



**CHIEF EXECUTIVE APPROVAL 20/2015**  
*Plumbing and Drainage Act 2002, part 5.*

**Approval**

1. The **Aquacell G20 – Greywater Treatment Plant** (“the system”) described in the Specifications and Drawings in the attached Schedule and manufactured by **Aquacell Pty Ltd** (ABN 79 072 487 015) (“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 greywater 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 greywater 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 25,000 litres/day; and
  - (b) a maximum organic loading of 500 mg/L BOD<sub>5</sub>
7. The system must continue to meet the requirements of an advanced secondary quality greywater treatment system, producing the following effluent quality —
  - (a) Biochemical Oxygen Demand – less than or equal to 10mg/L; and
  - (b) Suspended Solids – less than or equal to 10mg/L; and
  - (c) E.coli – maximum of 10cfu/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 and ancillary equipment;
  - (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 manufacturer 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 manufacturer's nominated National Association of Testing Agencies (NATA) accredited laboratory which systems are to be audited for Biochemical Oxygen Demand (BOD<sup>5</sup>) 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) BOD<sup>5</sup> for influent and effluent.
  - (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 6 May 2020 unless cancelled earlier in accordance with paragraph 13 above.

## SCHEDULE

### Attachment 1: Specifications

### Attachment 2: Drawings



**Lindsay Walker**

**Director  
Strategic Policy (Plumbing, Drainage, Committees and Special  
Projects)**

Date approved: 7 May 2015

Level 16,  
41 George Street Brisbane  
GPO Box 2457, Brisbane Qld 4001  
Telephone +61 7 300 82552  
Facsimile +61 7 323 71248  
Website [www.hpw.qld.gov.au](http://www.hpw.qld.gov.au)

ABN 61 331 950 314

**CHIEF EXECUTIVE APPROVAL No. 19/2015**  
*Plumbing and Drainage Act 2002, part 5, division 1, section 93*

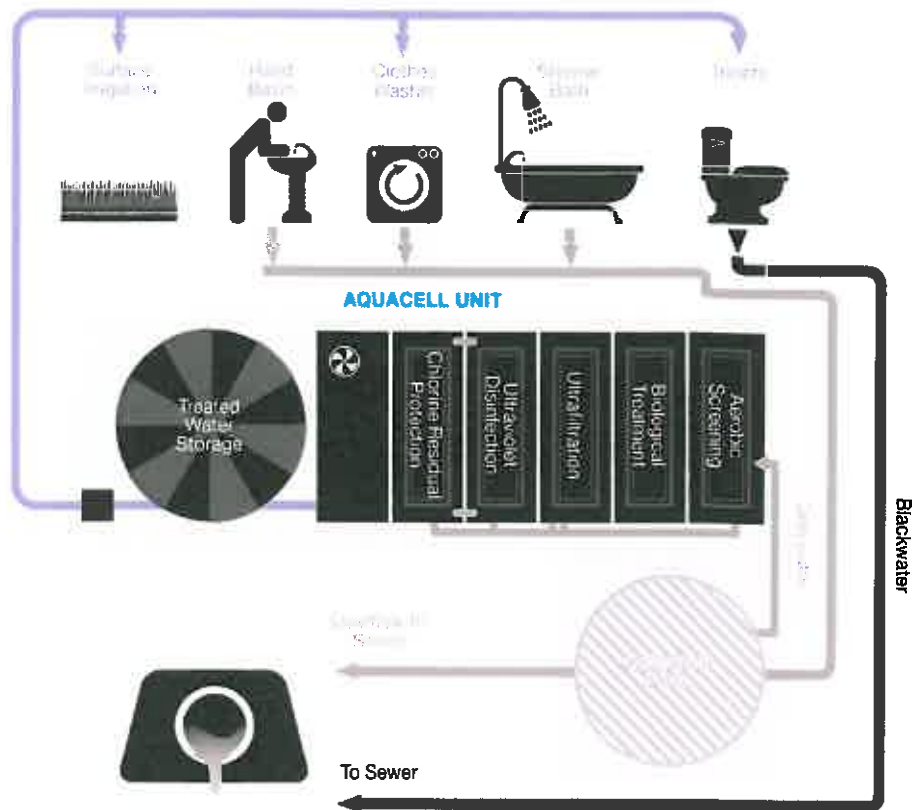
**SCHEDULE**

**Attachment 1**

Specifications for the

**Aquacell G20 – Greywater Treatment Plant**

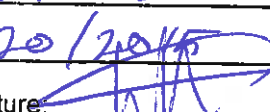
## Aquacell Greywater Process Schematic



Department of Housing and Public Works	
<b>Chief Executive Approval</b>	
Approval No:	<u>70/2015</u>
Date of Issue:	<u>7/5/15</u>
Delegate Signature:	<u>[Signature]</u>
Building Codes Queensland	

