NSW GOVERNMENT

Certificate of Accreditation

Sewage Management Facility
Aerated Wastewater Treatment System
Advanced Secondary Treatment System

This Certificate of Accreditation is issued by the Secretary of the NSW Ministry of Health pursuant to Clause 41(1) of the Local Government (General) Regulation 2021.

System: ***Alpha Treat ATDP10AS AWTS Advanced STS***

Manufacturer: ***Alphatreat Pty Ltd***

Of: ***9 Mackie Way, Brendale, QLD, 4500***

The Alpha Treat ATDP10AS AWTS STS as described in Schedule 1 has been accredited as a sewage management facility for use in single domestic premises in NSW. This accreditation is subject to the conditions of accreditation and permitted uses specified in Schedule 2.

Director, Environmental Health
for Secretary (delegation PH335)

Issued: 20/ 12 / 2022
Certificate No: *STS-AWTS066*
Expires: *31 December 2027*

Schedule 1: Specification

Alpha Treat ATDP10AS STS Aerated Wastewater Treatment System

The Alpha Treat ATDP10AS STS AWTS is designed for onsite treatment of domestic sewage from a residential dwelling occupied by a maximum of ten people. The Alpha Treat ATDP10AS STS AWTS is contained in two Reln polymer collection wells vessel each with a design capacity of 3200 L. The NSW Health Accreditation Number is STCW002.

Chamber	Design capacities
Total System	6400 L
Primary treatment Total	3200 L
• Partition	2:1 ratio
• Primary 1	2133 L
• Primary 2	1067 L
Secondary treatment	3200 L
• Aeration chamber	2566 L
• Clarifier	417 L
• Disinfection / Irrigation chamber	217 L
Emergency storage	1000 L
Operational water level (depth)	
• primary	1385 mm
• secondary	1385 mm

Primary Treatment: The primary treatment tank is split into 2 chambers using a partition at a 2:1 ratio. Primary Tank 1 receives influent from the dwelling for settlement and anerobic digestion then gravity feeds to Primary Tank 2 through a partition mounted exit filter tee section pipe. Primary 2 exits through an exit filter gravity feeding into the Tank 2 Aeration Chamber for aerobic digestion.

Aeration: Primary treated waste gravity flows into the aeration chamber consisting of four air diffusers (RAD255 or equivalent) and two bio-media packs. Air is provided by an air pump and distributed by a manual valve controlled 25mm PVC pipe manifold.

Clarification: Aeration treated wastewater is fed to the Clarifier by an air lift. The Clarification Chamber separates suspended solids. Heavy solids collected at the base of the Clarifier are removed by a Sludge Suction Return to the Primary 1 Tank Inlet Tee. Floating matter is removed by a Suction Skimmer and returned to the Primary 1 Tank Inlet Tee.

Disinfection: Clarified wastewater gravity feeds from the Clarifier into the Disinfection Canister using 70mm 150gm Trichlor tablet) chlorine. A weir and chamber provide contact disinfection of the clarified wastewater.

Pump Out Chamber: Effluent is stored in the Disinfection/Pump-Out Chamber until it is discharged using (Reefe RVS200 or RHS105 pumps or equivalent) to the onsite application/disposal area (not supplied with STS) via a discharge pump with high and low level float controls. Discharge pump is dependent on disposal area technique.

Fault Warning System: The STS is provided with an automatic fault warning alarm system which includes an internally wall mounted, mutable audible, fault warning panel for inside of a building in addition to a flashing warning light atop the secondary tank air-pump cover detecting failure of air blower and/or discharge pump.

Emergency Storage: 1000L of emergency storage capacity is achieved via additional height of chambers above operational level and gravity feed preventing system short circuiting.

Service Intervals: Three monthly.

Schedule 2: Conditions of Accreditation

1. General

1.1 Prior to installation the owner/occupier of the premises shall make an application, in accordance with Clause 26 of the *Local Government (General) Regulation 2005,* to the local authority for approval to install and operate the Alpha Treat ATDP10AS STS AWTS as a Sewage Management Facility in accordance with Section 68, Part C of the *Local Government Act 1993.*

1.2 The local authority shall apply those Conditions of Accreditation, appropriate to the owner / occupier, to any approval to operate the Alpha Treat ATDP10AS STS AWTS issued under Clause 45(4), *Local Government (General) Regulation 2005.*

1.3 In accordance with Clause 36 of the *Local Government (General) Regulation 2005*, the Alpha Treat ATDP10AS STS AWTS shall have an expected service life of 5 years in the case of mechanical and electrical components and 15 years in the case of other components.

