



Tasmanian Plumbing Code 1994

PART C2 - SYSTEM ACCREDITATION REPORT

No. BSR0387/2001

- TYPE OF SYSTEM:** Batch Waterless Composting Toilet
- TITLE:** Remote Area public Use Non Flushing Alternating Batch Waterless Composting Toilet System MK1.
- APPLICANT:** Parks and Wildlife, Department of Primary Industries, Water and Environment.
- MANUFACTURER:** Parks and Wildlife, Department of Primary Industries, Water and Environment.
- SYSTEM DESCRIPTION:** The alternating batch waterless composting toilet is developed for use in remote areas. The system comprises of four toilet cubicles. There are two pedestals over each alternating chamber (only one reactor is used at a time). Once a reactor is filled it is closed off and the other along with the corresponding toilets is put into commission. The first chamber is set-aside for an additional 12 months composting/maturation period.
- SPECIFICATION:** Bound submission by Parks and Wildlife Service, Department of Primary Industries Water and Environment - Submission for Accreditation – Remote Area Public Use Non Flushing Alternating Batch Waterless Composting Toilets System.
- SUPPORTING DOCUMENTS:** As for specification.
- CONDITIONS OF ACCREDITATION:** See attached.
- NOTE:** The applicant should be aware of their responsibilities under the Environmental Management and Pollution Control Act 1994, the State Policy on Water Quality Management 1997.

CONDITIONS OF ACCREDITATION

1. General

The installation and operation of the systems must satisfy the following conditions, the conditions of the permit issued by the relevant permit authority and the relevant provisions of the Tasmanian Plumbing Code.

- 1.1. Parks and Wildlife Service is to provide all officers responsible for the operation and maintenance of each installation with a comprehensive manual which, sets out the care, operation and maintenance requirements of the units. The manuals must also include procedures to be followed in the event of a system malfunction i.e. unusual or emergency situations, management details and procedures to protect public health and the environment.
- 1.2. All plumbing work installed in connection with the system must comply with the Tasmanian Plumbing Code and Tasmanian Plumbing Regulations 1994.
- 1.3. Any proposed modifications/alterations made to the waterless composting toilets must be authorised by the Department of Infrastructure, Energy and Resources.

Note: Modifications may be subject to additional verification and testing.

- 1.4. Parks and Wildlife Service is to keep a record of each installation and their location/s and make them available to the Department of Infrastructure, Energy and resources on request.
- 1.5. Before determining a suitable installation site the relevant permit authority is to consider the number of pedestals required to serve the expected peak population in a reasonable time and to minimise queuing. Particular attention must be given at scenic viewpoints and rest areas on travel routes used by coach tours.

The calculation of the number of pedestals required in public toilet facilities is based on the population in an area, the length of stay of that population, the arrival rate at the toilet facility, the gender ratio, and the occupancy time. Further information on these factors are discussed and example calculations given in NZS 4241 Public Toilets.

- 1.6. Each unit must be provided with a permanent, clear indelible notice in a prominent position that is readily visible after installation for identification. The notice must include the following information:
 - a) The manufacturer's name or registered mark;
 - b) Model number or designation;
 - c) The month and year of manufacture;
 - d) The design capacity;
 - e) Contact details for the reporting of malfunctions; and
 - f) Provision for recording the date of last deposit into each chamber and the last time the composted end product was removed.
- 1.7. Each unit is to be provided with basic instructions as identified in section 8.4 of the applicant's submission for accreditation and be affixed within the toilet cubical in a prominent position.

- 1.8. The minimum composting period for each waterless composting toilet chamber must be 12 months and be specified in the permit issued by the relevant permit authority and a statement to that effect must be included on any literature accompanying each unit.
- 1.9. The units must not be installed in a plumbing installation other than in accordance with the conditions of permit issued by the relevant permit authority.

2. Removal of end product

- 2.1. The composted end product is only to be removed by personnel trained for disposal from the waterless composting toilet after the minimum composting period as stated in the permit.
- 2.2. Composted end product, which is only partially composted, may only be removed from the waterless composting toilet with the written consent of the relevant permit authority and must be dealt with as hazardous waste.
- 2.3. The relevant permit authority is to issue instructions as to who may remove the composted end product and the method of disposal.
- 2.4. Unless otherwise directed by the relevant permit authority, the composted end product is to be disposed of by burial within the confines of the premises in soil which is not intended to be used for the cultivation of vegetables for human consumption or for grazing of animals and subject to the end product meeting the quality set out in Table 2.

TABLE 2

REQUIREMENTS FOR END PRODUCT QUALITY

Characteristics	Performance requirement
Consistency	Sample must contain no recognisable faecal material
Odour	There must be no offensive odours from the end product immediately following removal from the reactor
Moisture	Not exceeding 75%
Pathogen test	
(a) Thermotolerant coliforms	Less than 200 per gram dry weight
(b) Salmonella spp.	Not detected

- 2.5. The minimum cover of soil over the deposited humus/end product must be 100 mm.
- 2.6. Composted end product may only be removed from the closet through the appropriate (childproof/lockable) access door provided for that purpose.
- 2.7. The composted end product must not be removed from the premises unless the written consent of the relevant permit authority has been obtained.
- 2.8. All liquid waste (greywater and urine) must be disposed of in accordance with AS/NZS 1547:2000 On-site domestic-wastewater management, with particular reference to Clause

- 4.4.5.1 and Table 4.2A1 Notes 7 & 8, or in a manner so as not to create any nuisance or pollute any watercourse and satisfies the relevant requirements of the Tasmanian Plumbing Code and the relevant permit authority.
- 2.9. Where the end product is not disposed of on-site it is to be removed strictly in accordance with section 9 of the submission for accreditation made by Parks and Wildlife Service and be disposed of in accordance with the current Tasmanian Biosolids Reuse Guidelines.
3. **Monitoring** of all installations must be carried out to ensure they are operating effectively.
- 3.1. The relevant permit authority is to report any continuing malfunctioning toilet/s to the Department of Infrastructure, Energy and resources.
- 3.2. The relevant permit authority is to ensure that a monitoring system is put in place to ensure each installation is operating affectively.
- 3.3. The following monitoring system for the waterless composting toilet must be adopted and form part of the conditions of permit:
- a) A sample of the end product from each waterless composting toilet batch is to be taken and analysed at the end of the first nominated composting period after installation before any composted end product is removed. The sample is to be taken in accordance with the sampling technique set out in Appendix B of the Australian/New Zealand Standard, AS/NZS 1546.2: 2001- On-site domestic-wastewater treatment units, Part 2 Waterless composting toilets, and analysed by an approved laboratory in accordance with Table 2. A certificate to this effect is to be lodged with the relevant permit authority and be made available to the Department of Infrastructure Energy and Resources on request;
 - b) Each installation (waterless composting toilet) is to be checked in the same manner as per condition 3.3 (a) above at the second nominated composting period after installation before any composted end product is removed. If the unit is found to be operating satisfactorily at the second inspection, re-inspections may be extended to every third nominated composting period for each batch.
 - c) Where it is found that the waterless composting toilet is operating unsatisfactorily, the deficiency must be drawn to the operators' attention and rectified. The toilet is to then be re-inspected at six monthly intervals until the end product quality as shown in Table 2 has been achieved, after which inspection periods may revert to every third nominated composting period as stated in 3.3 (b) above.
4. **Non-compliance** with the above conditions and requirements may result in the creation of a nuisance necessitating remedial action being required by the relevant permit authority and or the withdrawal of the Certificate of Accreditation.