

Permit

Environmental Protection Act 1994

Environmental authority EPPR00959913

This environmental authority is issued by the administering authority under Chapter 5 of the Environmental Protection Act 1994.

Environmental authority number: EPPR00959913

Environmental authority takes effect on the date of approval. The anniversary day of this environmental authority continues to be **15 August**. The payment of the annual fee is due each year on this day.

Environmental authority holder

Name	Registered address
Gladstone Regional Council	101 Goondoon Street GLADSTONE QLD 4680

Environmentally relevant activity and location details

Environmentally relevant activities	Locations
63-(a-i) Sewage treatment 21 to 100EP	Blomfield St MIRIAM VALE - Opposite Lot 1 Plan SP170940, opposite Lot 155 Plan RP911103
63-(1c) Sewage treatment >1500 to 4000EP	172 Mylrea Road ALDOGA - Lot 15 Plan SP157705 87 Reid Road YARWUN - Lot 139 Plan CTN2130
63-(1d) Sewage treatment >4000 to 10000EP	42 Stowe Road CALLIOPE - Lot 1 Plan RP612345 - Handley Drive BOYNE ISLAND - Lot 25 Plan RP860085 - Wapentake Road SOUTH TREES - Lot 1 Plan RP616302 - Streeter Drive AGNES WATER - Lot 20 Plan FD991 and Lot 21 Plan SP168519
63-(1e) Sewage treatment >10000 to 50000EP	360 Tannum Sands Road TANNUM SANDS - Lot 1 Plan SP142970 and Lot 21 Plan SP252843 and Lot 35 Plan CTN1238 17 Albert Road, GLADSTONE - Lot 77 Plan CTN2052

Environmentally relevant activities	Locations
63-(2) Sewage treatment - pumping station (1)(b)	• (22 ~24) Jeffrey Court AGNES WATER QLD 4677 - Adjacent to Lot 30 Plan RP613382 • (3 ~5) Agnes Street AGNES WATER - Lot 2 Plan RP619742 • 140 Jarvey Drive, AGNES WATER - Lot 1 Plan SP263707 • 36 Atlantis Boulevard AGNES WATER - Adjacent to Lot 37 Plan SP135449 • Agnes Street and Jeffrey Court AGNES WATER - Adjacent to Lot 45 Plan RP613382 • Beach Houses Estate Road (centre of the roundabout) AGNES WATER - Lot 0 Plan SP108910 • Captain Cook Drive and Springs Road AGNES WATER - Lot 2 Plan SP165863 • Corner of Thompson Street and Captain Cook Drive AGNES WATER - Adjacent to Lot 16 Plan RP861421 • The Promenade (Waterfront Estate) AGNES WATER - On road reserve adjacent to Lot 59 Plan SP160788 • (End of) Cotton Street, BARNEY POINT - Adjacent to Lot 11 Plan CP848669 • 2 Stokarck Street, BARNEY POINT - Lot 1 Plan RP614355 • 360 Handley Drive, BOYNE ISLAND - Lot 25 Plan RP860085 • 54 Wyndham Avenue, BOYNE ISLAND - Lot 1 Plan RP612344 • Malpas Street and Tarcoola Drive BOYNE ISLAND - Adjacent to Lot 1 Plan RP801261 • Malpas Street BOYNE ISLAND (between Jacaranda Drive & Handley Drive intersections) - Lot 1 Plan SP150256 • Alf O'Rourke Drive, CALLEMONDAH - Lot 211 Plan SP174655 • Taragoola Road CALLIOPE - Opposite Lot 100 Plan CP802831 • Aerodrome Road CLINTON - Lot 25 Plan SP206873 • Aerodrome Road, CLINTON (Opposite Anderson Road intersection) - Lot 1 Plan RP615186 • Unnamed road, CURTIS ISLAND ("1st station from the boat ramp") - Lot 5 Plan SP181595 • Unnamed road, CURTIS ISLAND ("2nd station from the boat ramp") - Lot 4 Plan SP235007 • Unnamed road, CURTIS ISLAND ("3rd station from the boat ramp") - Lot 4 Plan SP235007 • 40 Lord Street, GLADSTONE CENTRAL (Corner Lord Street & Chapple Street) - Lot 216 Plan CTN1164 • Billabong Drive GLEN EDEN - Lot 2 Plan RP614829 • Unnamed Road (off Glen Eden Drive), GLEN EDEN - Lot 1 Plan SP266129 • Petrel Street, KIRKWOOD - Lot 307 Plan SP247243 • 24 Sandpaper Avenue NEW AUCKLAND - Lot 109 Plan CTN1429 • Tulipwood Circuit, RIVERSTONE RISE - Lot 7000 Plan SP241218 • 423 Captain Cook Drive SEVENTEEN SEVENTY - Lot 19 SP178795 • Agnes Street, SOUTH GLADSTONE - Lot 271 Plan CTN1357 • 1 South Trees Drive SOUTH TREES - Lot 1 Plan RP612067 • (End of) Dahl Road, TANNUM SANDS - Lot 1 Plan SP257420 • Corner Langdon Street & Latrobe Street TANNUM SANDS - Lot 4 Plan RP613188 • The Oaks Road TANNUM SANDS - Lot 52 Plan CTN1818 • Unnamed road off Bosun Circuit TANNUM SANDS - Lot 9000 Plan SP270250 • 5 Cemetery Road WEST GLADSTONE - Lot 1 SP293516 • Palm Drive, WEST GLADSTONE - Lot 280 Plan CP897416 • Hanson Road YARWUN - Lot 11 Plan SP239343

Environmentally relevant activities	Locations
64 (1a) Water treatment >0.5ML to 5ML	Agnes Water Desalination Plant - Springs Road, Agnes Water - Lot 6 Plan SP150900, Lot 40 Plan SP206868, Lot 52 Plan SP155903 and Lot 41 Plan SP206868

Additional information for applicants

Environmentally relevant activities

The description of any environmentally relevant activity (ERA) for which an environmental authority (EA) is issued is a restatement of the ERA as defined by legislation at the time the EA is issued. Where there is any inconsistency between that description of an ERA and the conditions stated by an EA as to the scale, intensity or manner of carrying out an ERA, the conditions prevail to the extent of the inconsistency.

An EA authorises the carrying out of an ERA and does not authorise any environmental harm unless a condition stated by the EA specifically authorises environmental harm.

A person carrying out an ERA must also be a registered suitable operator under the *Environmental Protection Act 1994* (EP Act).

Contaminated land

It is a requirement of the EP Act that an owner or occupier of contaminated land give written notice to the administering authority if they become aware of the following:

- the happening of an event involving a hazardous contaminant on the contaminated land (notice must be given within 24 hours); or
- a change in the condition of the contaminated land (notice must be given within 24 hours); or
- a notifiable activity (as defined in Schedule 3) having been carried out, or is being carried out, on the contaminated land (notice must be given within 20 business days);
- that is causing, or is reasonably likely to cause, serious or material environmental harm.

For further information, including the form for giving written notice, refer to the Queensland Government website www.qld.gov.au, using the search term 'duty to notify'.

Take effect

Please note that, in accordance with section 200 of the EP Act, an EA has effect:

- a) if the authority is for a prescribed ERA and it states that it takes effect on the day nominated by the holder of the authority in a written notice given to the administering authority-on the nominated day; or
- b) if the authority states a day or an event for it to take effect-on the stated day or when the stated event happens; or
- c) otherwise-on the day the authority is issued.

However, if the EA is authorising an activity that requires an additional authorisation (a relevant tenure for a resource activity, a development permit under the *Planning Act 2016* or an SDA Approval under the *State Development and Public Works Organisation Act 1971*), this EA will not take effect until the additional authorisation has taken effect.

If this EA takes effect when the additional authorisation takes effect, you must provide the administering authority written notice within 5 business days of receiving notification of the related additional authorisation taking effect.

If you have incorrectly claimed that an additional authorisation is not required, carrying out the ERA without the additional authorisation is not legal and could result in your prosecution for providing false or misleading information or operating without a valid environmental authority.



Rebecca Griffiths
Department of Environment and Science
Delegate of the administering authority
Environmental Protection Act 1994

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Date approved: 15/09/2023

Obligations under the *Environmental Protection Act 1994*

In addition to the requirements found in the conditions of this environmental authority, the holder must also meet their obligations under the EP Act, and the regulations made under the EP Act. For example, the holder must comply with the following provisions of the Act:

- general environmental duty (section 319)
- duty to notify environmental harm (section 320-320G)
- offence of causing serious or material environmental harm (sections 437-439)
- offence of causing environmental nuisance (section 440)
- offence of depositing prescribed water contaminants in waters and related matters (section 440ZG)
- offence to place contaminant where environmental harm or nuisance may be caused (section 443)

Other permits required

This permit only provides an approval under the *Environmental Protection Act 1994*. In order to lawfully operate you may also require permits / approvals from your local government authority, other business units within the department and other State Government agencies prior to commencing any activity at the site.

Development Approval

This permit is not a development approval under the *Planning Act 2016*. The conditions of this environmental authority are separate, and in addition to, any conditions that may be on the development approval. If a copy of this environmental authority is attached to a development approval, it is for information only, and may not be current. Please contact the Department of Environment and Science to ensure that you have the most current version of the environmental authority relating to this site.