1.4 The owner / occupier shall ensure that the Alpha Treat ATDP10AS STS AWTS is installed or constructed:

- in accordance with the accredited specifications of the type tested unit and in accordance with good trade practice, and
- to allow ease of access for maintenance, and
- regarding the health and safety of users, operators and persons maintaining the facility, and
- must be installed or constructed to make appropriate provision for access to, and removal of, contents in a safe and sanitary manner, and
- must, if it is intended to be a permanent fixture, be anchored to prevent movement.

1.5 The manufacturer / supplier shall ensure that the Alpha Treat ATDP10AS STS AWTS is supplied, constructed, and installed in accordance with the design (including the disinfection unit) as submitted and accredited by the NSW Ministry of Health. The Alpha Treat ATDP10AS STS AWTS shall not be modified or altered except that alternate individual mechanical and electrical components such as pumps, PLCs, etc, may be substituted provided that the component meets the accredited design specification.

1.6 Any permanent modification or variations to the accredited design of the Alpha Treat ATDP10AS STS AWTS shall not be permitted.

1.7 Each Alpha Treat ATDP10AS STS AWTS shall be permanently and legibly marked by the manufacturer in accordance with section 3 of AS1546.3:2017.

1.8 The manufacturer shall supply with each Alpha Treat ATDP10AS STS AWTS an owner's manual, which sets out the care, operation, maintenance, and on-going management requirements of the system. The owner's manual prepared by the manufacturer shall specifically contain a plan for the on-going management of the Alpha Treat DP10 STS AWTS. The plan shall include details of:

- the treatment process,

- procedures to be followed in the event of a system failure,
- emergency contact numbers,
- maintenance requirements,
- inspection and sampling procedures to be followed as part of any on-going monitoring program developed by the local authority.

1.9 The manufacturer shall provide the following information to each local authority where it is intended to install an Alpha Treat ATDP10AS STS AWTS in their area once Ministry Accreditation has been obtained:

- Statement of warranty
- Statement of service life
- Quality Assurance Certification
- Installation Manual
- Service Manual
- Owner's Manual
- Manufacturer's Service Report Form
- Engineering Drawings
- Specifications
- A4 Plans
- Certificate of Accreditation documentation from NSW Health.

The manufacturer need not provide the above information to the local council where the information or document is contained on the manufacturer's web site.

2. Installation and Commissioning

2.1 The owner / occupier shall have the Alpha Treat ATDP10AS STS AWTS inspected and checked by the manufacturer or the manufacturer's agent. The manufacturer or the agent is to certify that the system has been installed and commissioned in accordance with its design, conditions of accreditation and any additional requirements of the local authority.

2.2 The owner / occupier shall ensure that all electrical work is carried out on the Alpha Treat ATDP10AS STS AWTS by a licensed electrician and in accordance with the relevant provisions of AS/NZS 3000.

2.3 The owner / occupier shall not commission the Alpha Treat ATDP10AS STS AWTS unless the land application system has been completed.

3. Maintenance

3.1 The owner / occupier of the premises shall enter into a minimum 12-month contract or agreement with a service agent and ensure that the Alpha Treat ATDP10AS STS AWTS is serviced:

- in accordance with the manufacturer's / supplier's service manual and using the manufacturer's / supplier's service sheet; and
- by a service agent who
    - has completed a course on the servicing and maintenance of STS; and has some supervised servicing experience or extensive un-supervised experience;
    - is employed or authorised by the manufacturer / supplier of the Alpha Treat ATDP10AS STS AWTS;
    - uses replacement parts which meet the minimum specification of the Alpha Treat ATDP10AS STS AWTS;
    - has advised of their name, contact details and credentials to the local authority;
    - submits a completed NSW Health "Local Council Service Report" (template attached) to the local authority immediately after every service;

- shall report to the local authority any instances where the owner / occupier refuses to authorise repairs, replacement of parts or maintenance; and
- does not perform electrical work or enter confined spaces unless trained and is suitably qualified to do so.

3.2 The owner/occupier shall not service the Alpha Treat ATDP10AS STS AWTS unless they are an authorised agent of the manufacturer.

3.3 The Alpha Treat ATDP10AS STS AWTS once installed and commissioned shall be serviced at three (3) monthly intervals.

3.4 The manufacturer / supplier of the Alpha Treat ATDP10AS STS AWTS shall place on its web site a copy of the service manual, service sheet or form and specifications for the Alpha Treat ATDP10AS STS AWTS to facilitate servicing, maintenance and repairs. Commercial-in-confidence documents may be provided directly to the service agent without uploading to the web site.

