

TREATMENT PLANT APPROVAL 11/2020

Plumbing and Drainage Act 2018

Approval

1. The **Aqua-Nova model 10100** (“the system”) described in the Specifications and Drawings in the attached Schedule and manufactured by **Everhard Industries Pty Ltd** (ABN 41 009 690 859) (“the manufacturer”) has been assessed in accordance with the 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 Regulation 2018*, and the conditions of approval detailed below.
3. This approval, the conditions of approval and the Schedule comprise the entire Treatment Plant 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

5. The manufacture, installation, operation, service and maintenance of the systems must be in conformity with the conditions of this Treatment Plant Approval.
6. 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 700grams BOD⁵
7. 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 30g/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 200 organisms per 100 mL with no sample exceeding 1000 organisms per 100 mL.
 - (d) Total chlorine concentration must be between 0.5g/m³ and 2.0 g/m³ in four out of five samples taken.
8. Each system must be serviced in accordance with the details supplied in the owner’s operation and maintenance manual.
9. This approval does not extend, apply to, or include the land application system used in conjunction with an approved system installed on premises.

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10. 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.

11. At each anniversary of the Treatment Plant Approval date, the supplier must submit to the Chief Executive a list of all systems installed in Queensland during the previous 12 months. Where the Chief Executive is notified of any system failures the Chief Executive may randomly select a number of installed systems for audit. The Chief Executive will notify the supplier's nominated NATA accredited laboratory which systems are to be audited for BOD⁵ and TSS. The sampling and testing of the selected systems, if required, is to be done at the supplier'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) BOD⁵ for influent and effluent; and
- e) TSS for influent and effluent.

12. The Chief Executive may, by written notice, cancel this approval if the manufacturer/supplier 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.

13. This approval may only be assigned with the prior written consent of the Chief Executive.

14. This approval expires on 01 January 2024 unless cancelled earlier in accordance with paragraph 12 above.

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Department of Housing & Public Works

Lindsay Walker

**Director
Plumbing, Drainage and Special Projects
Building Legislation and Policy**

Date approved: 19 June 2020

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SCHEDULE

Attachment 1

Drawings and Specifications for the

Aqua-Nova model 10100

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Schedule 1: Specification

Aqua-Nova (10100 & 10100A) Aerated Wastewater Treatment System

The Aqua-Nova (10100A) Aerated Wastewater Treatment System (AWTS) is designed to treat the wastewater from a residential dwelling occupied by a maximum of 10 persons (2000L/day) to a Secondary Standard

BOD ₅	<	20g/m ³
TSS	<	30g/m ³
Thermotolerant Coliforms	<	200cfu/100mL
Total Chlorine Concentration	greater or equal to	0.5g/m ³ less than 2.0g/m ³

The Aqua-Nova 10100 and Aquanova 10100A are contained in 3000L and 3900L (respectively) Concrete Septic Tanks and collection wells each with design capacities as set out below.

Operation

The Aqua-nova treatment plant is a two tank system.

Wastewater flows into the first tank (Primary Tank). This tank acts as a septic tank removing most solids and fats/oils. Solids retained in this tank are digested anaerobically.

Water from this tank flows to a second tank. This tank is aerated and fitted with submerged media. Aerobic bacteria grow on the media to biodegrade the remaining contaminants in the wastewater. Bacteria occasionally slough off the media and become suspended in the water.

Aeration is continuous.

Water then flows to a clarifier where the solids are allowed to settle. These solids are pumped back to the start of the treatment plant.

Clarified wastewater is chlorinated

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Configuration

The Aqua-Nova AWTS is assembled in the following configuration:

Design capacities	Concrete 2 x 3000L	Concrete 2 x 3900L
primary sedimentation	3000L	3350L
secondary treatment <ul style="list-style-type: none"> • aeration chamber • sedimentation • irrigation 	2253L 430L 393L	2443L 430L 393L
emergency storage	1095L	1040L
operational water level <ul style="list-style-type: none"> • primary • secondary 	(mm) 1510 1350	(mm) 1510 1350

- A chlorine disinfection unit is installed on the outlet of the clarifying chamber.
- Air is supplied to the contact aeration chamber by a Nitto LA80 air blower or equivalent, producing an airflow of a nominal 100 litres/minute at 1.3 m water depth.
- A Davey model D-25A submersible irrigation pump or equivalent is installed in the irrigation chamber for standard above ground irrigation. Type of pump may vary if subsurface irrigation is employed or the disposal area is significantly above the location of the sewage treatment plant.
- Label will be located on the Control Box of the system and have the following information provided
 - System Name
 - Model No.
 - Approval Number
 - Design Hydraulic Capacity
 - Date of Manufacture
 - Top Load Limitations
 - Weight of Tank
 - Lifting/Transport Instructions
 - The name and telephone number of an appropriate service representative to be contacted in the event that a problem with the plant occurs.
 - The website from which the documentation can be downloaded during the design life.