Conditions of environmental authority

PART 1 – COMMON CONDITIONS - SEWAGE TREATMENT PLANTS and WATER TREATMENT PLANT

Environmentally relevant activities	Locations
63-(a-i) Sewage treatment 21 to 100EP, if treated effluent is discharged from the works to an infiltration trench or through an irrigation scheme	Alf Larson STP - Blomfield St MIRIAM VALE - Opposite Lot 1 Plan SP170940, opposite Lot 155 Plan RP911103
63-(1c) Sewage treatment >1500 to 4000EP	Aldoga STP - 172 Mylrea Road ALDOGA - Lot 15 Plan SP157705 Yarwun STP - 87 Reid Road YARWUN - Lot 139 Plan CTN2130
63-(1d) Sewage treatment >4000 to 10000EP	Calliope STP - 42 Stowe Road CALLIOPE - Lot 1 Plan RP612345 Boyne Island STP - Handley Drive BOYNE ISLAND - Lot 25 Plan RP860085 South Trees STP - Wapentake Road SOUTH TREES - Lot 1 Plan RP616302 Agnes Water STP - Streeter Drive AGNES WATER - Lot 20 Plan FD991 and Lot 21 Plan SP168519
63-(1e) Sewage treatment >10000 to 50000EP	Tannum Sands STP - 360 Tannum Sands Road TANNUM SANDS - Lot 1 Plan SP142970 and Lot 21 Plan SP252843 and Lot 35 Plan CTN1238 Gladstone STP - 17 Albert Road, GLADSTONE - Lot 77 Plan CTN2052
64 (1a) Water treatment >0.5ML to 5ML	Agnes Water Desalination Plant - Springs Road, Agnes Water - Lot 6 Plan SP150900, Lot 40 Plan SP206868, Lot 52 Plan SP155903 and Lot 41 Plan SP206868

The environmentally relevant activities conducted at the locations as described above must be conducted in accordance with the following conditions of approval.

Agency interest: General	
Condition number	Condition
G1	All reasonable and practicable measures must be taken to prevent or minimise environmental harm caused by the activities.
G2	Any contravention of a condition of this environmental authority must be reported to the administering authority as soon as practicable within 24 hours of becoming aware of the breach.
G3	As soon as practicable after providing the notification under condition G2, an investigation must be completed into any contravention of a condition of the environmental authority to determine: - the potential circumstances and actions that may have contributed to the contravention; and - the environmental impact of the contravention; and - reasonable measures that could be implemented to address the cause of the contravention to prevent future contraventions of this nature.
G4	Measures identified under condition G3 must be implemented as soon as practicable after the investigation required by condition G3 is completed.
G5	The following details must be recorded for all contraventions of conditions within the

	environmental authority: 1. date and time the contravention occurred; and 2. nature and details of the contravention; and 3. investigations carried out in response to the contravention as required by condition G4; and 4. the results of investigations; and 5. measures taken under condition G4.
G6	Other than as permitted by this environmental authority, the release of a contaminant into the environment must not occur.
G7	All records required by the conditions of this environmental authority must be kept for a minimum of five years, and all monitoring results and raw data must be kept until surrender of this environmental authority.
G8	All records required by the conditions of this environmental authority must be provided to the administering authority: 1. within the timeframe specified by the administering authority; and 2. in the format requested by the administering authority.
G9	An appropriately qualified person(s) must monitor, record and interpret all parameters that are required to be monitored by this environmental authority.
G10	The following details must be recorded for all environmental complaints received: 1. date and time the complaint was received; and 2. if authorised by the person making the complaint, their name and contact details; and 3. nature and details of the complaint; and 4. investigations carried out in response to the complaint as required by condition G11; and 5. the results of investigations; and 6. measures taken under condition G12.
G11	An investigation must be undertaken within 20 business days (or a longer period agreed to in writing by the administering authority) into all complaints received to determine: 1. the potential circumstances and actions on site that may have contributed to the basis of the complaint; and 2. reasonable measures that could be implemented to address the complaint.
G12	Measures identified under condition G11 must be implemented as soon as practicable, and within: 1. 30 business days of the investigation required by condition G11 being finalised; or 2. a longer period agreed to in writing by the administering authority.
G13	When requested by the administering authority , monitoring must be undertaken in the manner and within the timeframe prescribed by the administering authority , to investigate any alleged environmental harm caused by the activity .
G14	The results, including an analysis of the results, of monitoring required by condition G13 must be provided to the administering authority: 1. within 10 days after you receive the monitoring results; or 2. a longer period agreed to in writing by the administering authority.
G15	Written procedures must be developed which: 1. identify all potential risks to the environment from the activity, including: a. during routine operations; and b. outside routine operations; and

	c. during closure; and d. in an emergency; and 2. identify measures to prevent or minimise the potential for environmental harm for each of the potential risks identified; and 3. by 31 December 2023, establish an inspection and maintenance program for plant and equipment including calibration and servicing that is in accordance with manufacturer's instructions; and 4. by 31 December 2023, establish a staff training program on obligations under this environmental authority and the <i>Environmental Protection Act 1994</i> to be conducted as part of staff inductions and at least annually thereafter; and 5. establish processes to review environmental risks, incidents, performance and complaints.
G16	Written procedures required by condition G15 must be: 1. implemented; and 2. reviewed at least every two years; and 3. provided to the administering authority upon request and within a timeframe specified by the administering authority.
Agency interest: Air	
Condition number	Condition
A1	Odours or airborne contaminants from the activity must not cause environmental nuisance at a sensitive place or commercial place .
Agency interest: Noise	
Condition number	Condition
N1	Noise generated by the activity must not cause environmental nuisance to any sensitive place or commercial place.
N2	When requested by the Administering Authority, noise monitoring must be undertaken to investigate any complaint of noise nuisance, and the results notified within 14 days to the administering authority. Monitoring must include: 1. LA 10, adj, 10 mins; and 2. LA 1, adj, 10 mins; and 3. the level and frequency of occurrence of impulsive or tonal noise; and 4. atmospheric conditions including wind speed and direction; and 5. effects due to extraneous factors such as traffic noise; and 6. location, date and time of recording.
N3	The method of measurement and reporting of noise levels must comply with the latest edition of the administering authority's Noise Measurement Manual.
Agency interest: Waste	
Condition number	Condition
W1	All waste generated by the activity must be lawfully reused or recycled, and/or lawfully removed to a facility that can lawfully accept the waste.
W2	Dewatering and/or storing of any sludge generated by the activity must be undertaken in an area which provides an impervious barrier to land and waters .

PART 2 – SEWAGE PUMPING STATIONS

With the exception of any variations, the conditions of approval for the environmentally relevant activity(ies) conducted at the locations as described below in Table 2 must be conducted in accordance with the standard conditions contained within the attached document(s) entitled:

- **Code of environmental compliance for certain aspects* of sewage treatment (ERA 63) – Version 1**

Table 2: Sites conducted in accordance with the standard conditions contained within the Code of environmental compliance for certain aspects* of sewage treatment – Version 1.

ERA	SITE NAME	ERA LOCATION	
		ADDRESS	LOT/PLAN
63-(2) Sewage treatment - pumping station (1)(b)	RIV 06 (R6 – Riverstone Rise Estate)	Tulipwood Circuit, RIVERSTONE RISE	Lot 7000 SP241218
	GL S11 (S11 – Oasis Estate)	Petrel Street, KIRKWOOD	Lot 307 SP247243
	TAN 10 (Tannum 10 – Tannum Blue Estate)	(End of) Dahl Road, TANNUM SANDS	Lot 1 SP257420
	AGN 11 (Agnes A – Jarvey Drive)	140 Jarvey Drive, AGNES WATER	Lot 1 SP263707
	CAL 01 (Calliope PS1)	Taragoola Road CALLIOPE	Opposite Lot 100 CP802831
	SOU 01 (ST01 - South Trees)	Unnamed Road (off Glen Eden Drive), GLEN EDEN	Lot 1 SP266129
	GL D02 (D02 – Alf O'Rourke Drive)	Alf O'Rourke Drive, CALLEMONDAH	Lot 211 SP174655
	AGN 04 (PS04 – AW04)	36 Atlantis Boulevard AGNES WATER	Adjacent to Lot 37 SP135449
	AGN 03 (PS03 – AW03)	(3 ~5) Agnes Street AGNES WATER	Lot 2 RP619742
	AGN 07 (PS07 – AW07)	Agnes Street and Jeffrey Court AGNES WATER	Adjacent to Lot 45 RP613382
	AGN 05 (PS05 – AW05)	(centre of the roundabout) Beach Houses Estate Road AGNES WATER	Lot 0 SP108910
	AGN 71 (PS71)	423 Captain Cook Drive SEVENTEEN SEVENTY	Lot 19 SP178795
	(BPS01)	Captain Cook Drive and Springs Road AGNES WATER	Lot 2 SP165863
	AGN 01 (PS01 – AW01)	(22 ~24) Jeffrey Court AGNES WATER	Adjacent to Lot 30 RP613382
	AGN 09 (PS09 – AW09)	The Promenade (Waterfront Estate) AGNES WATER	Adjacent to Lot 59 SP160788
63-(2) Sewage treatment - pumping station (1)(b)	AGN 02 (PS02 – AW02)	Corner of Thompson Street and Captain Cook Drive AGNES WATER	Adjacent to Lot 16 RP861421
	CUR L1	Unnamed road, CURTIS ISLAND (“1 st station from the boat ramp”)	Lot 5 SP181595
	CUR L2	Unnamed road, CURTIS ISLAND (“2 nd station from the boat ramp”)	Lot 4 SP235007