3.5 Each three-monthly service shall, as a minimum where provided, include a check on all mechanical, electrical and functioning parts of the system including:

- The chlorinator and replenishment of the disinfectant,
- Pump and air blower,
- The alarm system,
- Slime growth on the filter media,
- Operation of the sludge return system,
- The effluent irrigation area,
- On-site testing for free residual chlorine, pH and dissolved oxygen at the appropriate check points.

4. Verification

4.1 Effluent from the Alpha Treat ATDP10AS STS AWTS taken in any random grab sample shall comply with the following standard:

• BOD^5	less than 30 mg/L
• TSS	less than 45 mg/L
• E. coli	less than 100 cfu/100 ml
• Free residual chlorine	greater than 0.2 and less than 2.0 mg/L

5. Permitted uses

5.1 The effluent is suitable for re-use for garden purposes by way of any of the forms of irrigation as described in AS/NZS 1547:2012:

- above ground spray irrigation; and/or
- surface drip irrigation covered by mulch; and/or
- sub-surface drip irrigation installed at around 100 mm depth; and or
- any form of sub-soil application.

Each of the forms of irrigation or application is subject to the approval of the local authority.

6. Advanced Secondary Treatment System

6.1 The Alpha Treat ATDP10AS STS AWTS when tested by a Product Certification Body in accordance with AS1546.3:2017 was found to comply with the Advanced Secondary Effluent Criteria as follows:

TABLE 2.1 (Abrev) AS1546.3:2017
ADVANCED SECONDARY EFFLUENT COMPLIANCE CRITERIA FOR A STS

Parameter	Advanced secondary effluent	
	90% of Samples	Maximum
BOD5	≤ 10mg/L	20 mg/L
TSS	≤ 10 mg/L	20 mg/L
E. coli *	≤ 10 cfu/100mL	30 cfu/100mL
FAC þ	Minimum 0.5 mg/L†	N/A
Turbidity ?	N/A	10 NTU

* Where disinfection is required.
þ Where chlorine disinfection is used.
† Minimum level, not 90% of samples.
? Where UV light is used for disinfection.

