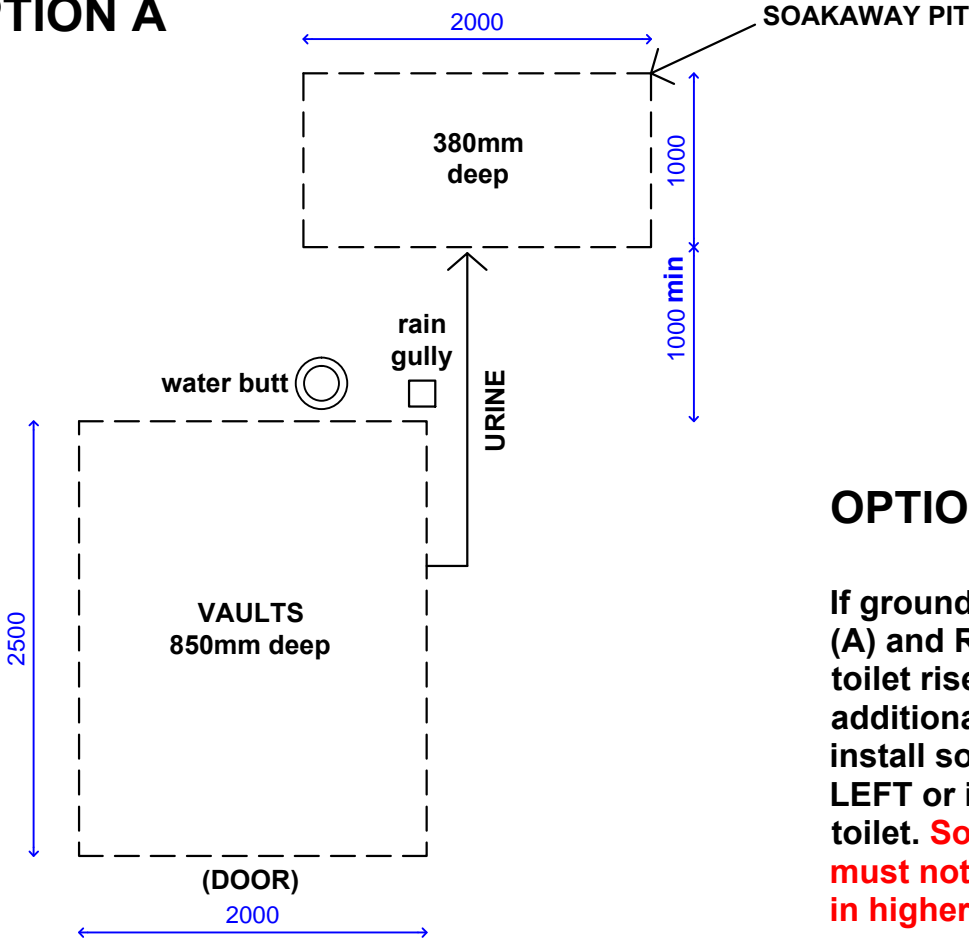
'C' is clear space of approximately 1m wide all round for erection and maintenance.

**NOTES**

1. Door opens out.
2. Ramp from any direction at maximum slope of 1:12

 THE COMPOST TOILET SPECIALISTS Natsol Ltd Tel: 01688 412653 www.natsol.co.uk	Compus Twin full access	
	Site Dimensions	
	Date 21.03.11	Scale 1:50
	Drg. No.	
	Dm. B.Wade	

