

TREATMENT PLANT APPROVAL 13/2019
Plumbing and Drainage Act 2018, part 4.



Approval

1. The **Envirotech ASF – Secondary Quality Wastewater Treatment System** (“the system”) described in the Specifications and Drawings in the attached Schedule and manufactured by **Envirotech IP Pty Ltd ATF Envirotech Trust** (ABN 76 262 979 491) (“the manufacturer”) has been assessed in accordance with the (previous) Queensland Plumbing and Wastewater Code (QPW Code) dated 26 October 2017.
2. Approval is granted for the secondary quality wastewater treatment system, subject to compliance by the manufacturer with the requirements of the *Plumbing and Drainage Act 2018*, part 4 and the conditions of approval detailed below.
3. This approval, the conditions of approval and the Schedule comprise the entire Chief Executive Approval document.
4. Any modification by the manufacturer to the design, drawings or specifications scheduled to this approval must be approved by the Chief Executive.

Conditions of approval

1. The manufacture, installation, operation, service and maintenance of the systems must be in conformity with the conditions of this Treatment Plant Approval.
2. The secondary quality wastewater treatment system, which is an example of the approved systems, may only be used on premises that generate per day
 - (a) a maximum hydraulic loading of 2,000 litres; and
 - (b) a maximum organic loading of 700g BOD₅.
3. The system must continue to meet the requirements of secondary quality wastewater treatment system, producing the following effluent quality —
 - (a) 90% of the samples taken must have a BOD₅ less than or equal to 20 g/m³ with no sample greater than 30 g/m³.
 - (b) 90% of the samples taken must have total suspended solids less than or equal to 30g/m³ with no sample greater than 45g/m³.
 - (c) 90% of the samples taken must have a thermotolerant coliform count not exceeding 10 organisms per 100 mL with no sample exceeding 200 organisms per 100mL.
 - (d) The total chlorine concentration must be greater than or equal to 0.5g/m³ and less than 2.0g/m³ in four out of five samples.
4. Each system must be serviced in accordance with the details supplied in the owner’s service and maintenance manuals.

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5. Each system must be supplied with —
 - (a) a copy of this Treatment Plant Approval document;
 - (b) details of the system;
 - (c) instructions for authorised persons for its installation;
 - (d) a copy of the owner's manual to be given to the owner at the time of installation; and
 - (e) detailed instructions for authorised service personal for its operation and maintenance.
6. This approval does not extend, apply to, or include the land application system used in conjunction with an approved system installed on premises.
7. At each anniversary of the Treatment Plant Approval date, the manufacturer must submit to the Chief Executive a list of all systems installed in Queensland that they have received an installation and commissioning certificate for, during the previous 12 months.
8. Where the Chief Executive is notified of any system failures that they believe are a result of poor design or faulty manufacture, the Chief Executive may randomly select a number of installed systems for audit. The Chief Executive will notify the National Association of Testing Agencies (NATA) accredited laboratory nominated by the manufacturer, which systems are to be audited for Biochemical Oxygen Demand (BOD₅) and Total Suspended Solids (TSS). The sampling and testing of the selected systems, if required, is to be done at the manufacturer's expense. The following results must be reported to the Chief Executive;
 - (a) Address of premises.
 - (b) Date inspected and sampled.
 - (c) Sample identification number.
 - (d) Biochemical Oxygen Demand (BOD₅).
 - (e) Total Suspended Solids (TSS).
9. The Chief Executive may, by written notice, cancel this approval if the manufacturer fails —to comply with one or more of the conditions of approval; or within 30 days, to remedy a breach, for which a written notice been given by the Chief Executive.
10. This approval may only be assigned with the prior written consent of the Chief Executive.
11. The Chief Executive may, by written notice, cancel this approval if the manufacturer fails —
 - (a) to comply with one or more of the conditions of approval; or
 - (b) within 30 days, to remedy a breach, for which a written notice been given by the Chief Executive.
12. This approval may only be assigned with the prior written consent of the Chief Executive.
13. This approval expires on 1 January 2024 unless cancelled earlier in accordance with paragraph 9 above.