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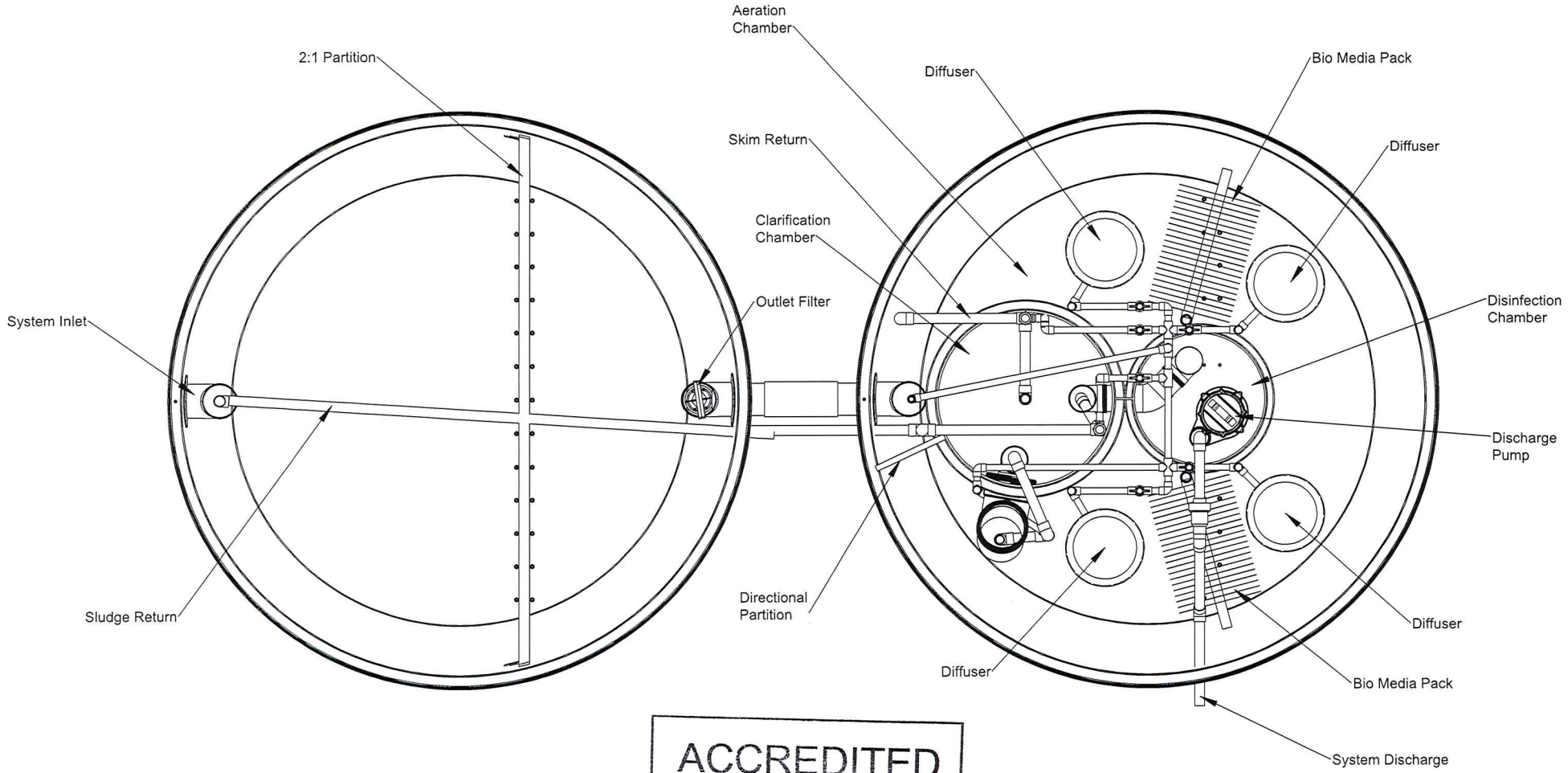
Local Council STS (DGTS) Service Report: February 2018		
Owner's Name:	Local Council:	
Installation Address:		
System Brand & Model:	☐ Domestic	☐ Commercial
Date of this service: / /	Date of last Service: / /	Next service due: / /
Has the STS/DGTS been **serviced** in accordance with the manufacturer's / supplier's requirements and using the service sheet? ☐ Yes ☐ No If "No" why not?		
STS/DGTS **functioning** correctly? ☐ Yes ☐ No If "No" why not?		
According to sludge-judge or other methodology is de-sludging needed? ☐ Yes ☐ No If "Yes" what action is recommended?		
Offensive odours? ☐ Yes ☐ No If "Yes" what action is recommended?		
Alarms tested and functional? ☐ Yes ☐ No If not "functional" what action is recommended?		
Final Effluent Quality Tested? ☐ Yes ☐ No Disinfected? ☐ Yes ☐ No Chlorine tablets remaining? ☐ Yes ☐ No Quality? ☐ Satisfactory ☐ Unsatisfactory On what evidence is this judgement made? If "Unsatisfactory" what action was recommended?		
Land Application Area Surface ponding? ☐ Yes ☐ No Run off? ☐ Yes ☐ No Excess plant growth? ☐ Yes ☐ No Effluent leaving premises. ☐ Yes ☐ No High risk areas contaminated? * ☐ Yes ☐ No * Patio, play areas, BBQ, etc Operating satisfactorily? ☐ Yes ☐ No If "Not operating satisfactorily" what action was recommended?		
Overall Condition of STS? ☐ Excellent ☐Good ☐ Fair ☐ Poor Comments / Action Recommended / Repairs Needed / Repairs Performed: Has the owner / occupier taken recommended actions? ☐ Yes ☐ No		
Service Agent:	Contact Details:	
Signature:	Date:	

Source: Adapted from "Checklist 4.2: Operational AWTS inspection report for use by service providers and Council inspectors" in Designing and Installing On-Site Wastewater Systems, Sydney Catchment Authority, May 2012