ERA	SITE NAME	ERA LOCATION	
		ADDRESS	LOT/PLAN
63-(2) Sewage treatment - pumping station (1)(b)	CUR L3	Unnamed road, CURTIS ISLAND ("3 rd station from the boat ramp")	Lot 4 SP235007
	GLA01 (A01 PS 40)	40 Lord Street, GLADSTONE CENTRAL (Corner Lord Street & Chapple Street)	Lot 216 CTN1164
	GLA02 (A02 PS 2)	2 Strokarcck Street, BARNEY POINT	Lot 1 RP614355
	GLA05 (A05 PS)	Agnes Street, SOUTH GLADSTONE	Lot 271 CTN1357
	GLA06 (A06 PS)	(End of) Cotton Street, BARNEY POINT	Adjacent to Lot 11 CP848669
	GLA10 A10 PS	Palm Drive, WEST GLADSTONE	Lot 280 CP897416
	BOY 01 (Boyne Island PS 1)	54 Wyndham Avenue, BOYNE ISLAND	Lot 1 RP612344
	BOY 03 (Boyne Island PS 3)	Malpas Street and Tarcoola Drive BOYNE ISLAND	Adjacent to Lot 1 RP801261
	BOY 04 (Boyne Island PS 4)	Malpas Street BOYNE ISLAND (between Jacaranda Dr & Handley Dr intersections)	Lot 1 SP150256
	BOY 05 (Boyne Island PS 5)	360 Handley Drive, BOYNE ISLAND	Lot 25 RP860085
	GLC01 (C01 PS)	Aerodrome Road, CLINTON (Opposite Anderson Road intersection)	Lot 1 RP615186
	GLC02 (C02 PS)	Aerodrome Road CLINTON	Lot 25 SP206873
	GL S01 (S01 PS)	5 Cemetery Road WEST GLADSTONE	Lot 1 SP293516
	GLS 02 (S02 PS)	24 Sandpaper Avenue NEW AUCKLAND	Lot 109 CTN1429
	GLT01 (T01 PS)	1 South Trees Drive SOUTH TREES	Lot 1 RP612067
	GLT02 (T02 PS)	Billabong Drive GLEN EDEN	Lot 2 RP614829
	TAN 03 (Tannum Sands PS 3)	Corner Langdon Street & Latrobe Street TANNUM SANDS	Lot 4 RP613188
	TAN 04 (Tannum Sands PS 4)	The Oaks Road TANNUM SANDS	Lot 52 CTN1818
	YAR 01 (YIA PS 1)	Hanson Road YARWUN	Lot 11 SP239343
	TAN 22 (PS22 Tannum Sands)	Unnamed road off Bosun Circuit TANNUM SANDS	Lot 9000 SP270250

SITE SPECIFIC CONDITIONS
PART 3 – ALDOGA SEWAGE TREATMENT PLANT

ERA	SITE NAME	ERA LOCATION	
		ADDRESS	LOT/PLAN
63-(1c) Sewage treatment >1500 to 4000EP	Aldoga STP	Mt Larcom Road, Aldoga	Lot 15 Plan SP157705

The environmentally relevant activity conducted at the location as described above must be conducted in accordance with the following site specific conditions of approval.

Agency interest: Water							
Condition number	Condition						
WT1-ALD	Monitoring must be undertaken and records kept of contaminant releases to waters from the discharge location for the parameters and not less frequently than specified in <i>Table 1 - Release Limits</i> . All determinations of the quality of contaminants released must be: 1. made in accordance with methods prescribed in the latest edition of the administering authority's <i>Water Quality Sampling Manual</i> ; and 2. carried out on samples that are representative of the discharge.						
WT2-ALD	Contaminants must only be released to the Aldoga Aluminium Smelter: 1. from the discharge location W1 - namely the release point for treated sewage effluent from the Aldoga STP to the Aldoga Aluminium Smelter at the boundary to the Aldoga Aluminium Smelter; and 2. in compliance with the release limits listed in <i>ALD - Table 1 - Release Limits</i> .						
	ALD - Table 1 - Release Limits						
	Monitoring Point	Quality Characteristics	Minimum	50 th %ile	80 th %ile	Maximum	Monitoring Frequency
	W1	5 day biochemical oxygen demand	-	5 mg/l	10 mg/l	-	Weekly
	W1	Suspended solids	-	5 mg/l	15 mg/l	-	Weekly
	W1	pH	6.5	-	-	8.5	Weekly
	W1	Dissolved oxygen	2 mg/l	-	-	-	Weekly
	W1	Ammonia nitrogen as nitrogen	-	1 mg/l	2 mg/l	-	Weekly
	W1	Total nitrogen as nitrogen	-	5 mg/l	10 mg/l	-	Weekly
	W1	Total phosphorus as phosphorus	-	1 mg/l	-	2 mg/l	Weekly
WT3-ALD	There must be no release of stormwater runoff that has been in contact with any contaminants at the site to any waters, roadside gutter or stormwater drain.						

WT4-ALD	All ponds used for the storage or treatment of contaminants, sewage or wastes at or on the authorised place must be constructed, installed and maintained: 1. so as to minimise the likelihood of any release of effluent through the bed or banks of the pond to any waters (including ground water); and 2. so that a freeboard of not less than 0.5 metres is maintained at all times, except in emergencies; and 3. so as to ensure the stability of the ponds' construction.
WT5-ALD	Suitable banks and/or diversion drains must be installed and maintained to exclude stormwater runoff from entering any ponds or other structures used for the storage or treatment of contaminants or wastes.
WT6-ALD	Effluent may be removed from the site and provided to a person with the written consent of that person .
WT7-ALD	Records of treated effluent removed from the site and supplied to a person must be made and include the following: 1. the person the effluent was supplied to; and 2. the <i>Escherichia coli</i> (E.coli) (MPN/100mL) concentration of the effluent supplied; and 3. the volume of effluent supplied; and 4. the date the effluent was supplied.
WT8-ALD	Immediately upon the request of the administering authority , you must cease providing effluent to a person .
Agency interest: Land	
Condition number	Condition
L1-ALD	Contaminants generated by the activity must only be released to the effluent disposal area.
L2-ALD	All organic material removed from vegetation growing in the effluent disposal area must be transported and disposed of in an area other than in the effluent disposal area.
L3-ALD	When soil in the effluent disposal area is saturated , effluent must not be released to land .
L4-ALD	Ponding of contaminants within the effluent disposal area must not occur.
L5-ALD	Contaminants must not run off to areas beyond the effluent disposal area
L6-ALD	Soil structure must not be degraded as a result of the activity .
L7-ALD	Soil sodicity and the build-up of nutrients and heavy metals in the soil and subsoil must be minimised.
L8-ALD	Notices must be prominently displayed on any effluent irrigation area warning the public that the area is irrigated with effluent and not to use or drink the effluent. These notices must be maintained in a visible and legible condition.
L9-ALD	The daily volume of contaminants released to land must be determined or estimated by an appropriate method, for example a flow meter, and records kept of such determinations and estimates.

PART 4 – YARWUN SEWAGE TREATMENT PLANT

ERA	SITE NAME	ERA LOCATION	
		ADDRESS	LOT/PLAN
63-(1c) Sewage treatment >1500 to 4000EP	Yarwun STP	87 Reid Road, Yarwun	Lot 139 Plan CTN2130

The environmentally relevant activity conducted at the location as described above must be conducted in accordance with the following site specific conditions of approval.

Agency interest: Water	
Condition number	Condition
WT1-YAR	All ponds used for the storage or treatment of contaminants, sewage or wastes at or on the authorised place must be constructed, installed and maintained: - so as to minimise the likelihood of any release of effluent through the bed or banks of the pond to any waters (including groundwater); - so that a freeboard of not less than 0.5 metres is maintained at all times, except in emergencies; and - so as to ensure the stability of the ponds' construction.
WT2-YAR	Suitable banks and/or diversion drains must be installed and maintained to exclude stormwater runoff from entering any ponds or other structures used for the storage or treatment of contaminants or wastes.
WT3-YAR	The environmental authority holder must: - Implement a groundwater management system for the authorised place that includes but is not limited to groundwater monitoring, analysis, assessment, remediation (if required) and reporting; and - Install a groundwater management system to ensure that groundwater resources adjacent to the authorised place are protected in accordance with the relevant ANZECC ecosystem protection standards.
WT4-YAR	The groundwater monitoring program required by condition WT3-YAR, must include at least the following: - be able to determine the impacts of the licensed activity on the groundwater quality in the underlying aquifer; and - include, but not be limited to, a sufficient number of bores (minimum of three) installed at locations and depths which yield representative groundwater samples from at least the upper-most aquifer so as to: - establish the quality of groundwater that has not been affected by seepage or drainage of contaminants to groundwater from the activity; and - detect any seepage of contaminants to groundwater from the licensed place; and - include monitoring of background groundwater quality, hydraulically up-gradient of any release of contaminants to groundwater; and - include monitoring of downstream groundwater quality, hydraulically down gradient of all storage ponds, sewage treatment plant and irrigation areas; and

5. consider the potential use of groundwater in the vicinity; and
6. monitoring is completed by an appropriately qualified person and as a minimum record on the quality characteristics as defined in YAR - Table 1 - Ground Water Monitoring Parameters. All monitoring is analysed by a NATA accredited laboratory, except for dissolved oxygen, pH and conductivity, which are to be taken in-situ by an appropriately qualified person.