## G20 Aquacell Product Specification for Greywater Chief Executive Approval

Aspect	Aquacell G20 Specifications
Influent	Greywater
Design Hydraulic throughput	0 - 25kL/day
Plant Weight (operational)	30,000kg
Plant Dimensions (NB: this may vary slightly due to final pipework)	See attached G20 drawings
Final Treated Water Quality	As per Table T1A - QLD Plumbing and Wastewater Code >3kL/day, End uses with a high level of human contact.
Feed Method	Pump or gravity
Tank Description	Enclosed custom moulded polyethylene
Pre-treatment screening	Minimum 2mm screen
Biology Tank Aeration	Dissolved oxygen controlled, fine bubble aeration
Membranes	Flat Sheet – Ultra-filtration. Max nominal pore size 0.1micron.
Membrane operation	Flux through membranes produced by hydraulic head in the membrane tank (i.e. no membrane pumps required). Membranes are air scoured to maintain flux. Chemical clean required infrequently (~3-12 monthly depending on water quality).
Primary Disinfection	UV Treatment: The system will deliver a minimum UV dose of 40mJ/cm <sup>2</sup> at maximum design flow.
Residual Disinfection:	Chlorine dosing post UV treatment. Free Chlorine residual in treated effluent storage tank to be Cl: 0.2-1.0mg/L
Control System and alarms	Integrated Programmable Automation Controller with remote monitoring control. A touch screen on the face of the panel will provide a visible display of plant status, motor manual/off/auto, critical control point status. The plant will be able to operate via the touch-screen interface without remote operation in the event of communications failure. The system will include an ethernet-based web-based human interface with real-time remote operation and control via web-connected PC, and alarming function systems via email and SMS.
Monitoring instrumentation	Continuous on-line monitoring of turbidity, pH of influent and treated water, free chlorine residual in effluent storage tank, Dissolved Oxygen in bioreactor, and total treated water processed.

<b>Department of Housing and Public Works</b>	
<b>Chief Executive Approval</b>	
Approval No:	7/5/15
Date of Issue:	20/20/15
Delegate Signature:	
Building Codes Queensland	

