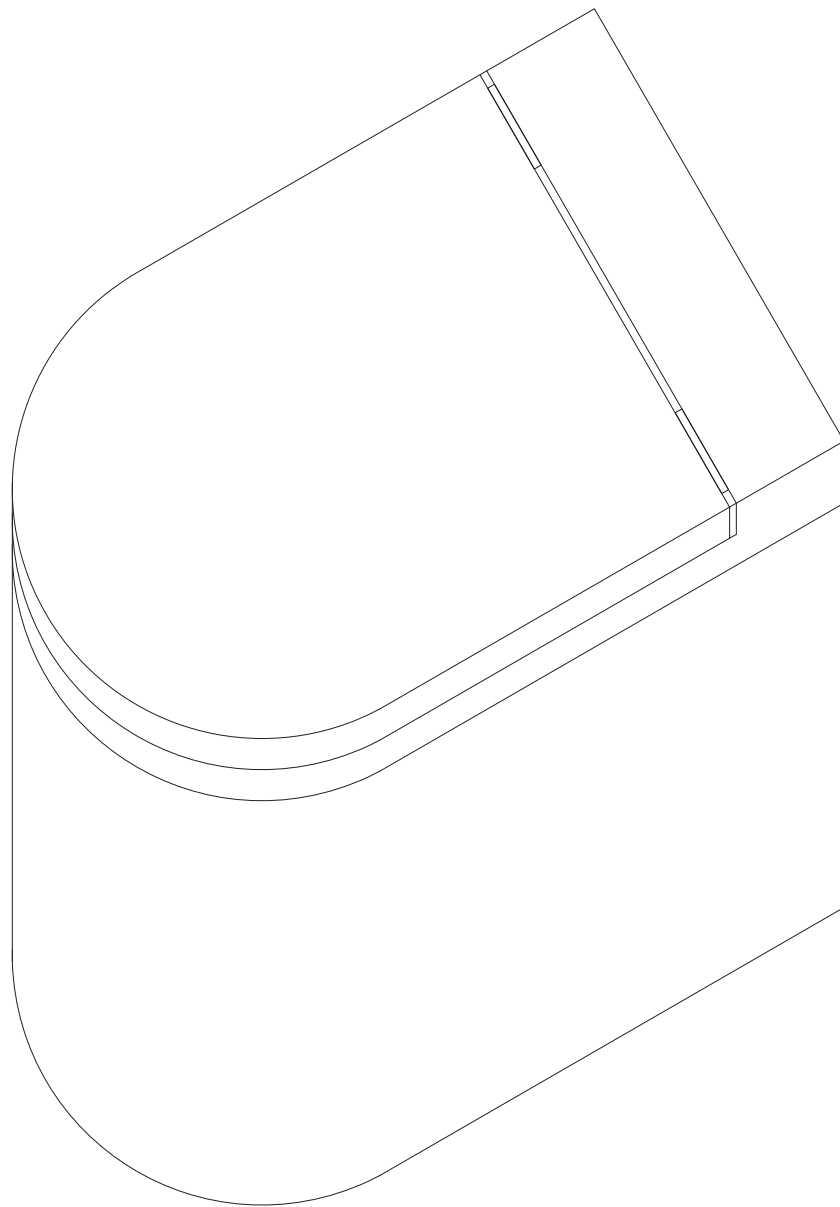


[bundle] Birch House

Public Domain Composting Toilet Owners & Installation Manual



Technical Data

Specifications

Material:

Wood construction. Fiber glass resin & epoxy paint finish

Dimensions:

