



Certificate of Accreditation

On-Site Wastewater Management System

This Certificate of Accreditation is hereby issued by the Director of Building Control pursuant to Section 18(1) of the *Building Act 2016* and the accreditation of product.

System:	Nature Loo Alectura Comfort & Premium
Manufacturer or Supplier:	Ecoflo Wastewater Management
Of:	25 Shannon Place, Virginia QLD 4014

This is to certify that the Nature Loo Alectura as described in Schedule 1, has been accredited for use as a Waterless Composting Toilet on-site wastewater management system for the treatment of domestic wastewater generated in association with any class of building defined within the National Construction Code. This accreditation is subject to the conditions and permitted uses specified in Schedule 2, and in accordance with the *Building Act 2016*.

Brad Wheeler
Director of Building Control
Consumer, Building and Occupational Services
Department of Justice

Date of Issue: 01/07/2024

Certificate Number: DOC/23/93713

This Certificate of Accreditation is in force until 01/07/2029 unless withdrawn earlier at the discretion of the Director of Building Control

Document Development History

Version date	Certificate number	Approved by	Amendment notes
01/07/2024	DOC/23/93713	BW	Original Release

Schedule 1: Specification

Normative

System Description

The Nature Loo Alectura is a waterless composting toilet system that is designed to receive and treat human excrement by using a dry composting method that requires no additional water. Waste is separated and detained in containers while the composting process takes place. The treated product is a relatively non-offensive dry compost that is suitable for disposal on the property with little nuisance risk to public health.

The capacity of each unit is as per the below table:

Model	Full Time Users
Comfort	3-4
Premium	4-5

A connection must be provided to allow excess liquid to drain to a disposal area compliant with AS/NZS1547.

This model has been assessed as a Waterless Composting Toilet in accordance with AS/NZS1546.2.2008.

This model has been approved by the certifier for use in Climate Zone 7 however, insulation and additional heating may be required as determined by installation location and local climatic conditions.

The installation of a waterless composting toilet is the work of a licensed plumber.

Schedule 2: Conditions of Accreditation

Definitions in this schedule:

(Note: referenced Standards and Acts refer to version as per current NCC)

AS/NZS 1547 means the Joint Australian/New Zealand Standard 'AS/NZS 1547 On-site domestic-wastewater management'

AS/NZS 1546.3 means the Joint Australian/New Zealand Standard 'AS/NZS 1546.3 On-site domestic wastewater treatment systems, Part 3: Secondary treatment systems'

AS/NZS 3000 means the Joint Australian/New Zealand Standard 'AS/NZS 3000 Wiring rules'

AS/NZS 5667 means the Joint Australian/New Zealand Standard 'AS/NZS 5667.1 Water quality – Sampling, Part 1: Guidance on the design of sampling programs, sampling techniques and preservation and handling of samples'

BOD₅ means '5-day Biochemical Oxygen Demand'

Council means 'the Municipal Council having jurisdiction'

Commissioned means 'when the test results from a NATA Certified Laboratory show that the water quality requirements for the STS have been met and all pre-commissioning tests have been carried out in accordance with AS/NZS 1547 on all associated equipment and the sub-surface irrigation system'

Designer means 'a person who has a specialty in the area of designing on-site waste water management system installations and may include but not be restricted to appropriately trained professional engineers, soil scientists, land surveyors and plumbers'

Director means 'the Director of Building Control'

EC means electrical conductivity

E. coli means 'Escherichia coli of the family Enterobacteriaceae which is a bacterium used in public health as an indicator of faecal pollution'

g/m³ means grams per cubic metre

Manufacturer means as listed on Certificate of Accreditation

N means 'Nitrogen'

NATA means 'National Association of Testing Authorities'

PCA means 'Plumbing Code of Australia'

Permit means 'a Permit issued by the council pursuant to section 82 of the Building Act'

Permit authority means 'a person or body authorised for that purpose by the council of the municipal area in which the on-site waste water management system is installed'

Secondary Treatment System A wastewater treatment 'system' which produces effluent of a secondary standard

Supplier means 'the party that is responsible for ensuring that products meet and, if applicable, continue to meet, the requirements on which the certification is based.'