YAR - Table 1 - Ground Water Monitoring Parameters

Quality Characteristic	Units	Trigger Values	Frequency
Dissolved Oxygen	mg/L	20% change from background groundwater quality until twelve (12) sets of background data are obtained. Once twelve (12) sets of background data are obtained an appropriately qualified person must then evaluate in accordance with the <i>Groundwater Quality Assessment Guideline 2017</i> to develop site-specific trigger levels.	i. monthly groundwater monitoring for the first twelve (12) months; and ii. quarterly for the next twelve (12) months; and iii. six monthly for the next two (2) years, if any trigger value is exceeded at any sampling event then back to quarterly for twelve (12) months,
Total Nitrogen	mg/L as Nitrogen		
Nitrate	mg/L as Nitrogen		
Ammonia	mg/L as Nitrogen		
Total Phosphorous	mg/l		
Chloride	mg/l		
Conductivity	µS/cm		
Sulphate	mg/L	No change from background	iv. annually after four (4) consecutive six (6) monthly samples that are less than trigger values. If trigger values are exceeded at any sampling event then back to quarterly for twelve (12) months
Boron	mg/L	No change from background	
pH	(pH units)	No change from background	
Enterococci (<i>E.coli</i> CFU/100ml)	Colony forming units/100ml	No change from background	
Total Metals: (Al, Fe, Mn, As, Cd, Cr, Co, Cu, Pb, Hg, Ni, Se, Ag, Sn, Zn)	mg/L or µg/L	No change from background	
Dissolved Metals: (Al, Fe, Mn, As, Cd, Cr, Co, Cu, Pb, Hg, Ni, Se, Ag, Sn, Zn)	mg/L or µg/L	No change from background	

WT5-YAR	If downstream contaminant concentrations in groundwater increase above the trigger values as defined in YAR - Table 1 - Ground Water Monitoring Parameters an appropriately qualified person must develop and implement a groundwater remediation program to include, but not be limited to: 1. minimisation of the offsite migration of impacted groundwater at such contaminant concentrations as would impair the beneficial uses of the groundwater; and 2. undertaking necessary measures and treatment to decrease contamination to a satisfactory state such as by improving treatment quality of the effluent or reducing the irrigation rate of the treated effluent.
WT6-YAR	The environmental authority holder must: 1. Prepare a report to summarise the assessment, analysis and interpretation of groundwater quality results from each monitoring event that complies with the <i>Groundwater Quality Assessment Guideline 2017</i>; and

	2. Prepare summary annual reporting concerning the location and extent of any contamination, and identification of sources of contamination, to groundwater including proposed actions in the event of detection of any release of contaminants not likely to be in accordance with the conditions of this approval.																																																								
WT7-YAR	As soon as possible, but no later than three (3) months after twelve (12) sets of background data are obtained as required by condition WT4 an appropriately qualified person must evaluate in accordance with the latest edition of the <i>Groundwater Quality Assessment Guideline 2017</i> to develop site-specific trigger levels that are provided to the department upon request.																																																								
Agency interest: Land																																																									
Condition number	Condition																																																								
L1-YAR	Contaminants generated by the activity must only be released to the effluent disposal area where the following requirements are complied with: - the release limits for each quality characteristic as specified in <i>YAR Table 2 – Contaminant limits for releases to land</i>; and - releases are monitored at all monitoring locations and at the minimum monitoring frequency for each quality characteristic specified in <i>YAR Table 2 – Contaminant limits for releases to land</i> and associated requirements; and - the associated requirements specified under <i>YAR Table 2 - Contaminant limits for releases to land</i> are complied with and records that demonstrate that compliance are made. YAR - Table 2 Contaminant limits for releases to land <table><tr><th>Quality Characteristics</th><th>Unit</th><th>Minimum</th><th>Average*</th><th>80th %ile</th><th>Maximum</th><th>Monitoring Frequency</th></tr><tr><td>pH</td><td>(pH units)</td><td>6.5</td><td>-</td><td>-</td><td>8.5</td><td>Weekly</td></tr><tr><td>Dissolved oxygen</td><td>mg/L</td><td>2 mg/l</td><td>-</td><td>-</td><td>-</td><td>Weekly</td></tr><tr><td>Ammonia nitrogen as nitrogen</td><td>mg/L</td><td>-</td><td>-</td><td>-</td><td>-</td><td>Weekly</td></tr><tr><td>Total Nitrogen (TN)</td><td>mg/L</td><td>-</td><td>30</td><td>-</td><td>50</td><td>Weekly</td></tr><tr><td>Total Phosphorus (TP)</td><td>mg/L</td><td>-</td><td>8</td><td>-</td><td>14</td><td>Weekly</td></tr><tr><td>Free residual chlorine</td><td>mg/L</td><td>-</td><td>-</td><td>-</td><td>0.7</td><td>Weekly</td></tr><tr><td>E.coli</td><td>MPN/100mL</td><td>-</td><td>-</td><td>1000 organisms per 100 mL</td><td>-</td><td>Weekly as based on a minimum of five samples collected at not less than half-hourly intervals</td></tr></table> Associated requirements - monitoring must be in accordance with the administering authority's <i>Water Quality Sampling Manual</i> and all monitoring devices must be effectively calibrated and maintained; and - sampling to be undertaken at the outlet of the wet weather storage system, except for <i>E.coli</i> which is to be monitored at the outlet of chlorination facilities.	Quality Characteristics	Unit	Minimum	Average*	80 th %ile	Maximum	Monitoring Frequency	pH	(pH units)	6.5	-	-	8.5	Weekly	Dissolved oxygen	mg/L	2 mg/l	-	-	-	Weekly	Ammonia nitrogen as nitrogen	mg/L	-	-	-	-	Weekly	Total Nitrogen (TN)	mg/L	-	30	-	50	Weekly	Total Phosphorus (TP)	mg/L	-	8	-	14	Weekly	Free residual chlorine	mg/L	-	-	-	0.7	Weekly	E.coli	MPN/100mL	-	-	1000 organisms per 100 mL	-	Weekly as based on a minimum of five samples collected at not less than half-hourly intervals
Quality Characteristics	Unit	Minimum	Average*	80 th %ile	Maximum	Monitoring Frequency																																																			
pH	(pH units)	6.5	-	-	8.5	Weekly																																																			
Dissolved oxygen	mg/L	2 mg/l	-	-	-	Weekly																																																			
Ammonia nitrogen as nitrogen	mg/L	-	-	-	-	Weekly																																																			
Total Nitrogen (TN)	mg/L	-	30	-	50	Weekly																																																			
Total Phosphorus (TP)	mg/L	-	8	-	14	Weekly																																																			
Free residual chlorine	mg/L	-	-	-	0.7	Weekly																																																			
E.coli	MPN/100mL	-	-	1000 organisms per 100 mL	-	Weekly as based on a minimum of five samples collected at not less than half-hourly intervals																																																			
L2-YAR	Releases to land authorised under condition L1-YAR must comply with the following: the effluent disposal areas as shown in <i>Appendix 2 - Yarwun STP Lot 139 Plan CTN2130</i>																																																								

	<i>Land Application Area 2</i> of this environmental authority, consisting of the areas labelled “existing irrigation area” and “new irrigation area”, must have a minimum surface area of 5 ha; and - Releases to land must only occur in the effluent disposal areas as shown in <i>Appendix 2 - Yarwun STP Lot 139 Plan CTN2130 Land Application Area 2</i> of this environmental authority, consisting of the areas labelled “existing irrigation area” and “new irrigation area”; and - a daily maximum irrigation application rate of 10mm is permitted to occur every day to half the irrigation area (2.5 ha); and - a maximum average* daily irrigation application rate of 6.7 mm is permitted to occur every day to half of the irrigation area (2.5 ha); and - irrigation must be delayed to the next scheduled day if more than 10 mm of rain falls within a 24 hour window as determined by an onsite electronic rain gauge. Irrigation must be ceased if this occurs during an irrigation event. * Average is based on a rolling 6-month average of weekly values.
L3-YAR	All organic material removed from vegetation growing in the effluent disposal area must be transported and disposed of in an area other than in the effluent disposal area.
L4-YAR	When soil in the effluent disposal area is saturated , effluent must not be released to land .
L5-YAR	Ponding of contaminants within the effluent disposal area must not occur.
L6-YAR	Contaminants must not run off to areas beyond the effluent disposal area.
L7-YAR	Soil structure must not be degraded as a result of the activity .
L8-YAR	Soil sodicity and the build-up of nutrients and heavy metals in the soil and subsoil must be minimised.
L9-YAR	The effluent disposal area must be maintained with predominantly kikuyu pasture in a viable state .
L10-YAR	Notices must be prominently displayed on any effluent irrigation area warning the public that the area is irrigated with effluent and not to use or drink the effluent. These notices must be maintained in a visible and legible condition.
L11-YAR	The total capacity of wet weather storage must be no less than 350,000L.
L12-YAR	Before applying to surrender this environmental authority, the site must be rehabilitated to achieve a safe, stable, non-polluting landform.
L13-YAR	Effluent may be removed from the site and provided to a person with the written consent of that person .
L14-YAR	Records of treated effluent removed from the site and supplied to a person must be made and include the following: - the person the effluent was supplied to; and - the <i>Escherichia coli</i> (E.coli) (MPN/100mL) concentration of the effluent supplied; and - the volume of effluent supplied; and - the date the effluent was supplied.
L15-YAR	Immediately upon the request of the administering authority , you must cease providing effluent to a person .

PART 5 – CALLIOPE SEWAGE TREATMENT PLANT

ERA	SITE NAME	ERA LOCATION	
		ADDRESS	LOT/PLAN
63-(1c) Sewage treatment >4000 to 10000EP	Calliope STP	42 Stowe Road, Calliope	Lot 1 Plan RP612345

The environmentally relevant activity conducted at the location as described above must be conducted in accordance with the following site specific conditions of approval.

