

TREATMENT PLANT APPROVAL 12/2020

Plumbing and Drainage Act 2018

Approval

1. The **Aqua-Nova model 80100Z** (“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 advanced 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 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 2,000 litres; and
 - (b) a maximum organic loading of 700grams BOD⁵
7. The system must continue to meet the requirements of advanced 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 10 g/m³ with no sample greater than 20g/m³.
 - (b) 90% of the samples taken must have total suspended solids less than or equal to 10g/m³ with no sample greater than 20g/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 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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Lindsay Walker

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

Date approved: xx June 2020

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SCHEDULE

Attachment 1

Drawings and Specifications for the

Aqua-Nova model 80100Z

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Schedule 1: Specification

Aqua-Nova (80100Z) (Riser Options Aqua-Nova (80110Z), Aqua-Nova (80114Z)) Aerated Wastewater Treatment System

The Aqua-Nova (80100Z) 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 an Advanced Secondary Standard

BOD ₅	<	10mg/L
TSS	<	10mg/L
Thermotolerant Coliforms	<	10cfu/100mL
Total Chlorine Concentration	greater or equal to	0.5g/m ³ less than 2.0g/m ³

The Aqua-Nova (80100Z) is contained in injection moulded 3000L polypropylene septic tanks and collection wells however may be supplied with 300mm or 450mm fitted risers 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 and pumped through a Granular Media Filter prior to irrigation.

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Configuration

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

Design capacities	80100 2 x 3000L	80110 2 x 3000L	80114 2 x 3000L
primary sedimentation	3000L	3000L	3000L
secondary treatment			
• aeration chamber	3000L 1985L	3000L 1985L	3000L 1985L
• sedimentation	430L	430L	430L
• irrigation	393L	393L	393L
emergency storage	1000L	1000L	1000L
operational water level			
• primary	1385mm	1385mm	1385mm
• secondary	1350mm	1350mm	1350mm

- 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 contact in the event that a problem with the plant occurs.
 - The website from which the documentation can be downloaded during the design.