Lindsay Walker

Director
Plumbing, Drainage and Special Projects
Building Legislation and Policy

Date approved: November 2019

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SCHEDULE

Attachment 1

Specifications & Drawings for the

Envirotech ASF– Secondary Quality Wastewater Treatment System

ENVIROTECH ASF (Aerobic Sand Filter)

Domestic System – 10 EP capacity

Attained Chief Executive Approval CEA in Queensland in 1993 and has remained an approved system right up until now. From the introduction of the ASF System, it has attracted favourable comments from its customers and the plumbing inspectors. It has lived up to expectations and is still the discerning person's choice.

The basic elements of the system are:-

- Septic chamber – not less than 3900L
- Filter–dosing pump station
- ASF 8m long x 2.5m wide, typically
- Final effluent pump station
- Effluent irrigation area
 - Type of irrigation - hose and sprinkler; or
 - sub-surface drip

See accompanying DRAWINGS of the system.

Identification Tag - attached to electrical control box on the tank
- provides contacts for help

Treatment Plant Approval

Approved by: Lindsay Walker

Delegated Authority

Department of Housing & Public Works



SPECIFICATION SHEET

- Pumps – 1. Filter Dosing Pump – automatic (in-built ON-OFF float switch)**
Type – centrifugal – vortex
Model: AVI30 “Global”
Make: Leader
Country of Manufacture: Italy
Supplier: ATS Pumps BRISBANE
Performance: max head 5m
 max flow 130L/min
Power requirement: single phase 240V, 330 Watt
- 2. Effluent Pump – automatic**
As for 1 and 2 except large pump
Performance: max head 9m
 max flow 330L/min
Power requirement: single phase 240V, 750 Watt

Float Switches

- 1. High-level Alarm Filter Dosing Pump Well**
Type – plastic floating ball with internal micro-switch
Function – 3-wire unit
Make – Q.E.
Country of manufacture: Italy
Supplier: ATS Pumps BRISBANE
Current Rating: max 16 amps
- 2. High-Level Alarm Effluent Pump Well**
- as per 1

U.V. Disinfection Unit

Location: top of tank connected into effluent irrigation pipeline
Type of lamp: high output low pressure mercury vapour lamp
Max throughput: 42 Lpm
Power requirement: 48 Watt
Material of Manufacture: stainless steel
Name of Manufacturer: Sterillight
Model no. of unit: UV S12Q-PA
Supplier: IBC water

- Liner - for A.S.F. Gen II size 6m x 1.2m**
- required liner size
(6+1.5) x (1.2 +1.5) – to allow for walls and roll-up at top to finish
= 7.5m x 2.7m
- material – polypropylene
- construction – woven strands with finish coating to both sides
- equivalent to Rheem CANVACON 5000 (used in truck tarpaulins)
- supplier P.S.A. – Protective Structures Australia, YATALA

- Geotextile**
- manufacturer and supplier: Geofabrics Australia
 - factory Melbourne:
 - company's Qld office: Sumner Park
 - grade of product: A12
 - layer at top of A.S.F. to prevent silt entering the media

- Pipework**
- P.V.C.
 - 100mm dia sewer
 - 25mm dia Class 12
 - fittings to suit
 - supplier: REECE PLUMBING

Raw Materials for A.S.F.

- supplier: BORAL RESOURCES

Layer across floor of pit to cover the slotted underdrain pipe

- general thickness 150mm
- with extra mounding over the crown of underdrain
- size of material 20mm
- to be supplied clean/washed with no finer material

Body of A.S.F.

- thickness of layer: 600mm
- size of material: all between 5 and 7 mm
- to be supplied clean/washed with no finer material
- product used by BORAL in the manufacture of bitumen aggregate for road pavement construction

Top layer into which the pressure distribution pipework/manifold is embedded

- depth layed before placing pipework manifold 100-150mm
- final covering layer 50mm deep
- size of material 20mm
- to be supplied clean/washed with no finer material

Sand for furnishing – to be applied after

- placing the geotextile layer across the 20mm layer
- grading of sane – "medium sand" not a fine sand (ideally)
- sometimes supplied a "manufactured sand" with a similar size distribution/grading to "medium sand" (naturally formed)

Approximate Quantities* for ordering

| | Cubic capacity | Weight (dry) |
|-----------------|----------------------|--------------|
| 5-7mm aggregate | 5.3m ³ 15 | 7.4 tonne 22 |
| 20mm aggregate | 3.5m ³ 8 | 5.3 tonne 12 |
| Medium sand | 4.0m ³ | 3.0 tonne 6 |