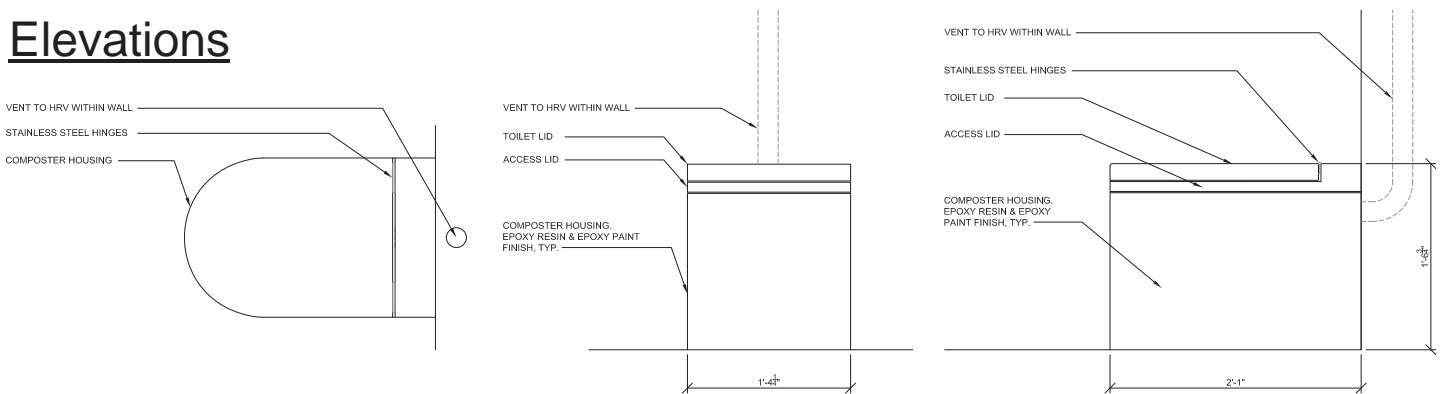
Ventilation pipe: 2" ABS

Urine drain: 3/4" ABS

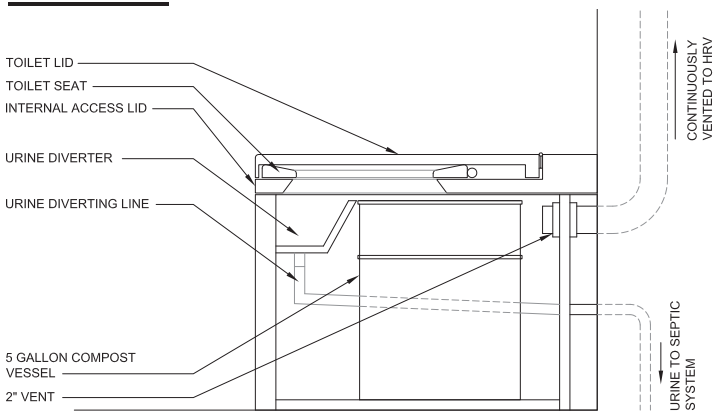
Compost Vessel:

5 gallon HDPE bucket with lid

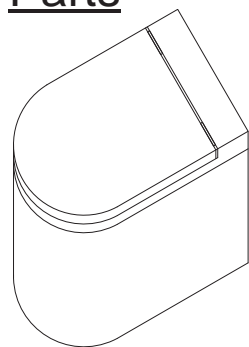
Elevations



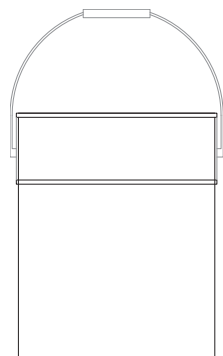
Section



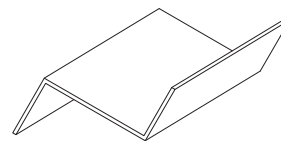
Parts



Composter Housing



Composting Vessel
(4 total)