Agency interest: Land																										
Condition number	Condition																									
L1-CAL	Contaminants generated by the activity must only be released to the Calliope Golf Course where the following requirements are complied with: - the release limits for each quality characteristic are complied with at the monitoring locations as specified in <i>CAL-Table 1 – Contaminant limits for releases to land</i>; and - releases are monitored at all monitoring locations and at the minimum monitoring frequency for each quality characteristic specified in <i>CAL-Table 1 – Contaminant limits for releases to land</i>; and - the associated requirements specified under <i>CAL-Table 1 - Contaminant limits for releases to land</i> are complied with and records that demonstrate that compliance are made. CAL - Table 1 - Contaminant limits for releases to land <table><tr><th>Monitoring Location</th><th>Quality Characteristics</th><th>Release Limits</th><th>Limit Type</th><th>Frequency</th></tr><tr><td rowspan="4">Chlorine contact tank</td><td>5 day Biochemical Oxygen Demand (mg/L)</td><td>20</td><td>80th percentile</td><td>Weekly</td></tr><tr><td>Suspended Solids (mg/L)</td><td>30</td><td>80th percentile</td><td>Weekly</td></tr><tr><td>pH (pH units)</td><td>6.5-8.0</td><td>range</td><td>Weekly</td></tr><tr><td>E.coli (MPN/100mL)</td><td>1000</td><td>80th percentile</td><td>Weekly</td></tr></table> Associated requirements - Monitoring must be in accordance with the administering authority’s Water Quality Sampling Manual and all monitoring devices must be effectively calibrated and maintained - Monitoring must be undertaken when effluent is being disposed, unless effluent disposal has ceased for longer than the relevant parameters specified minimum frequency				Monitoring Location	Quality Characteristics	Release Limits	Limit Type	Frequency	Chlorine contact tank	5 day Biochemical Oxygen Demand (mg/L)	20	80 th percentile	Weekly	Suspended Solids (mg/L)	30	80 th percentile	Weekly	pH (pH units)	6.5-8.0	range	Weekly	E.coli (MPN/100mL)	1000	80 th percentile	Weekly
Monitoring Location	Quality Characteristics	Release Limits	Limit Type	Frequency																						
Chlorine contact tank	5 day Biochemical Oxygen Demand (mg/L)	20	80 th percentile	Weekly																						
	Suspended Solids (mg/L)	30	80 th percentile	Weekly																						
	pH (pH units)	6.5-8.0	range	Weekly																						
	E.coli (MPN/100mL)	1000	80 th percentile	Weekly																						
L5-CAL	Effluent may be removed from the site and provided to a person with the written consent of that person .																									
L6-CAL	Records of treated effluent removed from the site and supplied to a person must be made and include the following: - the person the effluent was supplied to; and - the <i>Escherichia coli</i> (E.coli) (MPN/100mL) concentration of the effluent supplied; and - the volume of effluent supplied; and - the date the effluent was supplied.																									
L7-CAL	Immediately upon the request of the administering authority , you must cease providing effluent to a person .																									

PART 6 – BOYNE ISLAND SEWAGE TREATMENT PLANT

ERA	SITE NAME	ERA LOCATION	
		ADDRESS	LOT/PLAN
63-(1d) Sewage treatment >4000 to 10000EP	Boyne Island STP	Handley Drive, Boyne Island	Lot 25 Plan RP860085

The environmentally relevant activity conducted at the location as described above must be conducted in accordance with the following site specific conditions of approval.

Agency interest: Water						
Condition number	Condition					
WT1-BOY	Effluent shall not be released to waters except: 1. to Queensland Alumina Ltd's Red Mud dam at Boyne Island; or 2. through storage lagoon overflows where not more than 10% of effluent per annum is released in this manner.					
WT2-BOY	All determinations of the quality of contaminants released to waters must be made in accordance with methods prescribed in the administering authority's Water Quality Sampling Manual.					
Agency interest: Land						
Condition number	Condition					
L1-BOY	The only contaminants to be released to land are treated effluent in accordance with <i>BOY - Table 1 – Release Quality Characteristic Limits</i> and the associated requirements.					
	BOY - Table 1 - Release Quality Characteristic Limits					
	Quality Characteristics	Unit	Minimum	80 th ile	Maximum	Frequency
	pH	pH Units	6.5	-	8.0	Weekly
	BOD5	mg/L	-	20	-	Weekly
	Suspended Solids (mg/L)	mg/L	-	30	-	Weekly
	Faecal Coliforms	MPN/100mL	-	1000	-	Weekly
L2-BOY	The release must not have any properties nor contain any organism contaminants in concentrations which are capable of causing environmental harm.					
L3-BOY	Public Access to any contaminant release area must be denied during the release of contaminants to land and until the release area has dried.					
L4-BOY	The release of contaminants to land must not be carried out if soil moisture conditions are such that runoff or ponding is likely to occur.					
L5-BOY	Spray from any release of contaminants to land must not drift beyond the boundaries of the licensed place.					
L6-BOY	Appropriate measures must be undertaken to prevent erosion of the site when operational.					
L7-BOY	Treated effluent may be removed from the site and provided to a person with the written consent of that person .					

L8-BOY	Records of treated effluent removed from the site and supplied to a person must be made and include the following: 1. the person the effluent was supplied to; and 2. the <i>Escherichia coli</i> (E.coli) (MPN/100mL) concentration of the effluent supplied; and 3. the volume of effluent supplied; and 4. the date the effluent was supplied.
L9-BOY	Immediately upon the request of the administering authority, you must cease providing effluent to a person.

PART 7 – SOUTH TREES SEWAGE TREATMENT PLANT

ERA	SITE NAME	ERA LOCATION	
		ADDRESS	LOT/PLAN
63-(1d) Sewage treatment >4000 to 10000EP	South Trees STP	Wapentake Road, South Trees	Lot 1 Plan RP616302

The environmentally relevant activity conducted at the location as described above must be conducted in accordance with the following site specific conditions of approval.

Agency interest: General	
Condition Number	Condition
G1-ST	An annual monitoring report must be prepared by 30 November each year, for the preceding financial year, and be submitted to the administering authority when requested. This report must include but is not limited to: - Calculation of either: - mass loads of nitrogen and phosphorus, or - the total volume of treated water, released to waters from the sewage treatment plant over the previous 12 months; - A summary of the previous 12 months monitoring results obtained in accordance with any of the monitoring requirements of this approval including graphical representations showing relevant limits if this data is not already reported to the WaTERS database; - An evaluation/explanation of the data from any monitoring programs; - An outline of actions taken or proposed to minimise the environmental risk from any deficiency identified by the monitoring or recording programs; - Calculation of the volume of treated water recycled (used for purposes other than direct discharge at the approved discharge location(s)) during the previous 12 months; and - Calculations of the volume and frequency of wet weather storage overflows, where applicable.
Agency interest: Water	
Condition number	Condition
WT1-ST	Contaminants generated by the activity must only be released to the discharge location specified in <i>ST Table 1 – Contaminant limits for releases to surface water</i> where the following requirements are complied with: - the contaminants being released comply with the release limits for each quality characteristic specified in <i>ST Table 1 - Contaminant limits for releases to surface water</i> ; and - the contaminants being released are monitored at their minimum monitoring frequency for each quality characteristic specified in <i>ST Table 1 – Contaminant limits for releases to surface water</i>; and - the associated requirements below <i>ST Table 1 – Contaminant limits for releases to surface water</i> are complied with and records that demonstrate that compliance are made.

	ST - Table 1 - Contaminant limits for releases to surface waters <table><tr><th>Discharge Locations</th><th>Quality Characteristics</th><th>Unit</th><th>Minimum</th><th>80th %ile</th><th>Maximum</th><th>Monitoring Frequency</th></tr><tr><td rowspan="7">South Trees Inlet, via the outfall pipeline structure: AMTD5.3km</td><td>pH</td><td>(pH units)</td><td>6.5</td><td>-</td><td>8.5</td><td>Monthly</td></tr><tr><td>Dissolved Oxygen</td><td>mg/L</td><td>2</td><td>-</td><td>-</td><td>Monthly</td></tr><tr><td>Ammonia Nitrogen</td><td>mg/L</td><td>-</td><td>-</td><td>-</td><td>Monthly</td></tr><tr><td>Total Nitrogen (as N)</td><td>mg/L</td><td>-</td><td>-</td><td>-</td><td>Monthly</td></tr><tr><td>Total Phosphorus (as P)</td><td>mg/L</td><td>-</td><td>-</td><td>-</td><td>Monthly</td></tr><tr><td>Suspended solids</td><td>mg/L</td><td>-</td><td>30</td><td>-</td><td>Monthly</td></tr><tr><td>BOD5</td><td>mg/L</td><td>-</td><td>20</td><td>-</td><td>Monthly</td></tr></table> Associated requirements 1. Sampling to be undertaken at the flume prior to the decommissioned Chlorine Dosing Tank, described as monitoring point 'W1'. 2. Water samples must be representative of the general condition of the discharge	Discharge Locations	Quality Characteristics	Unit	Minimum	80 th %ile	Maximum	Monitoring Frequency	South Trees Inlet, via the outfall pipeline structure: AMTD5.3km	pH	(pH units)	6.5	-	8.5	Monthly	Dissolved Oxygen	mg/L	2	-	-	Monthly	Ammonia Nitrogen	mg/L	-	-	-	Monthly	Total Nitrogen (as N)	mg/L	-	-	-	Monthly	Total Phosphorus (as P)	mg/L	-	-	-	Monthly	Suspended solids	mg/L	-	30	-	Monthly	BOD5	mg/L	-	20	-	Monthly
Discharge Locations	Quality Characteristics	Unit	Minimum	80 th %ile	Maximum	Monitoring Frequency																																													
South Trees Inlet, via the outfall pipeline structure: AMTD5.3km	pH	(pH units)	6.5	-	8.5	Monthly																																													
	Dissolved Oxygen	mg/L	2	-	-	Monthly																																													
	Ammonia Nitrogen	mg/L	-	-	-	Monthly																																													
	Total Nitrogen (as N)	mg/L	-	-	-	Monthly																																													
	Total Phosphorus (as P)	mg/L	-	-	-	Monthly																																													
	Suspended solids	mg/L	-	30	-	Monthly																																													
	BOD5	mg/L	-	20	-	Monthly																																													
WT2-ST	The total quantity of contaminants released to waters via the discharge point listed in <i>ST - Table 2 - Total Quantity of Contaminants</i>, must not exceed the respective quantities stated in <i>ST - Table 2 - Total Quantity of Contaminants</i> on any dry weather day or on any one day. ST - Table 2 - Total Quantity of Contaminants <table><tr><th colspan="2">Maximum permitted quantity of release</th></tr><tr><th>Release Point</th><th>Maximum release on any dry weather day or on any one day</th></tr><tr><td>South Trees Inlet, via the outfall pipeline structure: AMTD5.3km</td><td>1,200kL/day</td></tr></table>	Maximum permitted quantity of release		Release Point	Maximum release on any dry weather day or on any one day	South Trees Inlet, via the outfall pipeline structure: AMTD5.3km	1,200kL/day																																												
Maximum permitted quantity of release																																																			
Release Point	Maximum release on any dry weather day or on any one day																																																		
South Trees Inlet, via the outfall pipeline structure: AMTD5.3km	1,200kL/day																																																		
WT3-ST	There must be no release of stormwater runoff that has been in contact with any contaminants at the licensed sites to any waters, roadside gutters or stormwater drain.																																																		
Agency interest: Land																																																			
Condition number	Condition																																																		
L1- ST	Treated sewage effluent may be removed from the site and provided to a person with the written consent of that person .																																																		
L2-ST	Records of treated effluent removed from the site and supplied to a person must be made and include the following: 1. the person the effluent was supplied to; and 2. the <i>Escherichia coli</i> (E.coli) (MPN/100mL) concentration of the effluent supplied; and 3. the volume of effluent supplied; 4. and the date the effluent was supplied.																																																		
L3-ST	Immediately upon the request of the administering authority , you must cease providing effluent to a person .																																																		

PART 8 – AGNES WATER SEWAGE TREATMENT PLANT

ERA	SITE NAME	ERA LOCATION		
		ADDRESS	LOT/PLAN	MAP
63-(1d) Sewage treatment >4000 to 10000EP	Agnes Water STP	Yabby Road via Streeter Drive, Agnes Water	Lot 20 Plan FD991 and Lot 21 Plan SP168519	Refer to Appendix 4 and 5

The environmentally relevant activity conducted at the location as described above must be conducted in accordance with the following site specific conditions of approval.

