CHIEF EXECUTIVE APPROVAL 04/2015  
Plumbing and Drainage Act 2002, part 5.

Approval

1. The Aqua Nova MBR 10 ("the system") described in the Specifications and Drawings in the attached Schedule and manufactured by Everhard Industries Pty Ltd (ABN 00 969 859) ("the manufacturer") has been assessed in accordance with the Queensland Plumbing and Wastewater Code (QPW Code) dated 15 January 2013.

2. Approval is granted for the advanced secondary quality wastewater treatment system, subject to compliance by the manufacturer with the requirements of the Plumbing and Drainage Act 2002, part 5 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

5. The manufacture, installation, operation, service and maintenance of the systems must be in conformity with the conditions of this Chief Executive Approval.

6. The advanced 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 1,500 litres; and

   (b) a maximum organic loading of 700 grams BODs

7. The system must continue to meet the requirements of advanced secondary quality wastewater treatment system, producing the following effluent quality —

   (a) Biochemical Oxygen Demand – less than or equal to 10mg/L.

   (b) Suspended Solids – less than or equal to 10mg/L.

   (c) E.Coli count – not exceeding 10fu/ 100mL.

8. Each system must be serviced in accordance with the details supplied in the owner’s service and maintenance manuals.

9. Each system must be supplied with —

   (a) a copy of this Chief Executive 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.
10. This approval does not extend, apply to, or include the land application system used in conjunction with an approved system installed on premises.

11. At each anniversary of the Chief Executive Approval date, the supplier must submit to the Chief Executive a list of all systems installed in Queensland during the previous 12 months.

12. 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.

13. 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.

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

15. This approval expires on 14 March 2020 unless cancelled earlier in accordance with paragraph 13 above.

SCHEDULE

Attachment 1: Specifications
Attachment 2: Drawings

Lindsay Walker

Director
Plumbing Drainage and Special Projects

Date approved 14 March 2015

Chief Executive Approval
CHIEF EXECUTIVE APPROVAL No. 04/2015
Plumbing and Drainage Act 2002, part 5, division 1, section 93

SCHEDULE

Attachment 1

Specifications for the

Aqua Nova MBR10
SCHEDULE

Attachment 2

Drawings for the

Aqua Nova MBR10
Schedule 1: Specification

Aqua-Nova MBR10 Aerated Wastewater Treatment System

The Aqua-Nova MBR10 Aerated Wastewater Treatment System (AWTS) is designed to treat the wastewater from a residential dwelling occupied by a maximum of 10 persons. The Aqua-Nova MBR10 EP AWTS is contained in injection moulded polypropylene septic tanks and collection wells each with design capacities as set out below.

Operation

The Aqua-nova MBR10 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 where it is digested using Activated Sludge. This tank is fitted with a membrane system that has a pore size of less than 0.2microns providing a barrier system for the removal of bacteria. Aeration tubes located underneath the membranes provide the necessary oxygen to the system.

As the volume of water increases in the aeration chamber, a float switch activates a self priming pump. This pump draws water through the membranes at a rate of 2L/min. which is directed through a UV Cell as a precautionary measure.

Treated wastewater may be discharged directly to a disposal area below the treatment plant. However a pumpwell must be used in instances where the wastewater must be disposed of through high pressure systems or above the treatment plant.
### Configuration

The Aqua-Nova NR AWTS is assembled in the following configurations:

<table>
<thead>
<tr>
<th>Design capacities</th>
<th>Concrete 2 x 3900</th>
<th>Polymer 2 x 4000lt</th>
</tr>
</thead>
<tbody>
<tr>
<td>primary sedimentation</td>
<td>3900L</td>
<td>4000 lt</td>
</tr>
<tr>
<td>partition</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>secondary treatment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>aeration chamber</td>
<td>3900L</td>
<td>4000 lt</td>
</tr>
<tr>
<td>irrigation (where applicable)</td>
<td>291lt</td>
<td>291 lt</td>
</tr>
<tr>
<td>emergency storage</td>
<td>1000lt</td>
<td>1000 lt</td>
</tr>
<tr>
<td>operational water level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>primary</td>
<td>1500mm</td>
<td>1770mm</td>
</tr>
<tr>
<td>secondary</td>
<td>800 - 1500mm</td>
<td>800 - 1730mm</td>
</tr>
</tbody>
</table>

- A UV disinfection unit (3L/min) is installed on the pump out line.
- Johnson or ITT self-priming pump.
- Air is supplied to the contact aeration chamber by a Nitto LA80 air blower or equivalent, producing airflow of a nominal 100 litres/minute at 1.3 m water depth.
- Davey model D-25A submersible irrigation pump or equivalent is installed in the irrigation chamber where required.
PLANT INSTALLATION AND PLUMBING TO BE IN ACCORDANCE WITH PLUMBING INSTRUCTIONS PROVIDED WITH SYSTEM.

This inlet pipe method NOT to be used unless pipe is supported.

100 dia. PVC rubber ring slip coupling or PVD collar.

Primary Tank

TREATMENT TANK

100 dia. inspection openings

Backfill with selected fill in accordance with installation instructions.

50mm thick sand bed

Ground anchor

50 dia vent

Excavation line 4.3m x 2.2m x 2.25m deep.

Center pit. N775 shower or equivalent UV disinfection cell.

Self priming pump refer to electrical instructions.

1000 litre EMERGENCY STORAGE VOLUME

High level alarm float switch.

Activated effluent line.

Aeration line.

Membrane activation float switch.

SECTION - TREATMENT SYSTEM

AQUANOVA POLYMER TANK MBR10
AWTS TREATMENT SYSTEM
2 x 4000 LITRE TANKS

EVERHARD INDUSTRIES PTY LTD

DRAWN: MP - 7/115

DRAWING NUMBER: ORIG

PREPARED: DATED: 3/5/13

SCHEDULE: 1:25

APPRAISED FOR MANUFACTURE: 8020

MATERIAL: 41469

SCALE: 41492

UNIT: 41494

FOR: 35/13

DATE: 4/2017

Chief Executive Officer

Department of Housing and Public Works

Codes Queensland