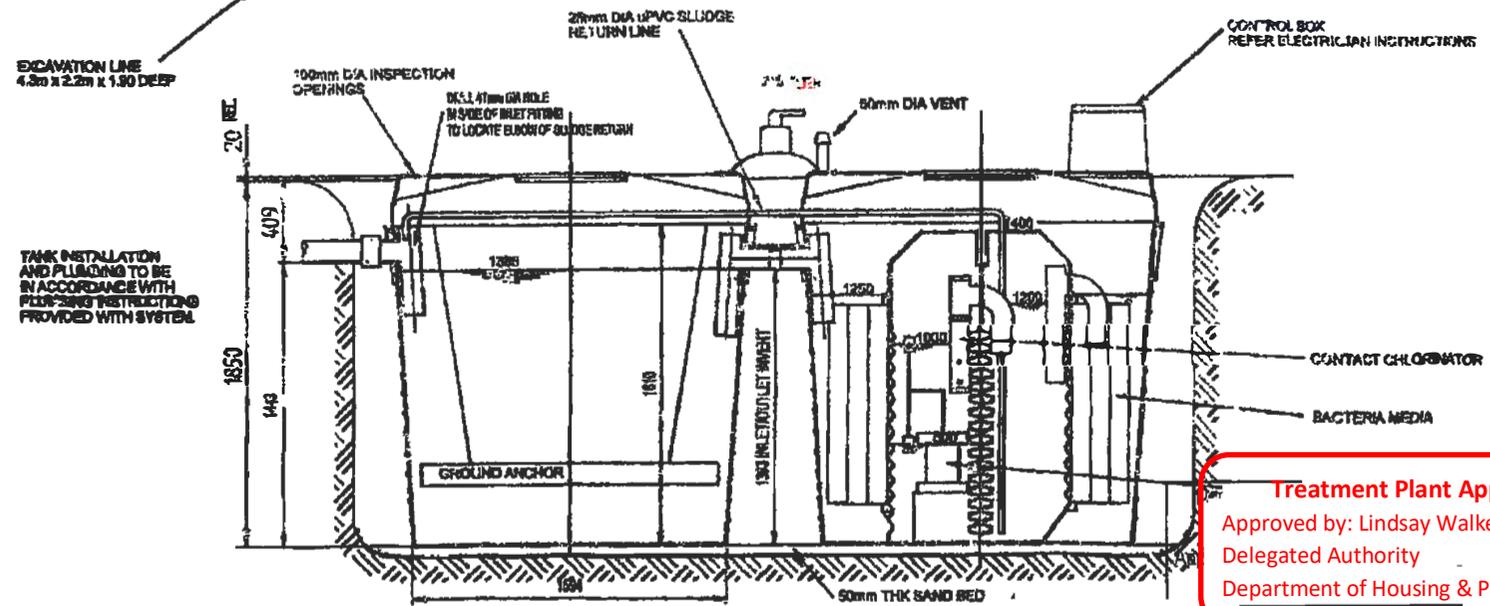
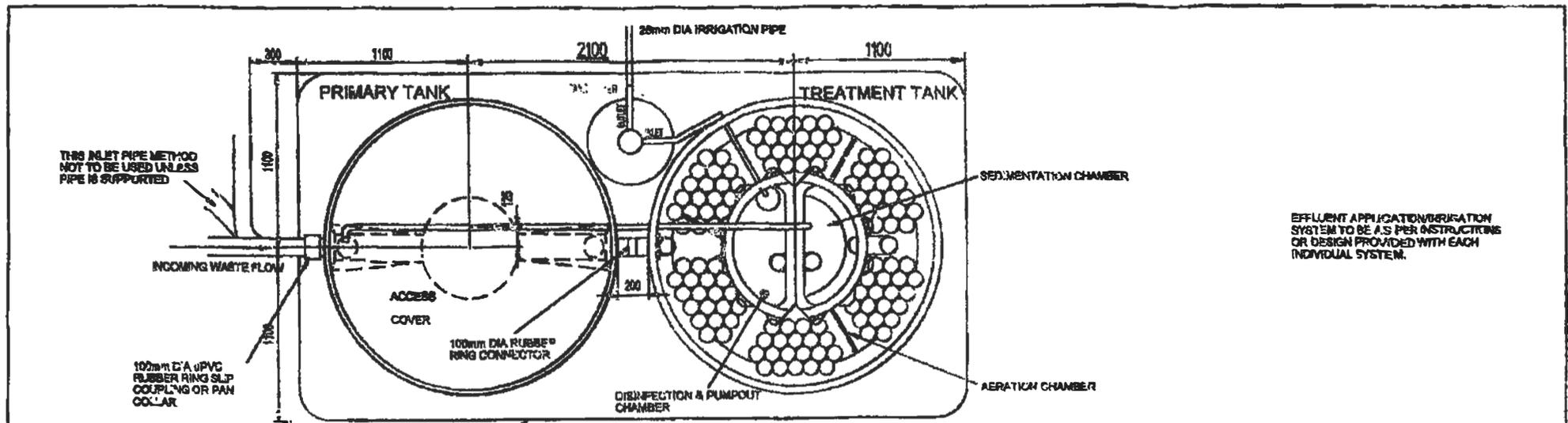
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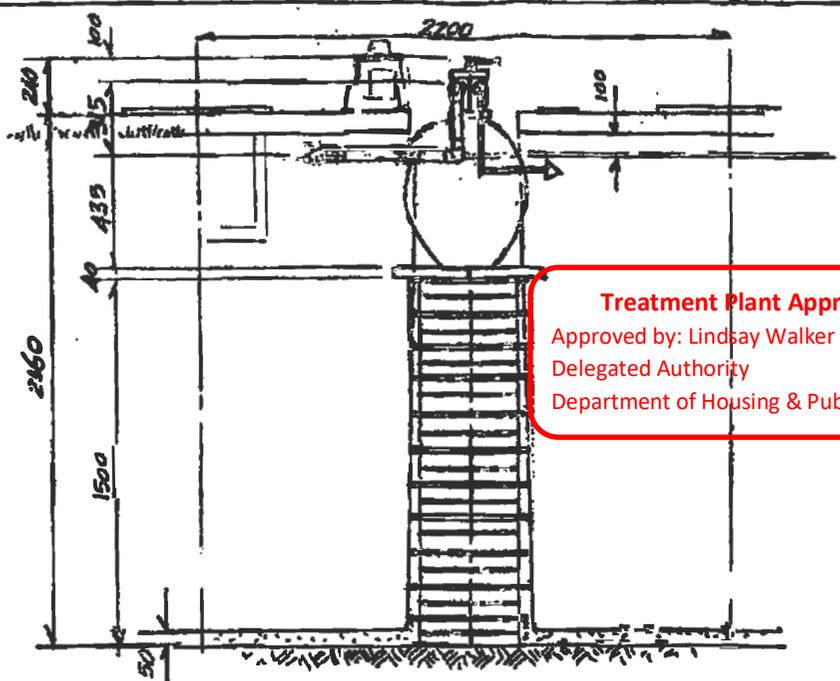
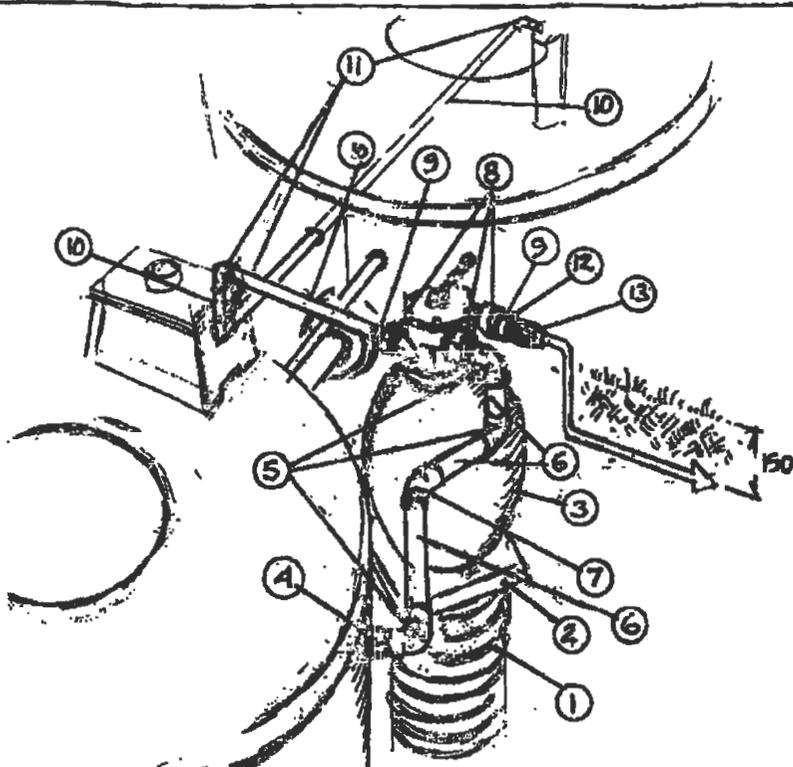