**CHIEF EXECUTIVE APPROVAL No. 19/2015**  
*Plumbing and Drainage Act 2002, part 5, division 1, section 93*

**SCHEDULE**

**Attachment 2**

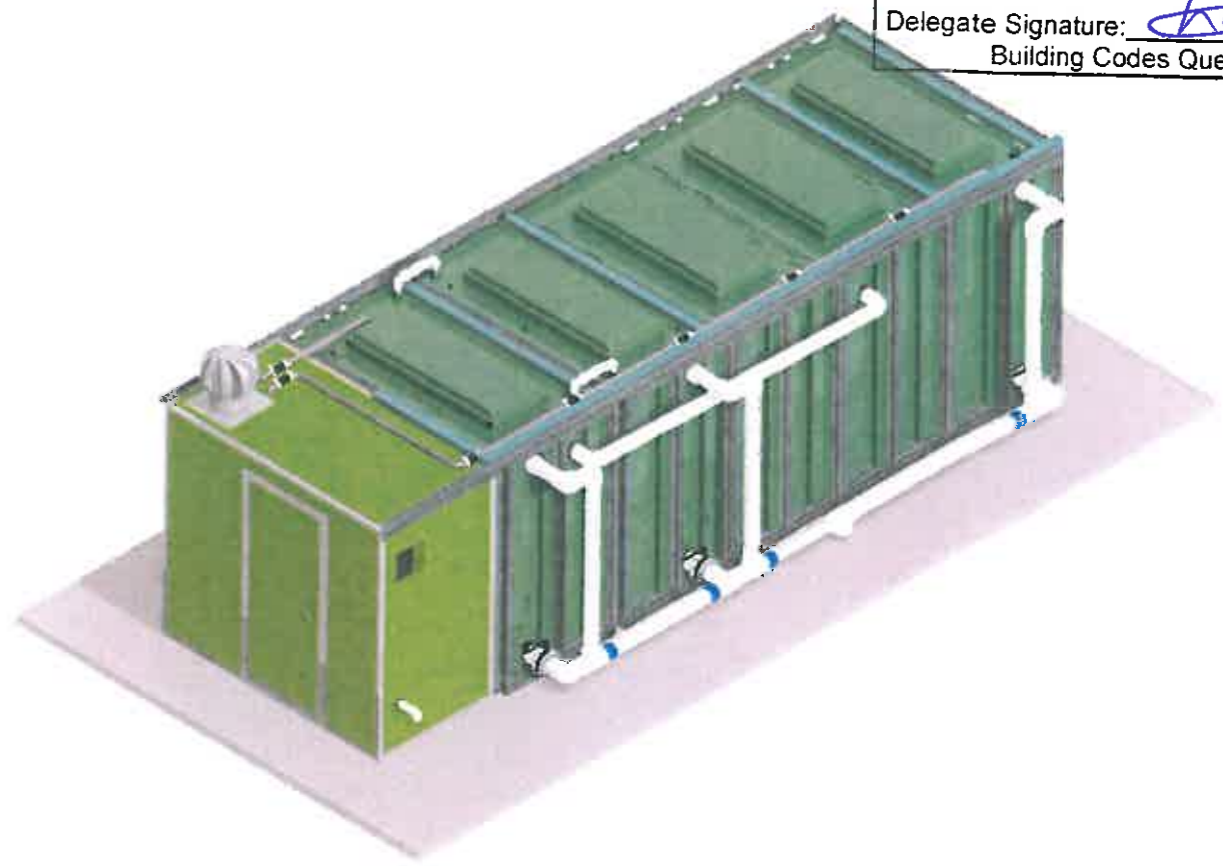
