

## TREATMENT PLANT APPROVAL 16/2020

*Plumbing and Drainage Act 2018*

### Approval

1. The **Aqua-Nova model 80203** (“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 2,250 litres; and
  - (b) a maximum organic loading of 700grams BOD<sup>5</sup>
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 BOD<sup>5</sup> less than or equal to 20 g/m<sup>3</sup> with no sample greater than 30g/m<sup>3</sup>.
  - (b) 90% of the samples taken must have total suspended solids less than or equal to 30g/m<sup>3</sup> with no sample greater than 45g/m<sup>3</sup>.
  - (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/m<sup>3</sup> and 2.0 g/m<sup>3</sup> 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.

#### Treatment Plant Approval

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Department of Housing & Public Works

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 BOD<sup>5</sup> 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) BOD<sup>5</sup> 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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Stacey McInnes

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

Date approved: 14 July 2020

Level 7,  
63 George Street Brisbane  
GPO Box 2457, Brisbane Qld 4001  
**Telephone** +61 7 3008 2557  
**Facsimile** +61 7 3237 1248  
**Website** [www.hpw.qld.gov.au](http://www.hpw.qld.gov.au)

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**SCHEDULE**

**Attachment 1**

Drawings and Specifications for the

**Aqua-Nova model 80203**

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## Schedule 1: Specification

### Aqua-Nova (80203) Aerated Wastewater Treatment System

The Aqua-Nova (80203) Aerated Wastewater Treatment System (AWTS) is designed to treat the wastewater from a residential dwelling occupied by a maximum of 15 persons (2250L/day) to a Secondary Standard

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

The Aqua-Nova (80203) is contained in injection moulded 4000L polypropylene 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	polymer 2 x 4000lt
primary sedimentation	4175 lt
secondary treatment	
• aeration chamber	3340 lt
• sedimentation	430 lt
• irrigation	393 lt
emergency storage	1052 lt
operational water level	(mm)
• primary	1770
• secondary	1730

- A chlorine disinfection unit is installed on the outlet of the clarifying chamber.
- Air is supplied to the contact aeration chamber by a Nitto LA120 air blower or equivalent, producing an airflow of a nominal 120 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.