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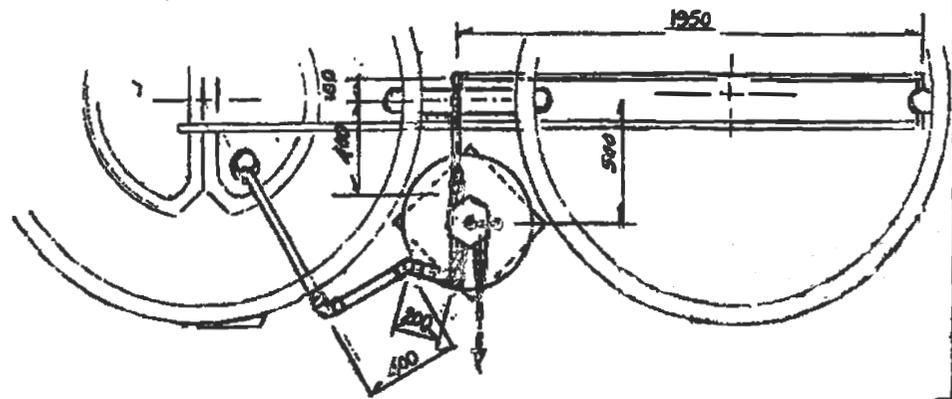


PRODUCT CODE No.	DETAILS / DESCRIPTION
80100Z	DAVEY 25 PUMP FITTED
80100CZ	CLAYTEC BLUE DIVER 30 PUMP FITTED
80100JZ	DAVEY 642 PUMP FITTED

ASSESSMENT 1		VALUATION APPROVED	
DATE	BLG	APPROVED PERIOD	DATE
25-3-10			1-25
FILE		EVERHARD INDUSTRIES PTY LTD	
ACQUANOVA - 80100Z - ADVANCED SECONDARY		4470 KENNEDY BLVD, SUITE 102/104	
2 x 3100 LF POLYMER TANK SYSTEM		PH: (07) 5517 6644	
		FAX: (07) 5535 2170	
		QUANTITY	DATE
		1	6/5/10