Drawings for the

**Aquacell G20 – Greywater Treatment Plant**

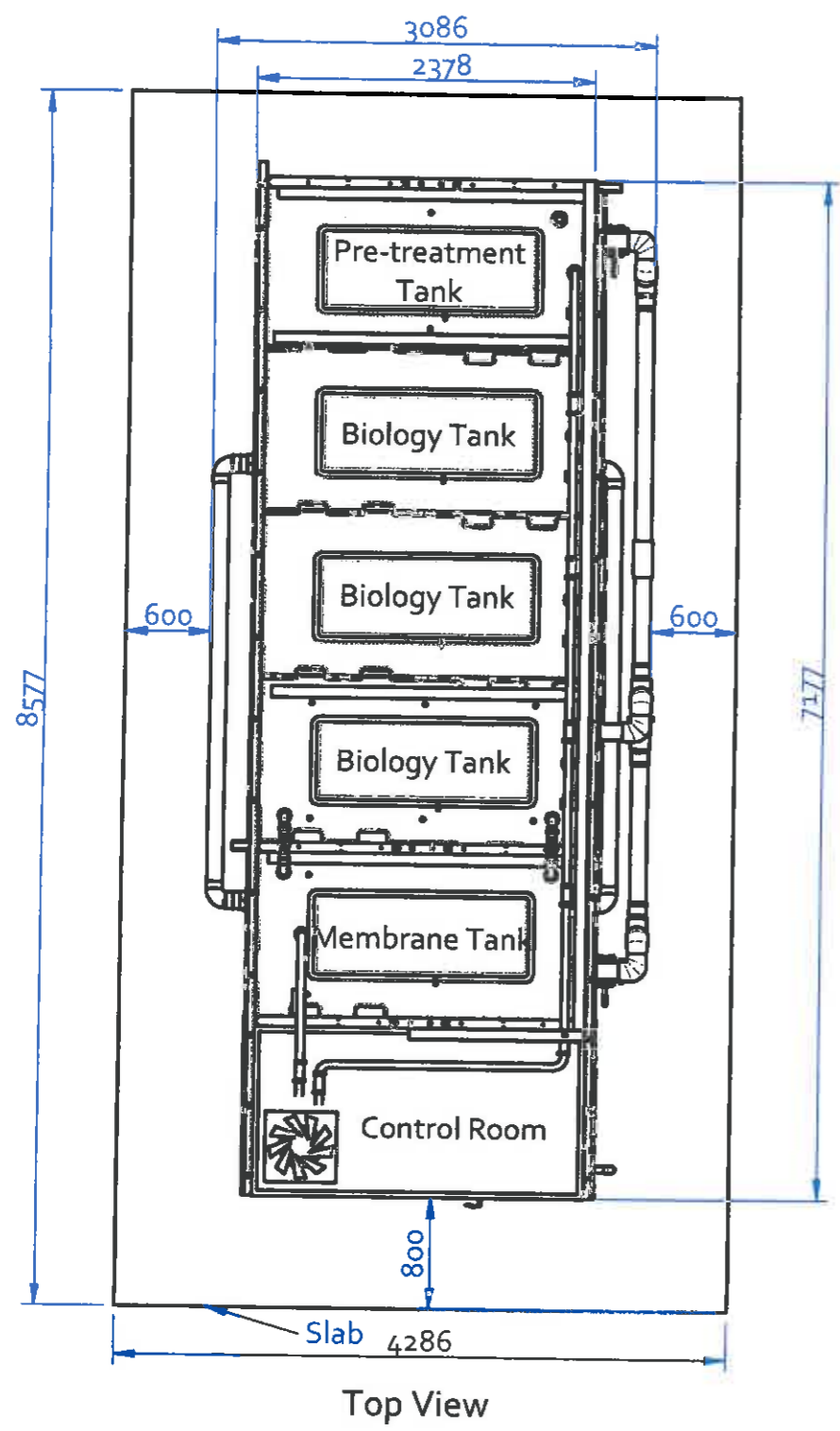
PRINT MAY BE REDUCED - DO NOT SCALE.  
**NOT FOR CONSTRUCTION**