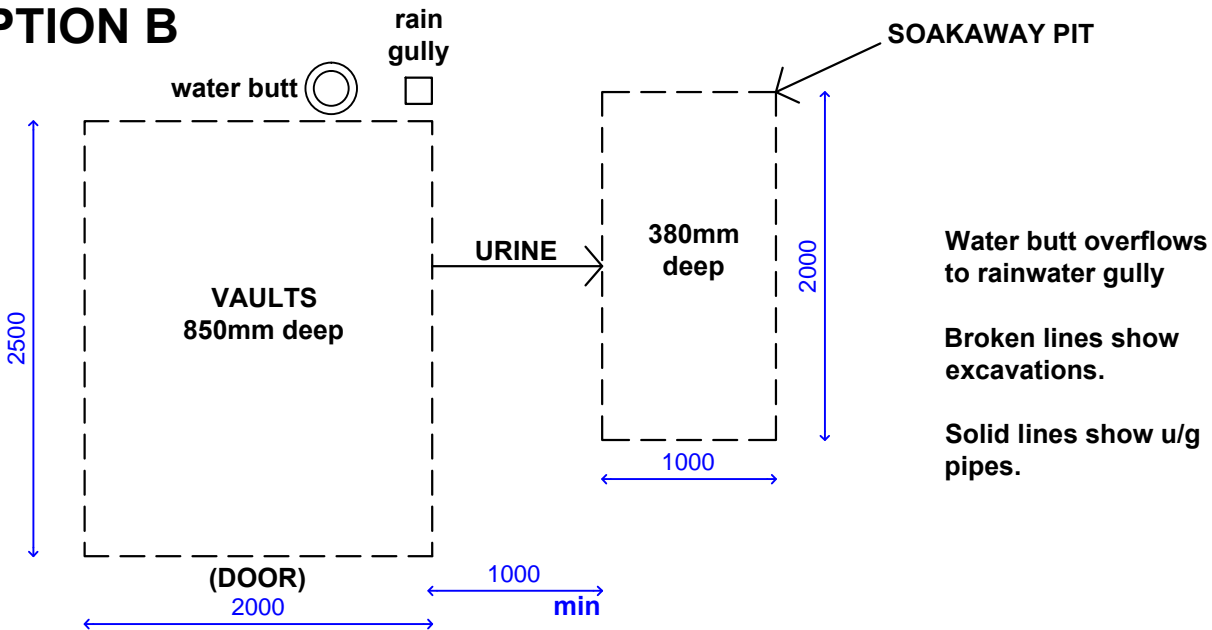
# OPTION A



# OPTION C

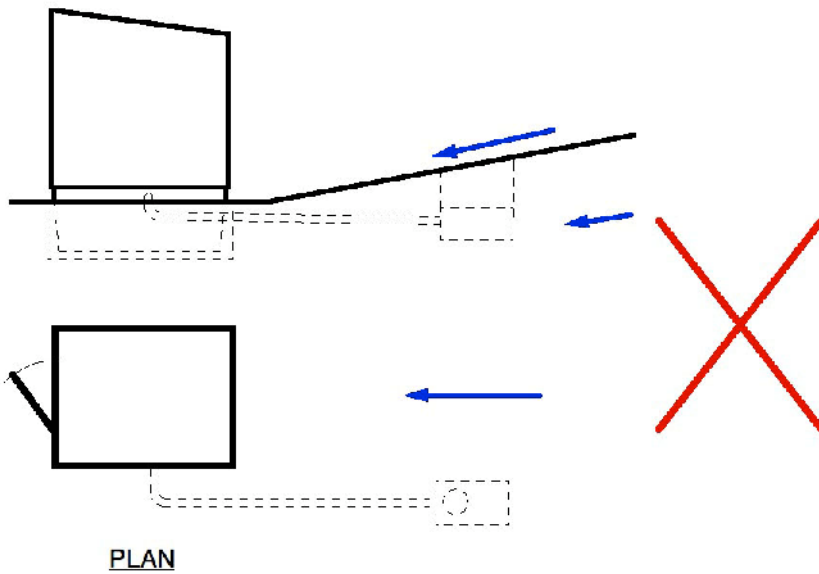
If ground to REAR (A) and RIGHT (B) of toilet rises then use additional pipe and install soakaway to LEFT or in FRONT of toilet. **Soakaway must not be installed in higher ground!**

# OPTION B

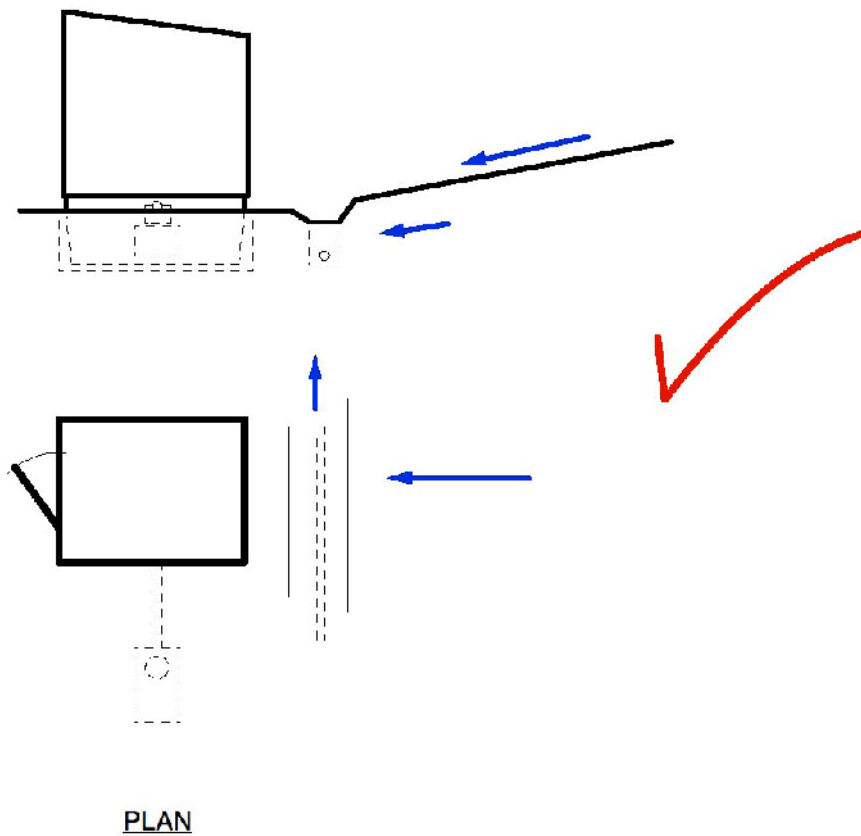


 THE COMPOST TOILET SPECIALISTS	Compus Twin full access	
	Excavations	
Natsol Ltd Tel: 01686 412653 www.natsol.co.uk	Date 20.12.12	Scaled to fit
	Drg. No.	
	Drm. B.Wade	

# SOAKAWAYS AND FLOODING RISK – SLOPING SITES



**Ground water around the soakaway could cause vaults to flood!!**



**Install a land-drain to prevent flooding of soakaway area.**