Primary Treatment Tank

Advanced Secondary Treatment Tank

ACCREDITED

20 DEC 2022

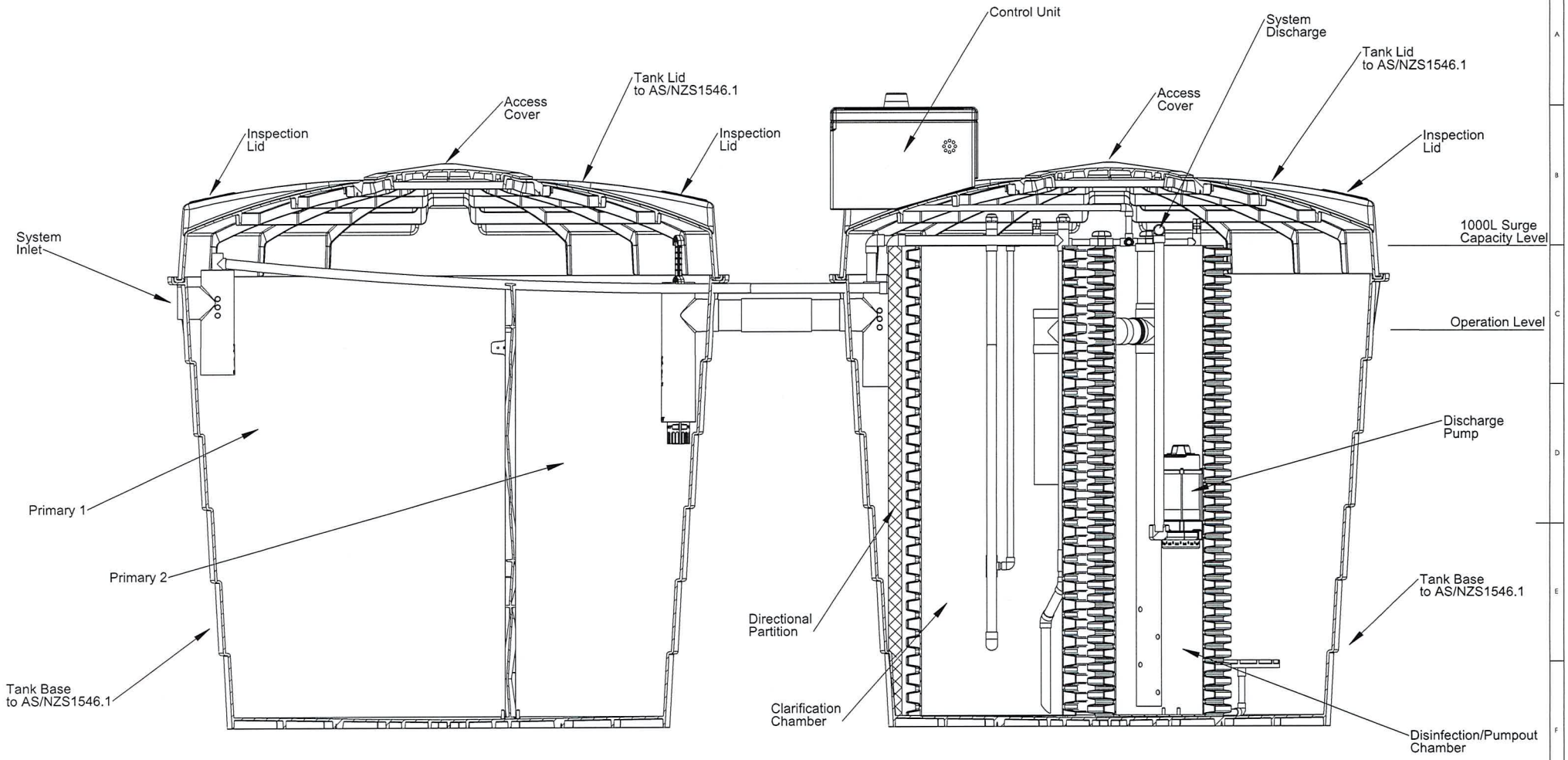
NSW MINISTRY OF HEALTH

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS SURFACE FINISH: TOLERANCES: LINEAR: X 0.5, X.x 0.2, X.xx 0.01 ANGULAR: +/- 0.2deg	FINISH: AS1546.3:2017 Advanced Secondary Effluent 1500L/Day			DEBUR AND BREAK SHARP EDGES	DO NOT SCALE DRAWING / REVISION
	NAME	SIGNATURE	DATE		
DRAWN	OL	OL	27-Jan-2022		
CHK'D	OL	OL	27-Jan-2022		
APPV'D		OL	27-Jan-2022		
MFG					
Q.A					
			MATERIAL: Twin Polymer Tank		
			WEIGHT:		

TITLE: **Alpha Treat ATDP10AS Advanced Secondary Treatment Plant - Plan View**

DWG NO. 201800800ZL3 — A2

SCALE — SHEET 1 OF 1



Primary Treatment Tank

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	NAME	SIGNATURE	DATE		
DRAWN	OL	OL	28-Jan2022		
CHK'D	OL	OL	28-Jan2022		
APPV'D		OL	28-Jan2022		TITLE: **Alpha Treat ATDP10AS Advanced Secondary Treatment Plant - Side View**
MFG					
Q.A				MATERIAL: Twin Polymer Tank	DWG NO. 201800800ZL3 — A2
				WEIGHT:	SCALE — SHEET 1 OF 1