Department of Housing and Public Works  
**Chief Executive Approval**  
 Approval No: 20/2015  
 Date of Issue: 7/7/15  
 Delegate Signature: [Signature]  
 Building Codes Queensland

Iso View



Aquacell G20/S20  
 Left hand configuration shown

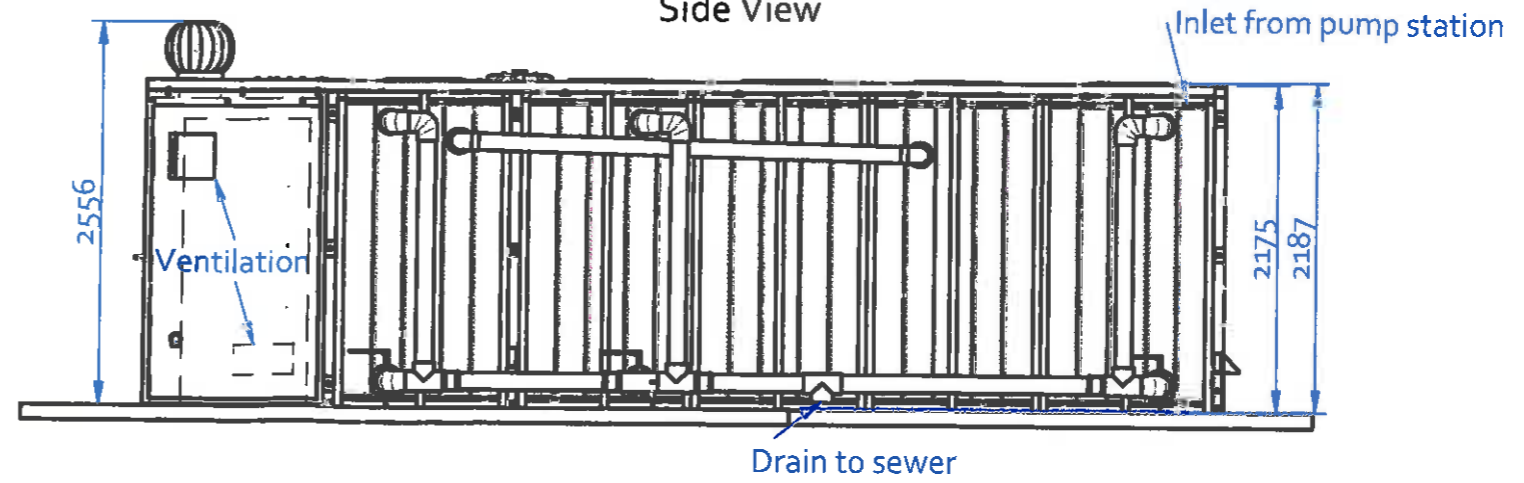


Top View

**Notes:**

Pump station and storage tanks shown on page 2  
 Dry Weight: 3 000 Kg  
 Wet Weight: 30000 Kg