Agency interest: General	
Condition Number	Condition
G1-AW	The environmentally relevant activity (ERA) to which this part of the environmental authority relates must not be carried out in a manner which exceeds the following approved scale and intensity: 1. The maximum plant inflow over a 24 hour period, to be 900 kL; and 2. The maximum release of recycled water to land over any 24 hour period through the approved irrigation area, to be 900kL.
G2-AW	The sewage treatment works is to be operated consistently as an advanced wastewater treatment plant, with treatment quality achieving Class B standard, consistent with the specification provided in the National Recycling Water Guidelines.
G3-AW	An Irrigation Management Plan (IMP) must be prepared and implemented which details how the irrigation will be effectively and appropriately managed so as to ensure that the release of recycled water to land is carried out in a sustainable manner.
G4-AW	The irrigation of recycled water must only be released to the approved irrigation area in accordance with written management strategies that achieve the following environmental outcomes: 1. Efficient application of recycled water utilising best practice methods; and 2. Control of sodicity and salinity in the soil; and 3. Minimal degradation and an irrigable soil structure; and 4. Soil erosion is avoided; and 5. Control of the build-up of nutrients and heavy metals in the soil and sub-soil from recycled water and other sources; and 6. Prevention of adverse impacts on the groundwater resource; and 7. Prevention of the run-off of recycled water, for example by limitation of application rates and the use of structures such as dams; and 8. There is no surface ponding; and 9. Vegetation is maintained and not damaged through irrigation practices; and 10. The health and safety protection in relation to recycled water handling and irrigation is maximised.
G5-AW	A competent person in the field of soils monitoring must interpret results and provide expert advice on sustainable loadings and soil management. The advice will be based on the recycled water quality, soil types and vegetation being irrigated.
G6-AW	The holder of this environmental authority must: 1. Implement an annual quality assurance and control (QA/QC) system to validate water results tested by the holder of this environmental authority with a laboratory that has

	National Association Testing Authorities (NATA) certification (or an equivalent laboratory for such sampling and analysis as authorised by the administering authority); and 2. all analyses which are not able to be conducted by the holder of this environmental authority, including <i>E.coli</i>, must be carried out by a laboratory that has National Association of Testing Authorities (NATA) certification, or an equivalent certification, for such analyses.
G7-AW	When requested by the administering authority, cooperate with and participate in any community environmental liaison committee established in respect of either the site specifically, or the area where the site is located.
G8-AW	An annual monitoring report must be prepared by 30 November each year, for the preceding financial year, and be submitted to the administering authority when requested. This report must include but is not limited to: 1. Calculation of either: a. mass loads of nitrogen and phosphorus, or b. the total volume of treated water, released to waters from the sewage treatment plant over the previous 12 months; 2. A summary of the previous 12 months monitoring results obtained in accordance with any of the monitoring requirements of this approval including graphical representations showing relevant limits if this data is not already reported to the WaTERS database; 3. An evaluation/explanation of the data from any monitoring programs; 4. An outline of actions taken or proposed to minimise the environmental risk from any deficiency identified by the monitoring or recording programs; 5. Calculation of the volume of treated water recycled (used for purposes other than direct discharge at the approved discharge location(s)) during the previous 12 months; and 6. Calculations of the volume and frequency of wet weather storage overflows, where applicable.
G9-AW	All structures, tanks, dams and the like, used for the storage and/or treatment of sewage or recycled water at or on the approved place must be constructed, installed and maintained: 1. So as to prevent the release of sewage or recycled water through the structures, tanks, dams and the like, to the environment (including groundwater); 2. So that an operational freeboard of not less than 0.5m is maintained at all times; and 3. So as to ensure the stability of the structures, tanks and the like. For the purpose of this condition: a design storage allowance (DSA) equivalent of at least 0.8 metres of freeboard must be provided for at least two ponds in the pond system by 1 November of each year and the 0.8 metre DSA freeboard specified must be reinstated as soon as practicable after a rainfall event, for the subsequent November to May period.
Agency interest: Water	
Condition number	Condition
WT1-AW	Contaminants must not be directly or indirectly released to waters, including groundwater, or the bed or banks of any waters, except as specifically authorised under a condition of this approval.
WT2-AW	The daily volume and flow rate of sewage entering the sewage treatment works must be determined by an appropriate method with an accuracy of +/- 5%, for example through the use of a calibrated flow meter. Records must be kept of such determinations.
WT3-AW	There must be sufficient back up power available to operate the essential processes of the sewage treatment works, to prevent the discharge of untreated or poorly treated wastewater to the environment. This must include any instrumentation and alarms associated with the treatment works.

WT4-AW	Recycled water must not be used for any other purpose other than: 1. At the place to which this approval relates within this environmental authority, other than for irrigation in the approved irrigation areas consistent with the <i>National Guidelines for Recycled Water – Table 3.8</i>; or 2. Another use or to another person(s) as approved by the administering authority.																																																
WT5-AW	Contaminants in recycled water must not be released to the environment, including from the recycled water storage tank (post sewage treatment works), in excess of the quality characteristics specified in <i>AW - Table 1 - Release Limits</i>.																																																
WT6-AW	Monitoring of contaminants in recycled water from the sewage treatment works must be undertaken as specified in <i>AW - Table 1 - Release Limits</i> and its associated requirements, at the chlorine contact tank outlet prior to irrigation, with records kept for the quality characteristics and frequency of monitoring. AW - Table 1 - Release Limits <table><tr><th>Quality characteristics</th><th>Units</th><th>Minimum</th><th>Median¹</th><th>Maximum</th><th>Minimum monitoring frequency</th></tr><tr><td>pH</td><td>pH Unit</td><td>6.5</td><td>-</td><td>9.5</td><td>Monthly</td></tr><tr><td>Dissolved oxygen</td><td>mg/L</td><td>2</td><td>-</td><td>-</td><td>Monthly</td></tr><tr><td>Total Nitrogen</td><td>mg/L as Nitrogen</td><td>-</td><td>-</td><td>10</td><td>Monthly</td></tr><tr><td>Total Phosphorus</td><td>mg/L as Phosphorus</td><td>-</td><td>-</td><td>1</td><td>Monthly</td></tr><tr><td>Electrical conductivity</td><td>µS/cm</td><td>-</td><td>-</td><td>1600</td><td>Monthly</td></tr><tr><td>Residual Chlorine</td><td>mg/L</td><td>-</td><td>-</td><td>2</td><td>Monthly</td></tr><tr><td>E.coli</td><td>MPN/100ml</td><td>-</td><td>1000</td><td>-</td><td>Monthly</td></tr></table> Associated requirements 1. Sampling to be undertaken at the Chlorine contact tank outlet, described as monitoring location 'W1' 2. Median means the median of five consecutive samples taken at not less than ½ hourly intervals. 3. If monitoring results indicate an exceedance of a quality characteristic limit, then weekly monitoring of that quality characteristic is to be undertaken until conformance with its limit is achieved for 3 continuous months, after which monthly monitoring may resume.	Quality characteristics	Units	Minimum	Median ¹	Maximum	Minimum monitoring frequency	pH	pH Unit	6.5	-	9.5	Monthly	Dissolved oxygen	mg/L	2	-	-	Monthly	Total Nitrogen	mg/L as Nitrogen	-	-	10	Monthly	Total Phosphorus	mg/L as Phosphorus	-	-	1	Monthly	Electrical conductivity	µS/cm	-	-	1600	Monthly	Residual Chlorine	mg/L	-	-	2	Monthly	E.coli	MPN/100ml	-	1000	-	Monthly
Quality characteristics	Units	Minimum	Median ¹	Maximum	Minimum monitoring frequency																																												
pH	pH Unit	6.5	-	9.5	Monthly																																												
Dissolved oxygen	mg/L	2	-	-	Monthly																																												
Total Nitrogen	mg/L as Nitrogen	-	-	10	Monthly																																												
Total Phosphorus	mg/L as Phosphorus	-	-	1	Monthly																																												
Electrical conductivity	µS/cm	-	-	1600	Monthly																																												
Residual Chlorine	mg/L	-	-	2	Monthly																																												
E.coli	MPN/100ml	-	1000	-	Monthly																																												
WT7-AW	The environmental authority holder must: 1. Implement a groundwater management system for the authorised place that includes but is not limited to groundwater monitoring, analysis, assessment, remediation (if required) and reporting; and 2. Install a groundwater management system to ensure that groundwater resources adjacent to the authorised place are protected in accordance with the relevant ANZECC ecosystem protection standards.																																																
WT8-AW	The environmental authority holder must: 1. Install a groundwater monitoring system to detect potential contamination of groundwater resources within the boundaries of the authorised place; 2. Establish the groundwater monitoring system with a sufficient number of bores constructed at locations and depths to yield representative groundwater samples from at least the uppermost aquifer; 3. Establish and monitor: a. Background groundwater quality in hydraulically up-gradient (background bore(s)) that have not been affected by any potential leakage of contaminants to																																																