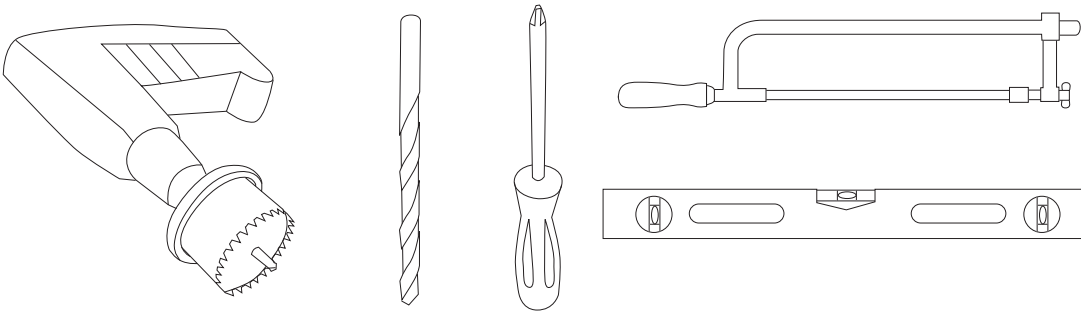
Aluminum Mounting
Bracket



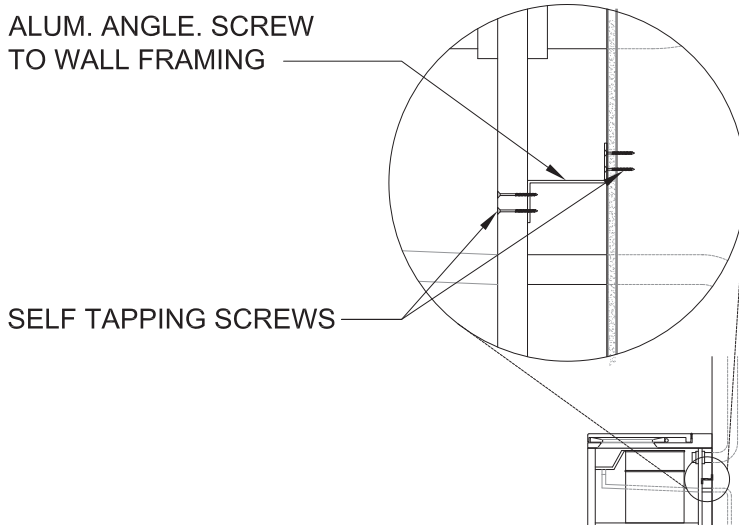
Stainless Steel Screws

Installation

Tools



Installing the Toilet



Directions

The toilet is secured to the wall using an aluminum angle.

1. Measure the location on the wall for the vent pipe and drain line.
2. Have plumber install vent pipe and drain line in correct locations
3. Mark location of angle on wall, in the middle of the toilet below the vent pipe.
4. Mark corresponding elevation on the back of the composting housing. Pre-drill holes through the composter housing to mark location on interior of housing.
5. Install the mounting bracket to the wall using self tapping stainless steel screws. Confirm screws are into wall studs or blocking.
6. Slide the toilet over vent pipe, drain line and firmly against the mounting bracket.
7. Mark and cut vent pipe and drain line to correct length so they do not interfere with composting vessel.
8. Use self tapping stainless steel screws to attach toilet to the mounting bracket.
9. Have plumber attach 1" line from the Urine diverter to the drain line in the wall.