Side View



© 2005 Clearwater Technology Pty. Ltd. email: [info@clearwatertechnology.com.au](mailto:info@clearwatertechnology.com.au)

THIS DRAWING IS THE PROPERTY OF CLEARWATER TECHNOLOGY AND IS STRICTLY CONFIDENTIAL. IT IS ISSUED SUBJECT TO THE FOLLOWING CONDITIONS.  
 1. THE INFORMATION OR ANY PART IS NOT TO BE DISCLOSED IN ANY FORM TO A THIRD PARTY.  
 2. IF OR ANY PART OF IT WILL NOT BE REPRODUCED IN ANY FORM.

GENERAL TOLERANCES (Unless otherwise noted):  
 Whole: ± 1.0mm  
 Decimal: ± 0.5mm  
 Angular: ± 0.5 deg.  
 Break ALL sharp corners and remove burrs & swarf.  
 All machining & fabrication to meet MIL-TFD-1111

Clearwater Technology **aquacell**  
 water recycling systems

1/26 Megalong St. Katoomba NSW 2780 Australia  
 PO Box 7091 Leura NSW 2780 Australia  
 Ph : +61 2 4782 3300, Fax : + 61 2 4782 3211

DRN	BR	DATE
CKD		DATE
MACHINED FINISH:	3.2	UON
All dimensions in mm unless otherwise noted		
Third Angle Projection - AS 1100		

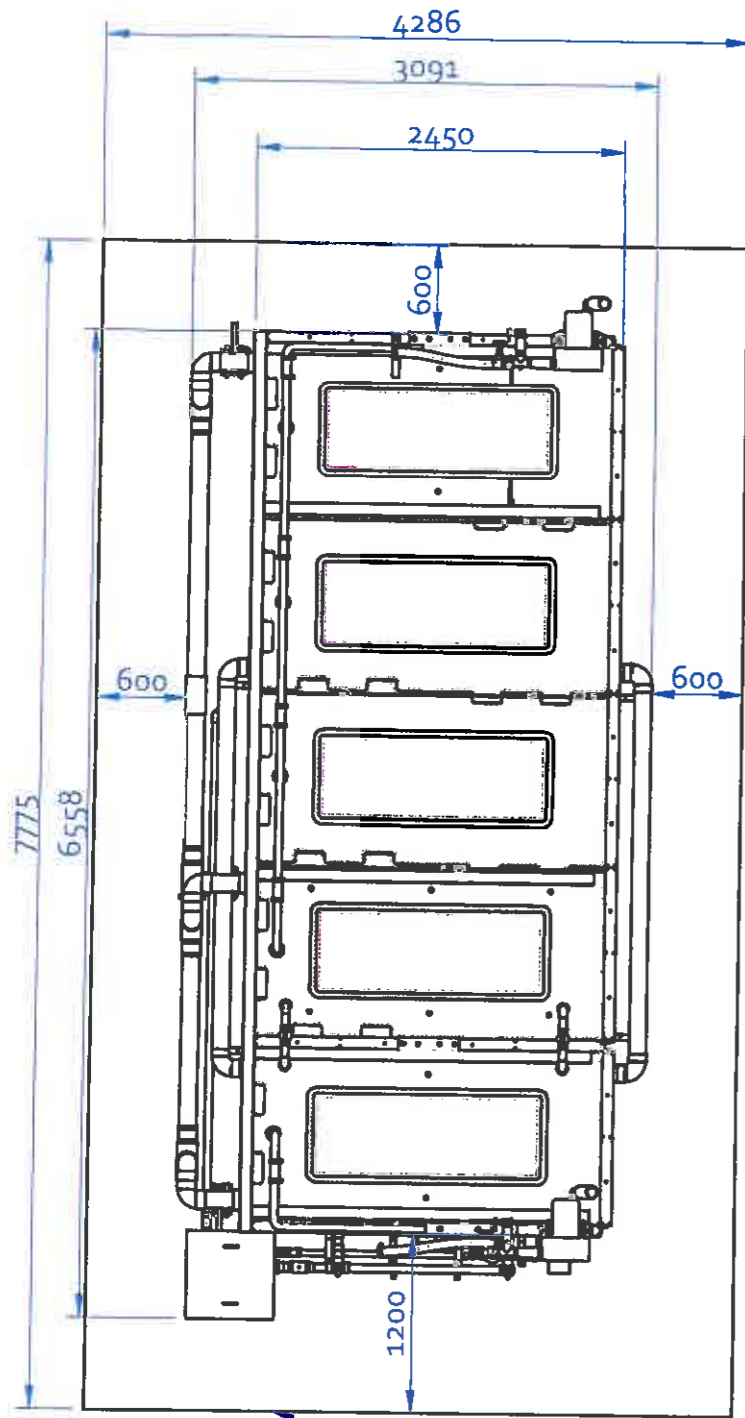
TITLE Aquacell G20	
DWG No: CWT - G20/S20	REV No:
SCALE: Noted	SHEET 1 of 2