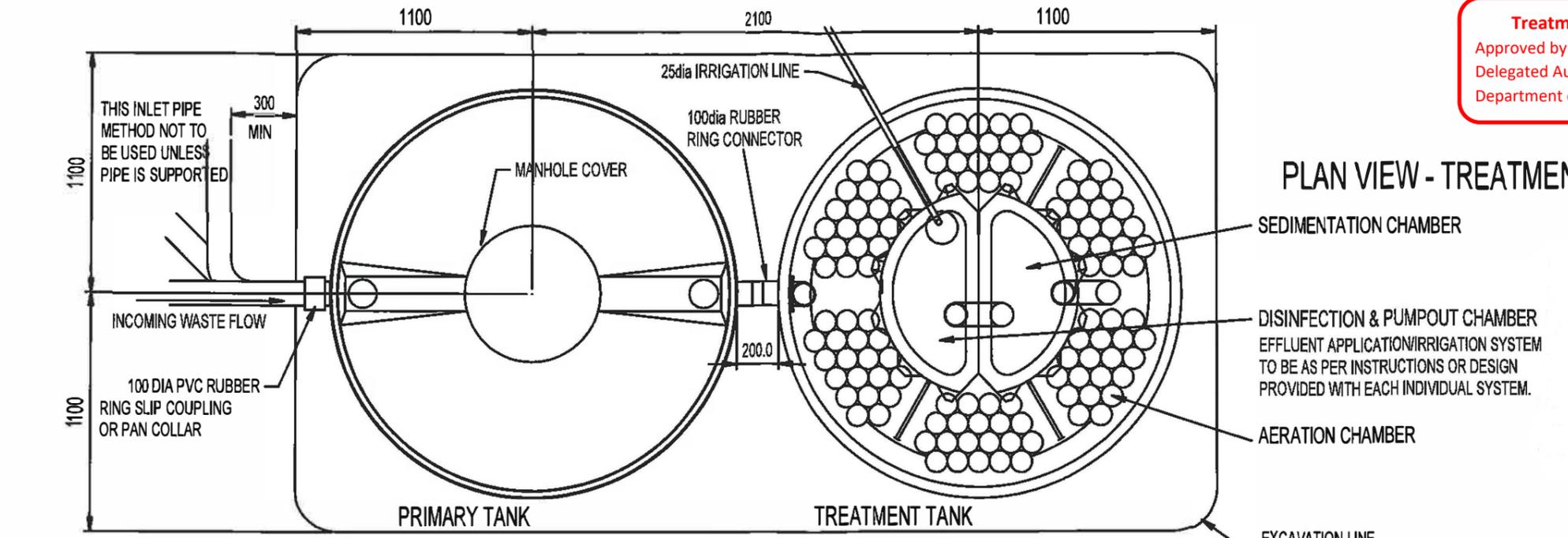
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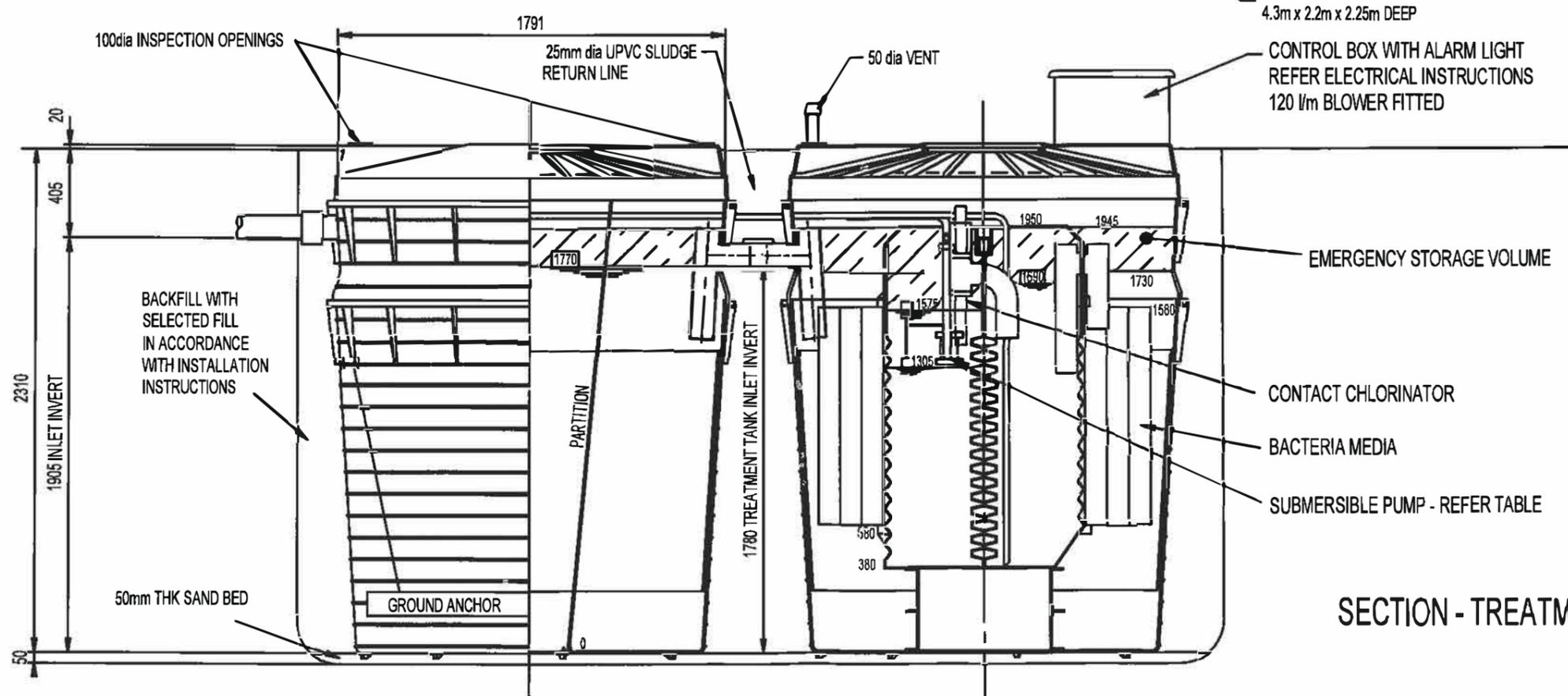


TANK INSTALLATION AND PLUMBING TO BE IN ACCORDANCE WITH PLUMBING INSTRUCTIONS PROVIDED WITH SYSTEM.

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**PLAN VIEW - TREATMENT SYSTEM**



**SECTION - TREATMENT SYSTEM**

PRODUCT CODE No.	DETAILS / DESCRIPTION
80203	DAVEY 25 PUMP FITTED
80203C	CLAYTONS BLUE DIVER 30 PUMP FITTED
80203D	DAVEY 42 PUMP FITTED

AMMENDMENT 5		TITLEBLOCK AMENDED			BJD	6-5-10
DRAWN BJD	DATE 10/9/07	APPROVED FOR MANUFACTURE	MATERIAL	MASS	SCALE 1:25	PROD. No.
TITLE AQUANOVA - 80203 - POLYMER TANK AWTS TREATMENT SYSTEM 2 x 4000 LITRE TANKS		EVERHARD INDUSTRIES PTY LTD		405 NEWMAN ROAD, GEEBUNG, QLD, 4034 PH: (07) 3637 6444 FAX: (07) 3265 2111		
DRAWING NUMBER M - 5815				REVISION 5	DATE 6-5-2010	