Urine Outlet

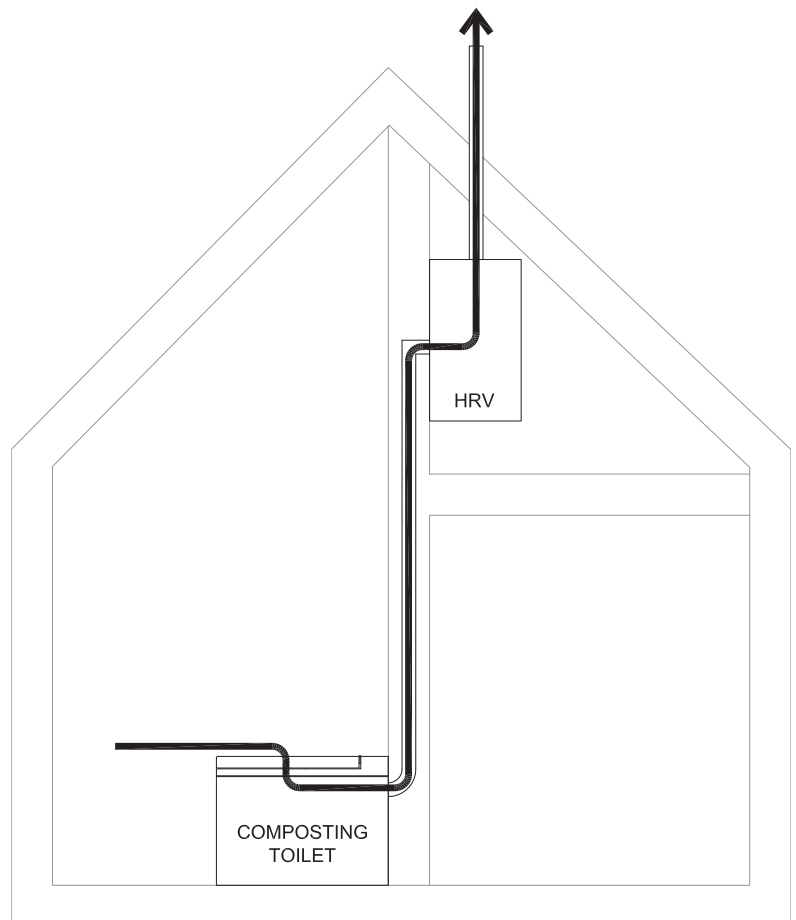
This toilet is designed to separate the urine from the solid waste. This is important as it keeps the solid waste compost from becoming saturated. If compost becomes saturated the composting process stops and produces smells and untreated sewage.

- Urine outlet must be connected to the septic system.
- Urine outlet must have negative fall along its entire length.
- Pipes must be used when passing through walls and floors. Within the composting unit a flexible drainline can be used to connect the urine diverter to the drainline in the wall.

Ventilation

One of the most important features of any composting toilet is the venting of the composting unit. This keeps the compost at the correct moisture content. This composting toilet is continuously mechanically ventilated through a Heat Recovery Ventilator (HRV). The HRV pulls air continuously through the lid of the toilet, across the urine diverter and the composting vessel, keeping smells and gasses from being released into the bathroom.

- Toilets are installed connected to the HRV (heat recovery ventilator) which provides mechanical ventilation for the toilet.
- Multiple toilets installed in different bathrooms must have their own dedicated ventilation pipe to the HRV.
- All vent pipes should have a positive slope back to the toilet housing.
- All vent pipes must be smooth on the interior to increase the ventilation rate.



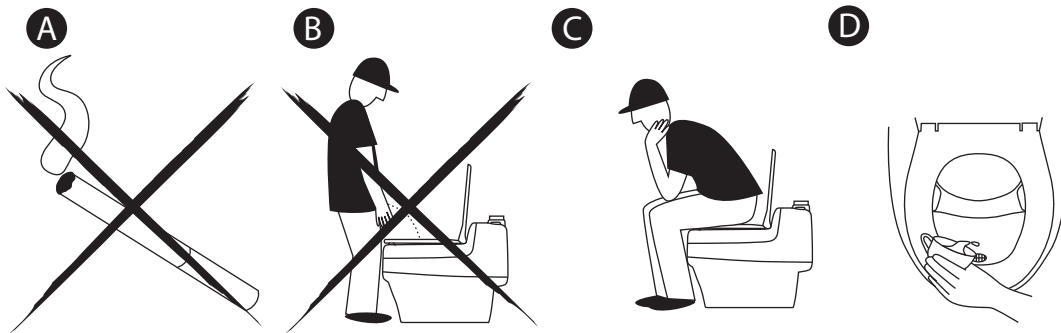
Using the Toilet

Composting Toilet Description

The toilet is a urine diverting batch composter with unlimited capacity. The Composter housing consists of a wood and fiberglass housing that contains a 5 gallon HDPE composting vessel. This vessel holds all of the solid waste. Once full this vessel can be removed for additional aging and replaced with a clean composting vessel. The urine is diverted through a trough in the front of the composter housing that is sloped to a drain. The urine drains into the septic system.