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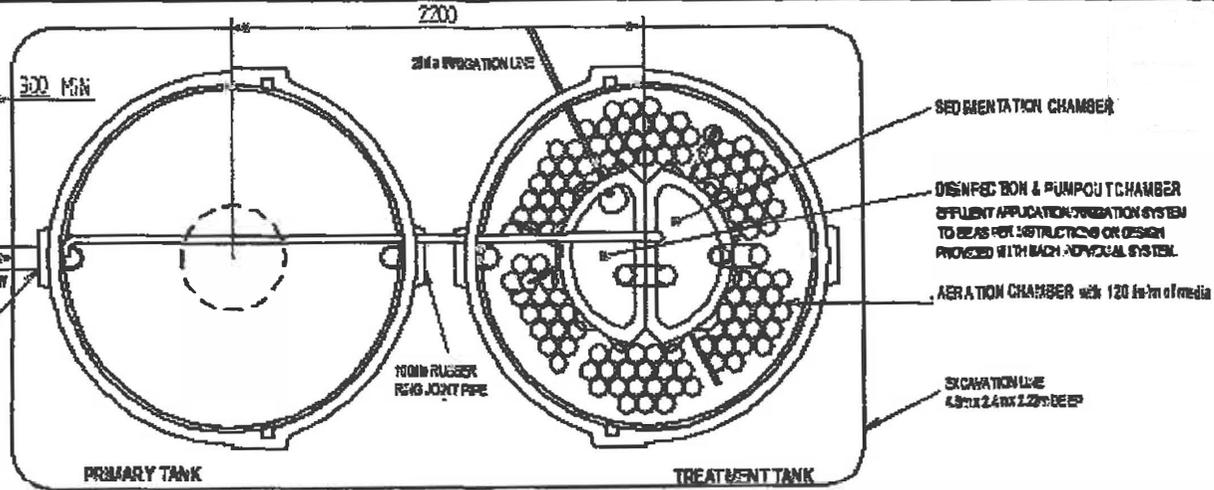


TANK INSTALLATION AND
PLUMBING TO BE IN
ACCORDANCE WITH
PLUMBING INSTRUCTIONS
PROVIDED WITH SYSTEM

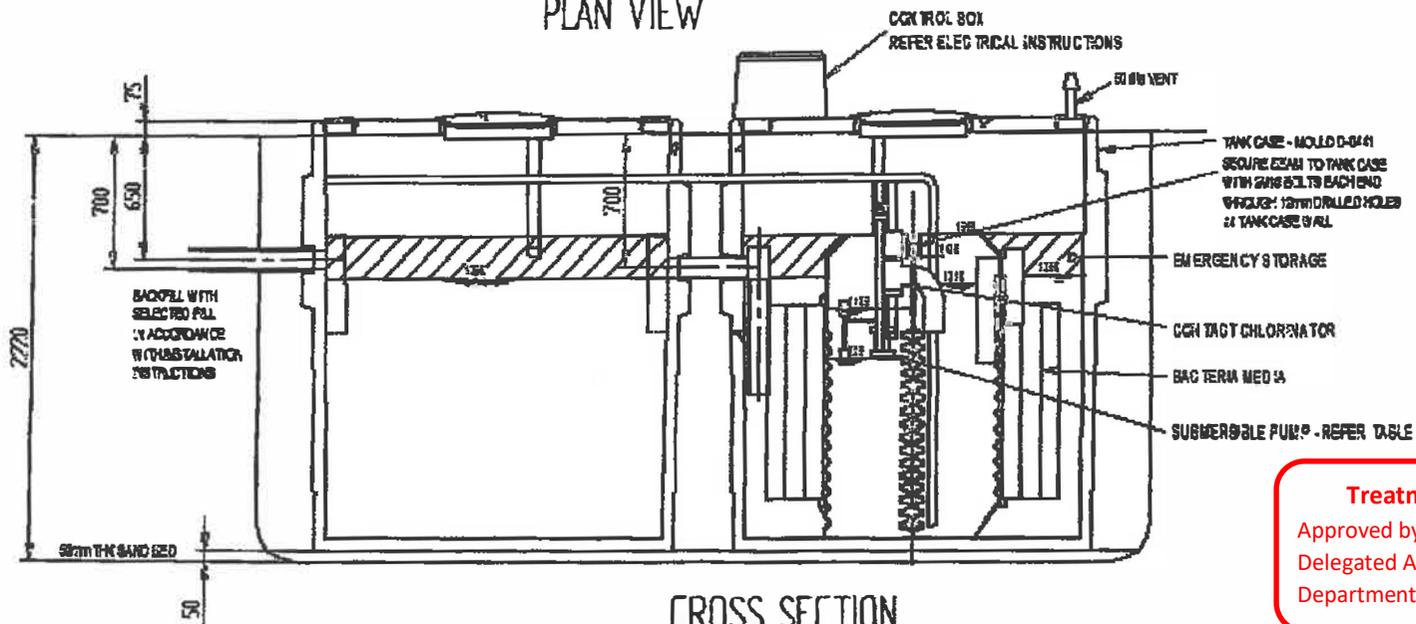
THIS DUCT PIPE
METHOD NOT TO
BE USED UNLESS
PIPE IS SUPPORTED