The supplier means as listed on Certificate of Accreditation

System means as listed on Certificate of Accreditation

TSS means 'Total Suspended Solids'.

General

The system must be supplied, constructed and installed in accordance with the design submitted and accredited by the Director.

The system must not be installed in a plumbing installation other than in accordance with the conditions of permit issued by the Permit Authority.

Each system must be permanently and legibly marked on a non-corrosive metal plaque or equivalent, attached to the lid with the following information:

- the brand and model name or designation of the system
- the manufacturer's name or registered trademark
- top load limitations, and
- the month and year of manufacture.

The *supplier* must supply the owner and occupier, of each installation, with a user manual setting out the following:

- the treatment process
- procedures to be followed in the event of a system failure
- emergency contact number
- care, operation, monitoring and maintenance requirements, and
- inspection and sampling procedures to be followed as part of the on-going monitoring and program required by the permit authority.

Any proposed modifications to the system's specified processes, equipment, materials, fittings or manuals must have prior authorisation in writing from the Director and may be subject to additional verification or testing.

Each application to a permit authority to install a system must be accompanied by a site-and-soil evaluation report and design report in accordance with AS/NZS 1547 as appropriate.

The supplier must provide the following information to each permit authority where it is intended to install a system in their jurisdiction:

- statement of warranty
- system compatibility with area specific climate zone
- statement of service life
- quality assurance certification
- installation manual
- service manual
- owner's manual
- service report form
- engineering drawings on a3 format
- detailed specifications
- Certificate of Accreditation and schedules.

This Certificate of Accreditation is valid for five (5) years from the date of issue or until withdrawn by the Director.

At each anniversary of the accreditation date the supplier must submit to the Director a list of all systems installed in Tasmania during the previous 12 months. The Director may randomly select up to 10% of the installed systems in any one calendar year. The Director will nominate a NATA accredited laboratory for all sampling and will be tested for BOD₅ and TSS and Chlorine residual. The sampling and testing of the selected systems is to be done at the supplier's expense. The following results must be reported to the Director:

- Address of premises
- Date inspected and sampled
- Sample identification number
- Chlorine Residual
- BOD₅
- TSS, and
- Service history.

Where a *system* has been found not to operate satisfactorily during its serviceable life, and as a result require modification to achieve the required water quality limits, all installed systems are to be modified accordingly.

When granting a permit the permit authority is to satisfy itself that the designer's choice of the system configuration is optimal for the proposed use and site conditions.

The system must not be deployed to areas where seasonal climatic conditions will negatively affect its proper operation (refer to manufacturer's specifications).

Prior to the granting of a permit to install a system the following reports must be submitted with an application to the permit authority.

Site-and-soil evaluation report

The site and soil evaluation report is to detail results of an assessment of the individual lot(s) for the public health, environmental, legal and economic factors which are likely to impinge on the location and design of a land-application. (Refer to AS/NZS 1547 and associated appendices).

Design report

The Design Report is to include the following:

- Relevant aspects of the Site-and-soil Evaluation Report.
- A report on the selection of the land-application. (Refer to AS/NZS 1547, and associated appendices for further information).
- A report on the selection of the wastewater-treatment system. (Refer to AS/NZS 1547, and associated appendices for further information).
- Sufficient information to show that the relevant performance requirements set out in the PCA have been met.
- A loading certificate which sets out the design criteria and the limitations associated with use of the system and incorporates such matters as:
 - system capacity (number of persons and daily flow)
 - summary of design criteria

- the location of and use of reserve areas
- use of water efficient fittings, fixtures, or appliances
- allowable variation from design flows (peak loading events)
- consequences of changes in loading (due to varying wastewater characteristics)
- consequences of overloading the system
- consequences of under-loading the system
- consequences of lack of operation, maintenance and monitoring attention, and
- any other relevant considerations related to the use of the system.