- groundwater from the ERA(s) or in the event that background bore(s) cannot be established then;
- b. Establish and monitor the quality of groundwater down-gradient of any potential leakage of contaminants from the authorised place and including at the down-gradient boundary of the authorised place;
4. Ensure that each groundwater monitoring bore is fitted with a locked cap at all times other than at the time of sampling;
 5. Measure and record standing groundwater levels in metres, accurate to 0.01 metre. The elevation of the reference point, relative to Australian Height Datum, for use in any groundwater level measurement must be determined to an accuracy of 0.01 metre;
 6. Measurement of groundwater levels must be undertaken prior to any disturbance by sampling, and must be reported as the depth in metres from the established reference point to the water surface within the bore;
 7. Ensure that locations referred to in this schedule for groundwater monitoring bores are recorded with reference to horizontal coordinates of such bores accurate to 1.0 metre; and
 8. Monitor and record groundwater quality to detect any contamination through analysis and interpretation of at least the water monitoring parameters specified in this *AW - Table 2 - Ground Water Monitoring Parameters*.

AW - Table 2 - Ground Water Monitoring Parameters

Quality Characteristic	Units	Trigger Values	Frequency
Dissolved Oxygen	mg/L	-	Quarterly for 12 months following the take effect date of this environmental authority; Six monthly for the next 2 years, if any trigger values is exceeded at any sampling event then back to quarterly for 12 months, Annually after four (4) consecutive six monthly samples that are less than trigger values. If trigger values are exceeded at any sampling event then back to quarterly for 12 months
Total Nitrogen	mg/L as Nitrogen	0.5	
Nitrate	mg/L as Nitrogen	2.4	
Ammonia	mg/L as Nitrogen	0.9	
Total Phosphorous	mg/l	0.1	
Conductivity	µS/cm	20% change from background	
Sulphate	mg/L	400	
Boron	mg/L	0.37	
pH		6.3 minimum	
Faecal Coliforms	Colony forming units/10 Oml	Detected	Quarterly for 12 months following the take effect date of this environmental authority; Six monthly for the next 2 years, if any trigger values is exceeded at any sampling event then back to quarterly for 12 months, Annually after four (4) consecutive six monthly samples that are less than trigger values. If trigger values are exceeded at any sampling event then back to quarterly for 12 months
Enterococcus organisms	Colony forming units/10 Oml	Detected	

	Total Metals: (Al, Fe, Mn, As, Cd, Cr, Co, Cu, Pb, Hg, Ni, Se, Ag, Sn, Zn)	mg/L or µg/L	Within ANZECC Guidelines	Quarterly for 12 months following the take effect date of this environmental authority; Six monthly for the next 2 years, if any trigger values is exceeded at any sampling event then back to quarterly for 12 months, Annually after four (4) consecutive six monthly samples that are less than trigger values. If trigger values are exceeded at any sampling event then back to quarterly for 12 months
	Dissolved Metals: (Al, Fe, Mn, As, Cd, Cr, Co, Cu, Pb, Hg, Ni, Se, Ag, Sn, Zn)	mg/L or µg/L	Within ANZECC Guidelines	
	Total and dissolved Al (pH>6.5)	µg/L	55	
	Total and dissolved Fe	µg/L	1900	
	Total and dissolved Mn	µg/L	1900	
	Total and dissolved As (V)	µg/L	13	
	Total and dissolved Cd	µg/L	0.2	
	Total and dissolved Cr (III)	µg/L	3.3	
	Total and dissolved Cr (VI)	µg/L	1.0	
	Total and dissolved Co	µg/L	1.4	
	Total and dissolved Cu	µg/L	1.3	
	Total and dissolved Pb	µg/L	3.4	
	Total and dissolved Hg	µg/L	0.4	
	Total and dissolved Ni	µg/L	11	
	Total and dissolved Se	µg/L	11	
	Total and dissolved Ag	µg/L	0.05	
	Total and dissolved Sn	µg/L	Detected	
	Total and dissolved Zn	µg/L	8.0	
WT9-AW	The environmental authority holder must: 1. Carry out groundwater contamination assessment including but not limited to the location, nature (confined or unconfined) and quality of each potentially contaminated aquifer, define groundwater contours, indicate direction of flow and assess the nature and extent of any environmental harm; 2. Assess temporal changes in groundwater parameters and key trends in these; and 3. Assess the potential and likelihood of any contaminated groundwater to be transported beyond the boundaries of the authorised place.			
WT10-AW	The environmental authority holder must: 1. Identify the extent of any groundwater contamination by assessing statistical differences in temporal groundwater quality data and comparison with published Australian standards relevant to the protection of the beneficial uses of the groundwater; 2. In the event of groundwater contamination being identified, develop and implement a groundwater remediation program to include, but not be limited to: a. Minimisation of the offsite migration of impacted groundwater at such contaminant concentrations as would impair the beneficial uses of the groundwater; b. Undertaking necessary measures and treatment to decrease contamination and minimise any aquifer transport of contaminated groundwater; and 3. Implementing procedures and practices during the life of the ERA(s) to manage and decrease the extent of any groundwater contamination to a satisfactory state.			

WT11-AW	The environmental authority holder must: 1. Prepare a report to summarise the assessment, analysis and interpretation of groundwater quality results from each monitoring event; and 2. Prepare summary annual reporting concerning the location and extent of any contamination, and identification of sources of contamination, to groundwater including proposed actions in the event of detection of any release of contaminants not likely to be in accordance with the conditions of this approval.
Agency interest: Land	
Condition number	Condition
L1-AW	Contaminants must not be released to land, except where otherwise stated in a condition of this environmental authority.
L2-AW	A soil survey and management report must be prepared. The survey and report must be completed every 12 months. The soil survey and management report must include: 1. Soil and sub-soil analysis, including assessment of the soils from at least 4 representative locations, including type, structure, pH, phosphorus adsorption capacity, nutrient status, salinity and sodicity, cation exchange capacity and sodium absorption ratio (SAR) of the irrigation release areas; 2. Determination of the quantity and quality of contaminants applied to the soils from the recycled water irrigation; 3. Periodic re-assessment including modelling of the water, nutrient and salt balances and irrigation rate and return period to ensure sustainable use of the irrigation area is being achieved; and 4. Reporting of monitoring results and an assessment of the impact of the releases on the irrigation areas.
L3-AW	When the quality of recycled water does not meet the specifications in <i>AW - Table 1 - Release Limits</i> , such recycled water must not be used for irrigation.
L4-AW	When recycled water has been produced that does not meet specifications in <i>AW - Table 1 - Release Limits</i> , the recycled water supplier and/or user must ensure that alternative methods of either storage or disposal are available to avoid contamination of already treated water.
L5-AW	Notwithstanding the quality characteristic limits, specified in <i>AW - Table 1 - Release Limits</i> , recycled water releases must not have any properties nor contain any organisms or other contaminants in concentrations that are capable of causing environmental harm.
L6-AW	Pipelines and fittings associated with the recycled water reticulation system must be clearly identified. Standard household water taps, hoses, cocks, and garden fittings must not be fitted to recycled water irrigation pipelines, and the irrigation system must not be connected to other service pipelines.
L7-AW	A minimum area of land of 48ha must be available and utilised for the irrigation of recycled water (approved irrigation area). The approved irrigation area must allow a separation distance of 30m from the property boundary and on-site buildings.
L8-AW	Irrigation conducted in the area identified must be via subsurface pipeline with above ground sprinklers for irrigation.
L9-AW	The irrigation system must be connected to an automated system which manages irrigation events and volume. This system must be capable of ensuring the recycled water is irrigated evenly across the irrigation area

L10-AW	A rainfall recognition system must be used to assist in the sustainable irrigation scheduling for land irrigated with recycled water.
L11-AW	Notices must be prominently displayed on areas undergoing irrigation, warning the public that the area is irrigated with recycled water and not to use or drink the recycled water. These notices must be maintained in a visible and legible condition.
L12-AW	The daily volume and flow rate of recycled water released to the irrigation area must be determined by an appropriate method with an accuracy of +/- 5%, for example through the use of a calibrated flow meter. Records must be kept of such determinations.
L13-AW	The environmental authority holder must maintain a minimum wet weather storage capacity of 24ML.
L14-AW	When conditions prevent the irrigation of recycled water to land (such as during or following rain events), the recycled water must be directed to a wet weather storage or alternative measures must be taken to store or lawfully dispose of the recycled water (such as transporting off site to another treatment plant). A record must be kept of any removal off site, including destination, transporter, dates and volumes.
L15-AW	The environmental authority holder must prepare and implement a REMP, taking into consideration the outcomes of a background environmental study, pertaining to the receiving waters. The REMP must include but not be limited to the following: 1. A description of potentially affected receiving waters including representative background water quality characteristics based on accurate and reliable monitoring data; 2. A description of applicable environmental values and water quality objectives for the relevant receiving environment; 3. A description of the potentially affected receiving environment including the wetlands, including diversity and abundance measures and plant health for the key vegetation communities; and 4. A proposed monitoring program to assess the effects of the recycled water release events (during dry and wet weather conditions) on the receiving environment including: a. Monitoring for any potential adverse environmental impacts caused by the release, particularly in regard to vegetation and ecosystem changes resulting from the changes to water quality and soil conditions; b. Monitoring of relevant water quality parameters (including ammonia nitrogen, oxidised forms of nitrogen (NO_x), organic nitrogen, total nitrogen, total phosphorous, filterable reactive phosphorous (FRP), pH, dissolved oxygen concentration and percent saturation, electrical conductivity, total suspended solids, temperature, chlorophyll-a and faecal coliforms (expressed as a median concentration based on a minimum of 5 samples); 5. Identification of adequate sampling and monitoring locations to quantify and qualify potential environmental impacts to the receiving environment; 6. A description of the sampling and monitoring point locations including GPS coordinates; 7. Details regarding proposed depths; and 8. Details regarding the frequency or scheduling of sampling and analysis.
L16-AW	In the event of a recycled water release to the environment, the operator must implement the REMP program as soon as practicable after the event to monitor the effects of the release of contaminants on the receiving environment.
L17-AW	The quality of recycled water given to another person for irrigation purposes must comply with the limits specified in AW - <i>Table 1 - Release Limits</i> for each quality characteristic.