100 DIA PVC RUBBER
RING JOINT

CLOCKWISE WASTE FLOW



PLAN VIEW



CROSS SECTION

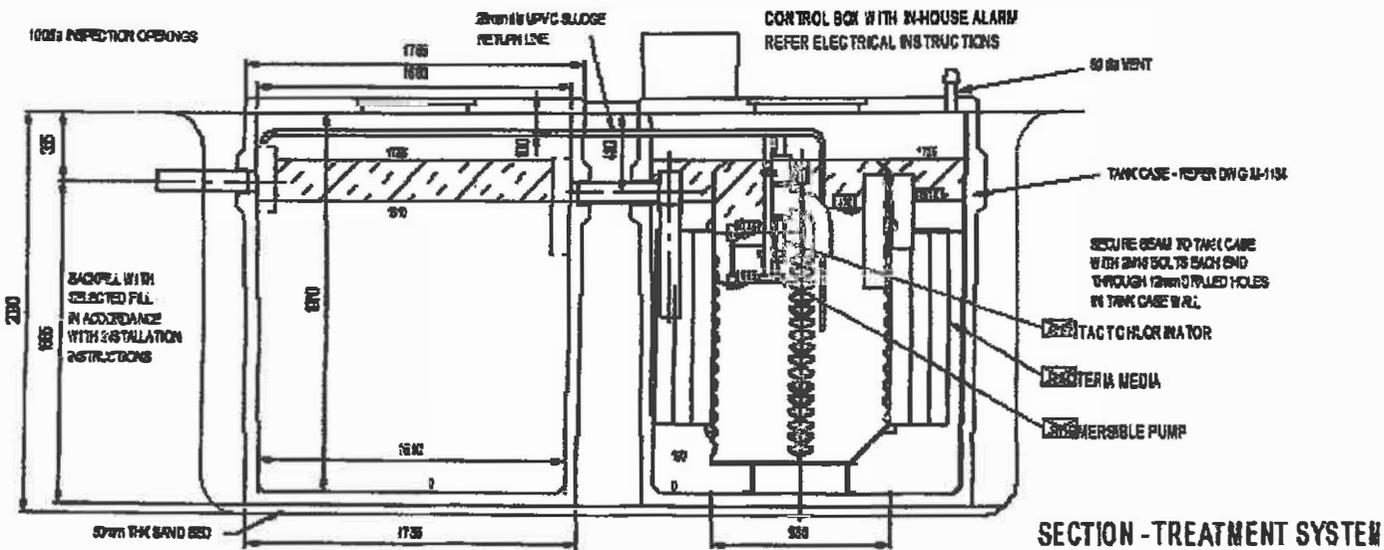
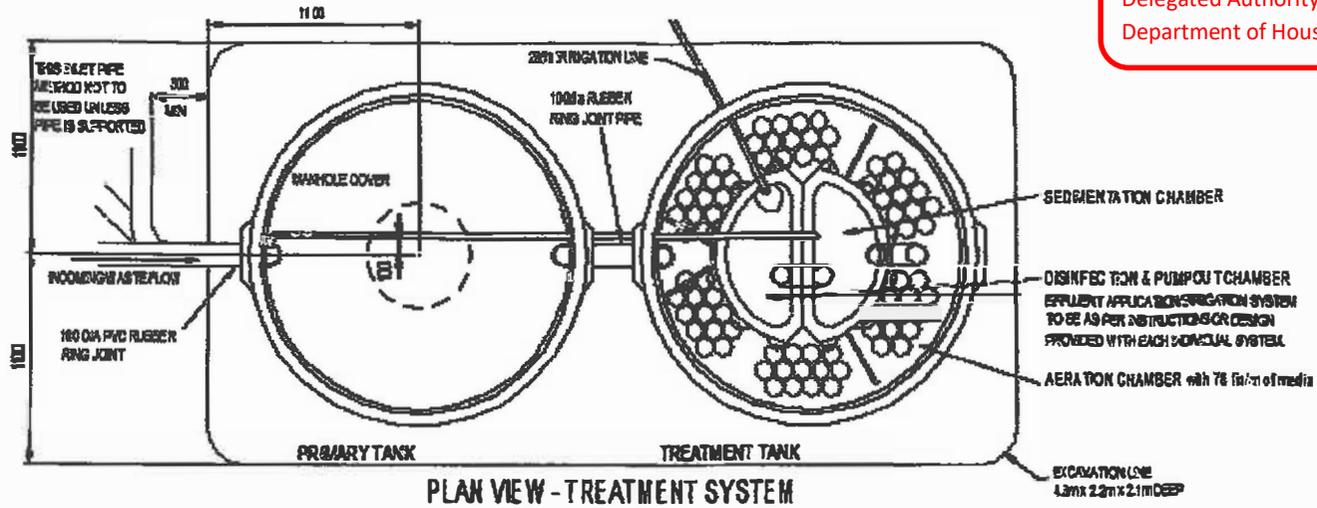
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PRODUCT CODE No	DETAILS / DESCRIPTION	GENERAL CONDITIONS FOR ACCEPTANCE OF THE QUALITY OF THE WORK	DATE	APPROVED FOR PURCHASER	PARCEL	PRICE	DATE	FILE NO
10/101A	DAVEY 25 R.P.P. FITTED	GENERAL CONDITIONS FOR ACCEPTANCE OF THE QUALITY OF THE WORK	14-4-2014		32 No. C.O.C.		1/25/1401	15/1/2014
10/101A/C	CLAYTONS BLUE OILER 30 PUMP FITTED	GENERAL CONDITIONS FOR ACCEPTANCE OF THE QUALITY OF THE WORK						
10/101A/D	DAVEY 42 R.P.P. FITTED	GENERAL CONDITIONS FOR ACCEPTANCE OF THE QUALITY OF THE WORK						
<p>GENERAL CONDITIONS FOR ACCEPTANCE OF THE QUALITY OF THE WORK</p> <p>THE PURCHASER IS NOT RESPONSIBLE FOR ANY DEFECTS OR DAMAGE TO THE WORK OR MATERIALS CAUSED BY THE CONTRACTOR'S NEGLIGENCE OR CARELESSNESS OR BY THE CONTRACTOR'S FAILURE TO COMPLY WITH THE INSTRUCTIONS OF THE ARCHITECT OR