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ITEM	DESCRIPTION	QTY	REMARKS
13	1" BSP M X 25 TUBE ADAPTOR	1	POLY - SUPPLIED WITH TANK KIT
12	25mm SLIP 1" BSP ADAPTOR	1	PVC
11	25mm SLIP 90° ELBOW	3	PVC
10	25mm PIPE X 2300	1	420 + 260 + 1900 + 180
9	40 X 25 SLIP/SUP REDUCER	2	PVC
8	40 BSP M X 40 SLIP UNION	3	SUPPLIED WITH FILTER - 176A 3
7	40mm BSP 45° ELBOW	1	PVC
6	40mm PVC PIPE X 900	1	50 + 350 + 150 + 260 + 150
5	40mm SLIP 90° ELBOW	3	PVC
4	1" BSP M X 40 SLIP TAKE-AP ADAPTOR	1	PVC
3	DRIVER SF 180 SAND FILTER	1	COMPLETE KIT
2	430 MMH CONCRETE S/S	1	
1	375 RIBS/ROCK PIPE X 1300	1	1" UP GROUND GRADE POLYMER

EVERHARD INDUSTRIES PTY. LTD. IS, AND ALWAYS SHALL BE, THE SOLE OWNER OF THIS DRAWING. NO DATA HEREIN MAY BE COPIED BY ANY MEANS, NOR ANY DEPICTED ITEM MADE WITHOUT PRIOR APPROVAL IN WRITING FROM THE MANAGEMENT.

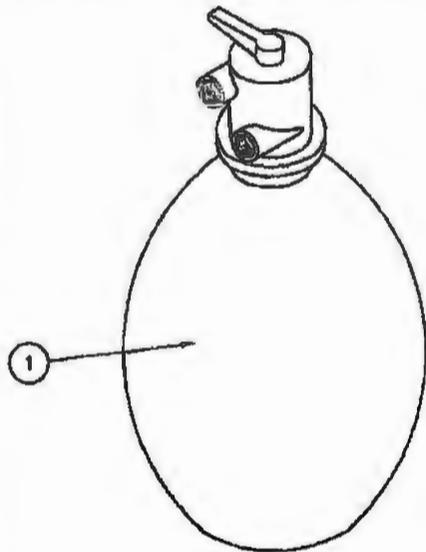
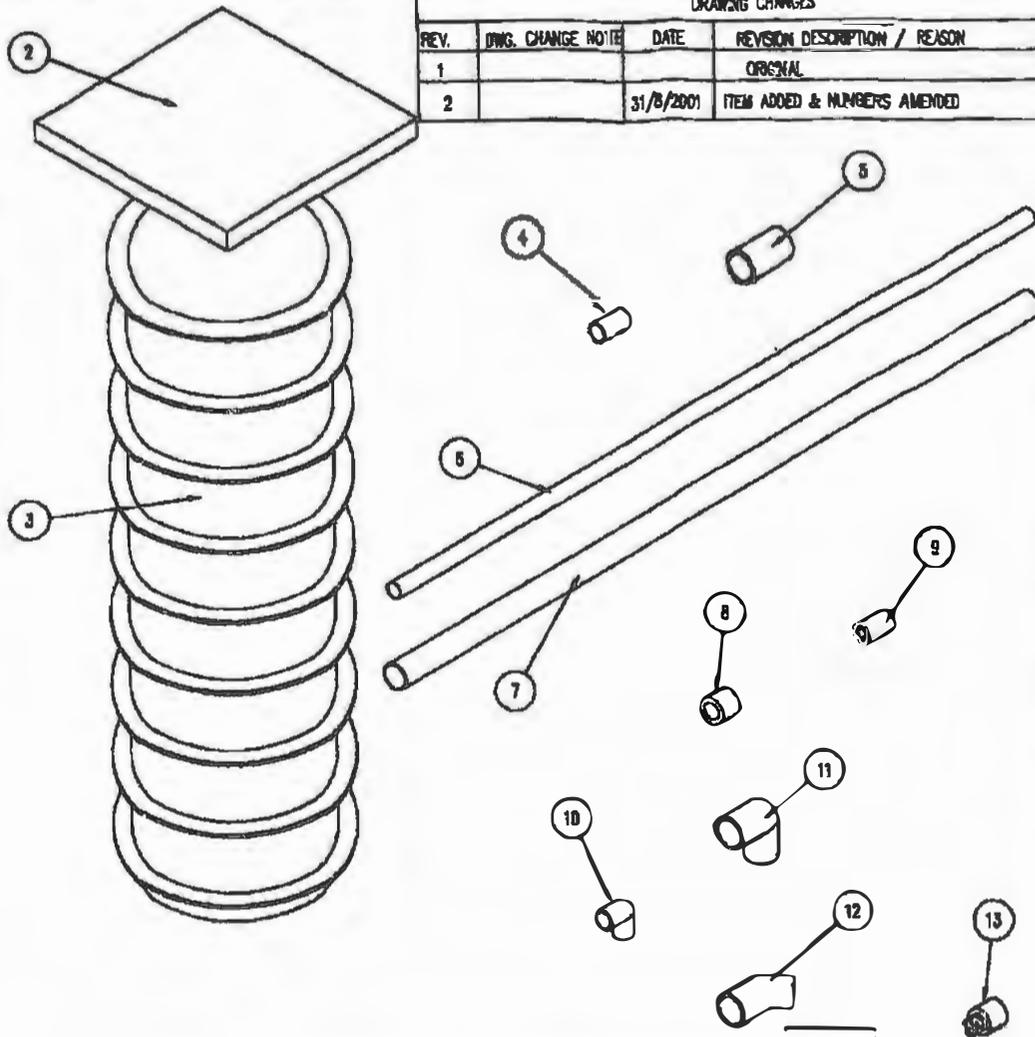
FIRST APPROVED FOR MANUFACTURE
 ISSUE REVISION
 DATE
 APP'D BY:

EVERHARD INDUSTRIES PTY. LTD
 PLASTICS & PRECAST CONCRETE
 ALL CONCRETE AQUA-NOVA SYSTEM SAND FILTER LAYOUT

FILE: _____ SCALE: _____ DRAWING NO: _____
 ORDER: *gig* DATE: 23/6/2001 RF 3464

ITEM	QUANTITY	PART No.	DESCRIPTION	SIZE	GRADE	MASS
1	1	95371	DAVEY SAND FILTER SF180 - COMPLETE KIT	SF180		
2	1	42512	PLAIN PAVING SLAB	450sq x 38		19.54
3	1	86720	375mm RESTRUCT. FLAT FLANGE 1 END	1.2m	U/GROUND	9.6
4	2	90852	PVC SLIP-SLIP COUPLING	25mm		
5	1	90730	PVC SLIP-SLIP COUPLING	40mm		
6	2	90742	25mm PVC PIPE	1.5m	CLASS 12	
7	2	90743	40mm PVC PIPE	1.5m	CLASS 12	
8	2	90530	PVC REDUCING BUSH	40/25		
9	1	90720	FEMALE ADAPTOR 25 SLIP/1" BSP		CAT 1B	
10	3	90719	PVC ELBOW SLIP-SLIP	25mm		
11	2	90728	PVC ELBOW SLIP-SLIP	40mm		
12	1	90729	PVC 45° SLIP - SLIP BEND	40mm		
13	1		PVC TAKE-OFF ADAPTOR PIPE x BSPM	40 x 1"		

DRAWING CHANGES			
REV.	ENG. CHANGE NO.	DATE	REVISION DESCRIPTION / REASON
1			ORIGINAL
2		31/8/2001	ITEM ADDED & NUMBERS AMENDED



MANUFACTURING OPERATIONS	
Tolerance [Except where otherwise stated] Over Up to Tolerance	
ANGULAR TOLERANCE (U.N.O.)	
BEND RADIUS	
CORERS AND FILLETS	
IMAGE PRINT No IN REGION SHOWN	<input checked="" type="checkbox"/>
ALL DIMENSIONS TO BE MET AFTER PLATING REMOVE ALL BURRS BROOK ALL SHARP EDGES $\pm 0.15mm$	
SURFACE FINISHES INCLUDING REAMED HOLES	HS <input checked="" type="checkbox"/>
SURFACE FINISHES FOR DRILLED HOLES U.N.O.	HS <input checked="" type="checkbox"/>
WELDING	

MATERIAL	DIMENSIONS IN mm	U.N.O.
MATERIAL AS LISTED	APPROX. SHIP	
TREATMENT		



OWNER	RD	Client	EVERHARD INDUSTRIES PTY LTD
DATE	27/1/2001	TITLE	SAND FILTER INSTALLATION KIT FOR AQUANOVA CLD POLYMER TREATMENT SYSTEM
SCALE	1:1	PART No.	60008
DRAWN		Sheet	
APPROVED		Drawn Number	MP - JUNE 3495
		Sheet	2

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