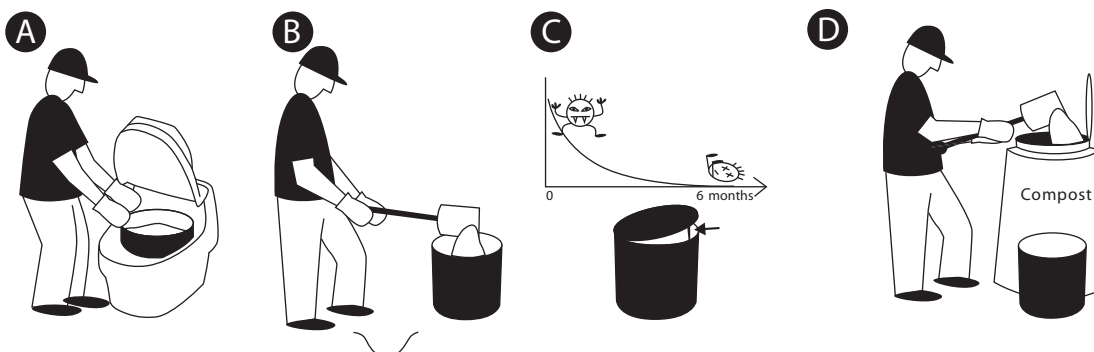
Using the Toilet

When a person makes a solid deposit in the composting vessel and small scoop of wood chips or peat moss is used to 'flush' or cover the waste and "bulk" the compost for proper composting. This repeats till the vessel is full. Compost additives or effective micro-organisms can be added to increase the composting rate. **(A)** Nothing else should be added to the compost vessel as they will have adverse effects on the composting process. Toilet paper is acceptable **(B)** All users, both men, women, boys and girls, must sit at the toilet and urinate into the trough at the front the composter. **(D)** An occasional cup of water may be poured into the trough to clean residual urine from the trough and drain.



Compost Aging

(A) Once a 5 gallon vessel is 3/4 filled with solid waste it is removed and replaced with a clean vessel. **(B)** A scoop of soil is added to the compost vessel. **(C)** A lid with a rubber gasket is placed on the full vessel and the vessel is placed in a locked shed (noted on the site plan) for additional composting. Vessels remain in the shed for a minimum of 6 months. **(D)** At the end of six months the vessel is emptied into a bulk composter and mixed with additional carbonic materials, such as wood chips or grass clippings. This pile ages for another six months to a year. Disposal of final composted product is described in the Septic System Design specific to this property.



Cleaning the Toilet

Cleaning the toilet is the same as any toilet. Organic soaps, vinegar and non-abrassive cleaners can be used on the composting vessel and composter housing.

Troubleshooting

This Composting Toilet has been made for best possible function and reliability. If it does not work as intended, however, please check the points below.

If the power goes out and ventilation stops

1 Open the compster housing and place lid on composting vessel to prevent the release of smells and the attraction of flies.

If flies have got into the toilet

- 1 Check that an insect net is installed.
- 2 Change to a new solid waste container. Use insecticide in the toilet and the bucket. Shut the fan off while the insecticide is working. Repeat the treatment after a few days.
- 3 If the fan is shut off, the container must be lifted out. Flies will otherwise be attracted to the contents.

If there is a smell in the bathroom

- 1 Is the HRV fan running?
- 2 Have the joints on the ventilation pipe and urine outlet been sealed with silicone sealer?

If the container fills up too fast

- 1 Be economical with paper.
- 2 If urine constantly ends up in the container, it will take up too much space.

If urine ends up in the container

1 Make sure the bucket is correctly positioned in the composting housing. Sit slightly forward while using the toilet to make sure urine is deposited in the urine diverter.

If a smell occurs outdoors

1 Latrine smell. If urine ends up in the solid waste container there will be a latrine smell. Rectify this as above.

If the urine outlet is blocked

1 Use a drain unblocking preparation or a drain cleaning rod.

NOTE! Reduce the risk of deposits/blockage in the urine outlet by flushing with a small mug of water each time the toilet is used. We also recommend the use of a biological block that is put in the urine bowl. The block decomposes and the enzymes counteract the problem of urine deposits in the waste pipe.