THE INSTRUCTIONS OF THE PURCHASER. THE PURCHASER IS NOT RESPONSIBLE FOR ANY DEFECTS OR DAMAGE TO THE WORK OR MATERIALS CAUSED BY THE CONTRACTOR'S NEGLIGENCE OR CARELESSNESS OR BY THE CONTRACTOR'S FAILURE TO COMPLY WITH THE INSTRUCTIONS OF THE ARCHITECT OR THE INSTRUCTIONS OF THE PURCHASER.</p>			<p>PROPOSED DEEP INVERT CONCRETE AQUADIVA TREATMENT SYSTEM IN 3900 CONCRETE TANKS</p>		<p>EVERHARD INDUSTRIES PTY LTD</p>		<p>MP - 757</p>	

TANK INSTALLATION AND PUMPING TO BE IN ACCORDANCE WITH ALL RELEVANT REGULATIONS PROVIDED WITH SYSTEM

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PRODUCT CODE No.	DETAILS / DESCRIPTION
D'DO	Dovey 25 Pump fitted
D'DDC	Claytons Blue Diver 30 Pump fitted
D'DDD	Dovey 42 Pump fitted

TYPE	DATE	PROJECT / DRAWING NO.	SCALE	DATE	BY
6.2	10-9-2007	ADJANGVA CONCRETE TANK A/WTS TREATMENT SYSTEM - QLD 2 x 3000 LT TANKS - EPD	1:25	10/07	
EVERHARD INDUSTRIES PTY LTD			4500 STONEY CREEK ROAD, BIRKENHEAD QLD 4155 PH: +61 7 3207 6666 FAX: +61 7 3207 2001		
M - 586			4	17/4/05	