*extra material for bedding purposes not incl

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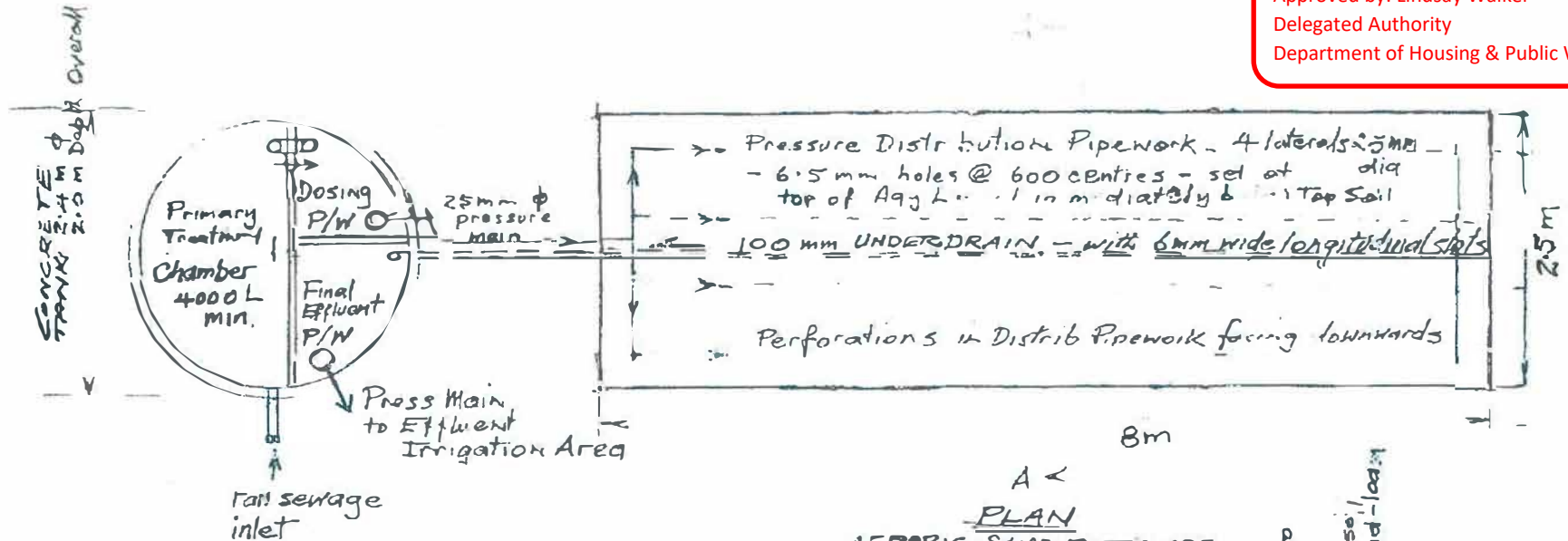
Delegated Authority

Department of Housing & Public Works



Treatment Plant Approval

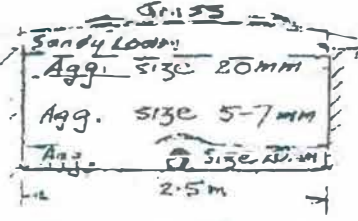
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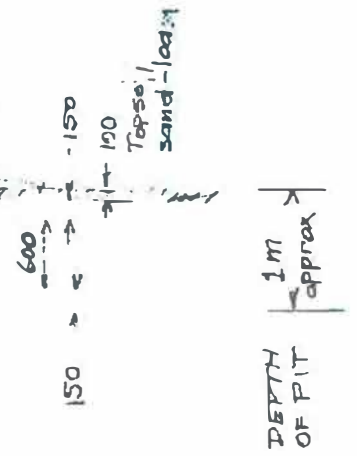
- PLAN**
- PRIMARY TREATMENT CHAMBER
 - FILTER DOSEING P/W
 - FINAL EFFLUENT P/W

Stormwater Diversion Mound / Swale
 - constructed on upper-side of ASF

PLAN AEROBIC SAND FILTER ASF



Cross-Sectional Elevation A-A



Scale 1:40
 0 1m

ENVIROTECH TREATMENT SYSTEMS
 DESIGN DRAWING Original C.E. Approval 1993
 ENVIROTECH ASF 20m³, 10EP CAPACITY
 household Wastewater Treatment System

Date: Feb 2013
 Drawn by: E. Christopher