The following reports must be submitted to the permit authority and owner and be made available to the Director upon request after commissioning of the system:

Installation and commissioning report

The installation and commissioning report is to cover the 'as-constructed' records of the system installation together with the results of commissioning tests to demonstrate correct construction and installation and is to be provided to the owner and permit authority on completion of the work. (Refer to and AS/NZS 1547 and associated appendices).

Inspection and maintenance report

Maintenance reports cover ongoing inspection and maintenance operations in order to monitor the operation of the installation. (Refer to AS/NZS 1547).

Where the supplied pump is not suitably rated for the proposed land application area it must be replaced with a pump which has a rated capacity that matches the hydraulic characteristics of the irrigation and be capable of discharging at least 50% more than the 30 minute flow rate. For drip irrigation, ensure that drip emitter flow rates do not vary more than 10% from the design rate over the whole of the system when installed on a sloping site.

Note: The pump selection is to be based on flow, head loss and pressure requirements.

Effluent distribution by sub-surface application may be permitted where the Permit Authority is satisfied that the application for a permit to install the system has demonstrated that the:

- effluent can be retained within the authorised land application area
- where applicable the land application has been designed and is capable of being installed and maintained in accordance with AS/NZS 1547
- the location of the land application satisfies the relevant requirements of the State Policy on Water Quality Management 1997, and
- the discharge is capable of satisfying the relevant water quality limits.

Product approval documentation

The following documents are referenced as part of this Accreditation:

Document	Document date
Certificate of Conformity – SAI Global SMKH25591	23/08/2023
Letter of support from SAI Global	06/06/2024

Installation and Commissioning

The installation and operation of the system must comply with the conditions of accreditation and the manufacturer's instructions.

All plumbing work carried out in connection with the system installation must satisfy the requirements of the *Building Act 2016* and the PCA and be carried out by a licensed plumber with appropriate training and qualifications.

Each system installation must be inspected and checked by the designer or the designer's agent. The designer on completion is to certify that the system has been constructed, installed, and commissioned in accordance with its design, the conditions of accreditation and any additional requirements set out in the permit.

Note: Where the designer is not available to supervise the installation, the designer shall obtain signed certification in the form of a certificate of assessable item by a qualified person (Form 55) from the installing plumber stating that the installation has been constructed/installed and commissioned in accordance with its design, the conditions of accreditation and any additional requirements of the council and/or permit authority.

Where discharging wastewater to a land application by irrigation, a lockable sampling tap or gate valve is to be provided on the outlet pipe to the irrigation.

A report is to be prepared by the council approved plumbing contractor detailing the inspection of the installation and the results of the commissioning tests and be accompanied by a certificate certifying that the system is operating and performing adequately.

Copies of the following reports/certificates must be submitted to the council and the owner as soon as practicable after the commissioning of the system and after each scheduled or unscheduled service or inspection for the period specified in the permit:

- The initial system installation and commissioning report
- All required laboratory analytical test reports, and
- All inspection and maintenance reports.

Copies of any report or certificate required by the conditions of accreditation must be made available to the Director on request.

The designer is to provide a statement advising the user of which items and products that must not be placed in the system.

Maintenance and monitoring

Each installation must be visually monitored in accordance with the conditions of accreditation, the conditions of permit and manufacturer's requirements.

Ongoing management

Composted waste is to be removed and disposed of in accordance with AS/NZS 1546.2 to the approval of the local council.

Measures are to be put in place during servicing that will protect the environment, personnel and any other persons who could be affected by the activity.

Permitted uses (remove non-applicable uses)

The excess liquid effluent is suitable for land application by way of the following forms:

- sub-surface by:
 - trenches, beds, mounds, evapo-transpiration in accordance with the relevant provisions of AS/NZS 1547.

Note: Each of the above forms of distribution is subject to consent from the permit authority and the PCA.

Where it is not practicable for effluent from the system to be applied in accordance with AS/NZS1547 the method of discharge must satisfy the performance requirements of the PCA.