REV.	DATE	DESCRIPTION

PRINT MAY BE REDUCED - DO NOT SCALE.

NOT FOR CONSTRUCTION

Department of Housing and Public Works  
**Chief Executive Approval**  
 Approval No: 20/2015  
 Date of Issue: 7/5/15  
 Delegate Signature: [Signature]  
 Building Codes Queensland



Top View

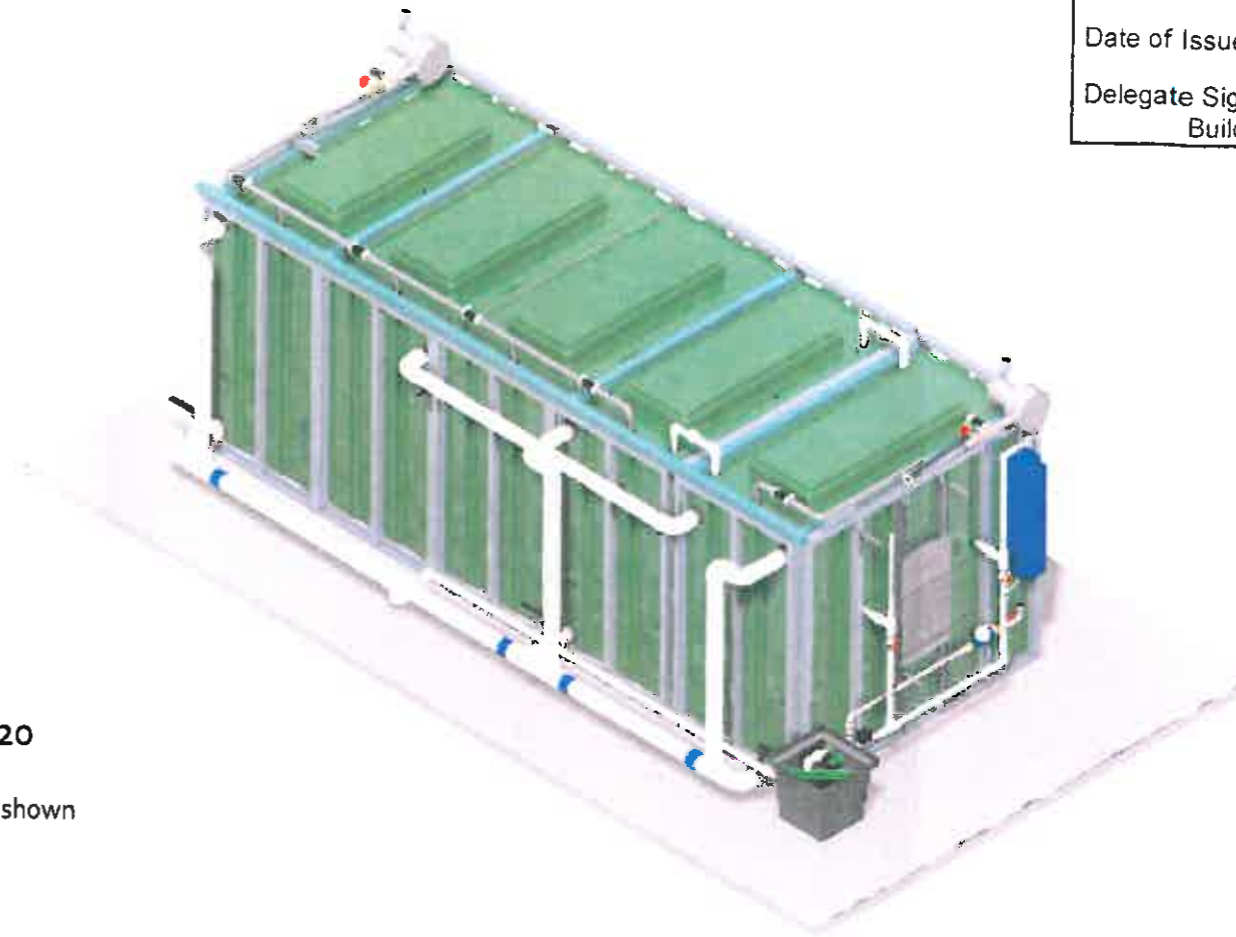
**Notes:**

Pumpstation and storage tanks not shown

Dry Weight: 2600 Kg

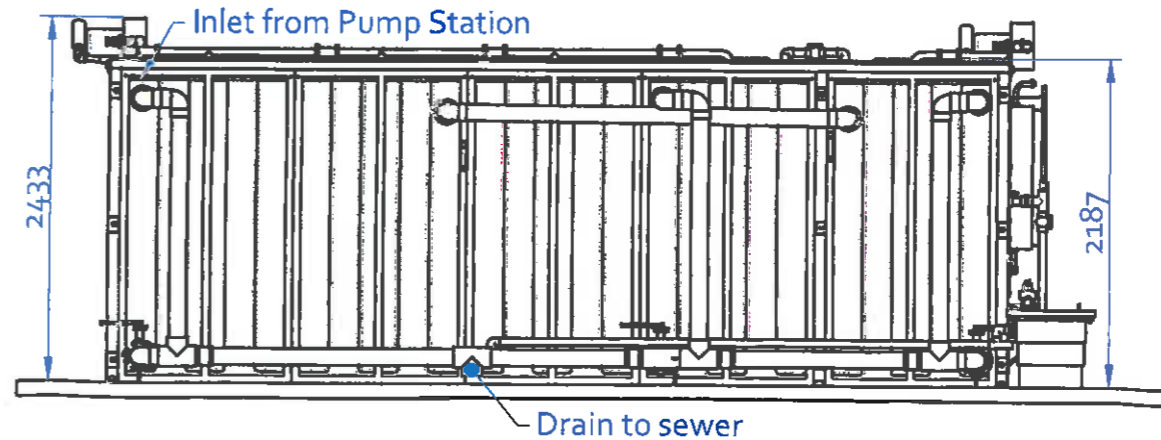
Wet Weight: 27600 Kg

Iso View



Aquacell G20/S20  
 Side Entry  
 Right Hand configuration shown

Side View



© 2009 Aquacell Pty. Ltd.

email: [info@aquacell.com.au](mailto:info@aquacell.com.au)

THIS DRAWING IS THE PROPERTY OF AQUACELL AND IS STRICTLY CONFIDENTIAL. IT IS ISSUED SUBJECT TO THE FOLLOWING CONDITIONS.  
 1. THE INFORMATION OR ANY PART IS NOT TO BE DISCLOSED IN ANY FORM TO A THIRD PARTY.  
 2. IF OR ANY PART OF IT WILL NOT BE REPRODUCED IN ANY FORM.

GENERAL TOLERANCES (Unless otherwise noted):  
 Whole: ± 1.0mm  
 Decimal: ± 0.5mm  
 Angular: ± 0.5 deg.  
 Break ALL sharp corners and remove burrs & swarf.  
 All machining & fabrication to meet MIL-TFD-1111



1/26 Megalong St. Katoomba NSW 2780 Australia  
 PO Box 7091 Leura NSW 2780 Australia  
 Ph : +61 2 4782 3300, Fax : + 61 2 4782 3211

DRN	BR	DATE
CKD		DATE
MACHINED FINISH:	3.2	UON
	All dimensions in mm unless otherwise noted	
Third Angle Projection - AS 1100		

TITLE Aquacell G20  
 Side Entry

**A3**

DWG No:	AQC - G20/S20	REV No:	
SCALE:	Noted	SHEET	1 of 1

REV.	DATE	DESCRIPTION