L18-AW	If the holder of this Environmental Authority gives or transfers ownership of the recycled water to another person(s) the holder of this Environmental Authority must: 1. Prior to giving such recycled water or transferring ownership of such recycled water to that person(s), obtain from that person details of how that person intends to comply with the general environmental duty provided by in the <i>Environmental Protection Act 1994</i> in respect of the use and disposal of such reclaimed, particularly in relation to the environmental sustainability of any reclaimed water disposal, protection of public health and protection of environmental values of waters; and 2. Only give or transfer ownership of such recycled water in accordance with a written agreement between the holder of the holder of this environmental authority and that person(s); and 3. Upon becoming aware that the person is not or is not likely to comply with the general environmental duty provided by the Act, cease the giving and transferring ownership of such reclaimed water.
L19-AW	Treated sewage effluent may be removed from the site and provided to a person with the written consent of that person .
L20-AW	Records of treated effluent removed from the site and supplied to a person must be made and include the following: 1. the person the effluent was supplied to; and 2. the <i>Escherichia coli</i> (E.coli) (MPN/100mL) concentration of the effluent supplied; and 3. the volume of effluent supplied; and 4. the date the effluent was supplied.
L21-AW	Immediately upon the request of the administering authority , you must cease providing effluent to a person .
Agency interest: Waste	
Condition number	Condition
W1-AW	All waste generated by the activity must be lawfully reused or recycled, and/or lawfully removed to a facility that can lawfully accept the waste.
W2-AW	The environmental authority holder must: 1. Store all drums on a hardstand, within a bunded area and covered to prevent the ingress of stormwater; 2. Bund tank storages in accordance with relevant Australian Standards; 3. Construct bunding with materials which are impervious to the materials stored 4. Provide a collection sump in the floor of the bunding to facilitate the removal of liquids and grade the bund floor so that the fall is towards the collection sump; and 5. Direct any pipework from the bunded area over the bund wall and not through it.
W3-AW	All sludge's generated on site or biosolids accepted to be used for soil rehabilitation purposes must be stored in a manner such that there are no releases of contaminants to any stormwater drain and roadside gutter or waters including groundwater.
W4-AW	Storing stabilised sewage sludge must only be carried out on a hardstand pad: 1. Constructed of compacted clay or other low permeable material to minimise soil infiltration; 2. Graded to avoid rainwater ponding; 3. Bunded to contain the materials stored; and 4. Graded to facilitate collection of leachates and contaminated stormwater runoff in the leachate storage pond(s).

PART 9 – GLADSTONE SEWAGE TREATMENT PLANT

ERA	SITE NAME	ERA LOCATION	
		ADDRESS	LOT/PLAN
63-(1e) Sewage treatment >10000 to 50000EP	Gladstone STP	17 Albert Road, Gladstone	Lot 77 Plan CTN2052

The environmentally relevant activity conducted at the location as described above must be conducted in accordance with the following site specific conditions of approval.

Agency interest: General	
Condition Number	Condition
G1-GL	An annual monitoring report must be prepared by 30 November each year, for the preceding financial year, and be submitted to the administering authority when requested. This report must include but is not limited to: - Calculation of either: - mass loads of nitrogen and phosphorus, or - the total volume of treated water, released to waters from the sewage treatment plant over the previous 12 months; - A summary of the previous 12 months monitoring results obtained in accordance with any of the monitoring requirements of this approval including graphical representations showing relevant limits if this data is not already reported to the WaTERS database; - An evaluation/explanation of the data from any monitoring programs; - An outline of actions taken or proposed to minimise the environmental risk from any deficiency identified by the monitoring or recording programs; - Calculation of the volume of treated water recycled (used for purposes other than direct discharge at the approved discharge location(s)) during the previous 12 months; and - Calculations of the volume and frequency of wet weather storage overflows, where applicable.
Agency interest: Air	
Condition number	Condition
A2-GL	Emissions, including combustion gases, released from vents or stacks must achieve sufficient dispersion to prevent environmental harm and meet the air quality objectives prescribed in the most recent version of the <i>Environmental Protection (Air) Policy 2019</i> .
Agency interest: Water	
Condition number	Condition
WT1-GL	Contaminants must only be released to waters from the following discharge locations and in compliance with the release limits listed in <i>GL - Table 1 - Release Limits</i> Discharge Location: Calliope River at AMTD 2.5km, for release of treated sewage effluent with W1 being a monitoring point where representative samples of treated sewage effluent can be taken.
WT2-GL	Monitoring must be undertaken and records kept of contaminant releases to waters from the discharge location for the parameters and not less frequently than specified in <i>GL - Table 1 - Release Limits</i>. All determinations of the quality of contaminants released must be: made in accordance with methods prescribed in the latest edition of the administering

	authority's <i>Water Quality Sampling Manual</i>; and 2. carried out on samples that are representative of the discharge. GL - Table 1 – Release Limits <table><tr><th>Quality Characteristics</th><th>Unit</th><th>Minimum</th><th>80th %ile</th><th>Maximum</th><th>Monitoring Frequency</th></tr><tr><td>pH</td><td>pH units</td><td>6.5</td><td>-</td><td>8.5</td><td>Monthly</td></tr><tr><td>Dissolved Oxygen</td><td>mg/L</td><td>2</td><td>-</td><td>-</td><td>Monthly</td></tr><tr><td>Nitrogen as N (Nitrite + Nitrate)</td><td>mg/L</td><td>-</td><td>-</td><td>-</td><td>Monthly</td></tr><tr><td>Total Phosphorus (as P)</td><td>mg/L</td><td>-</td><td>-</td><td>-</td><td>Monthly</td></tr><tr><td>BOD5</td><td>mg/L</td><td>-</td><td>20</td><td>-</td><td>Monthly</td></tr><tr><td>Ammonia Nitrogen</td><td>mg/L</td><td>-</td><td>-</td><td>-</td><td>Monthly</td></tr><tr><td>Suspended Solids</td><td>mg/L</td><td>-</td><td>30</td><td>-</td><td>Monthly</td></tr></table> Associated requirements 1. Sampling to be undertaken at the outlet (overflow) of the effluent lagoon, described as monitoring point 'W1'. 2. Discharge location is to the Calliope River AMTD 2.5km via the Gladstone STP outfall structure.	Quality Characteristics	Unit	Minimum	80 th %ile	Maximum	Monitoring Frequency	pH	pH units	6.5	-	8.5	Monthly	Dissolved Oxygen	mg/L	2	-	-	Monthly	Nitrogen as N (Nitrite + Nitrate)	mg/L	-	-	-	Monthly	Total Phosphorus (as P)	mg/L	-	-	-	Monthly	BOD5	mg/L	-	20	-	Monthly	Ammonia Nitrogen	mg/L	-	-	-	Monthly	Suspended Solids	mg/L	-	30	-	Monthly
Quality Characteristics	Unit	Minimum	80 th %ile	Maximum	Monitoring Frequency																																												
pH	pH units	6.5	-	8.5	Monthly																																												
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Nitrogen as N (Nitrite + Nitrate)	mg/L	-	-	-	Monthly																																												
Total Phosphorus (as P)	mg/L	-	-	-	Monthly																																												
BOD5	mg/L	-	20	-	Monthly																																												
Ammonia Nitrogen	mg/L	-	-	-	Monthly																																												
Suspended Solids	mg/L	-	30	-	Monthly																																												
WT3-GL	The total quantity of contaminants released to waters via the release points listed in <i>GL - Table 2 - Quantity of Release</i>, must not exceed the respective quantities stated for each release point in <i>GL - Table 2 - Quantity of Release</i> on any dry weather day or on any one day. GL - Table 2 - Quantity of Release <table><tr><th colspan="2">Maximum Permitted Quantity of Release</th></tr><tr><th>Release Point</th><th>Maximum release on any dry weather day or on any one day</th></tr><tr><td>W1</td><td>10,000kL/day</td></tr></table>	Maximum Permitted Quantity of Release		Release Point	Maximum release on any dry weather day or on any one day	W1	10,000kL/day																																										
Maximum Permitted Quantity of Release																																																	
Release Point	Maximum release on any dry weather day or on any one day																																																
W1	10,000kL/day																																																
Agency interest: Land																																																	
Condition number	Condition																																																
L1-GL	The quality of reclaimed water released to land, or given to another person for irrigation purposes or other use, must comply, at the sampling point, W1, as specified in condition WT1-GL, with each of the release limits specified in <i>GL - Table 1 - Release Limits</i> for each quality characteristics, at a frequency specified in <i>GL - Table 1 - Release Limits</i> .																																																
L2-GL	Treated sewage effluent may be removed from the site and provided to a person with the written consent of that person .																																																
L3-GL	Records of treated effluent removed from the site and supplied to a person must be made and include the following: 1. the person the effluent was supplied to; and 2. the <i>Escherichia coli</i> (E.coli) (MPN/100mL) concentration of the effluent supplied; and 3. the volume of effluent supplied; and 4. the date the effluent was supplied.																																																
L4-GL	Immediately upon the request of the administering authority , you must cease providing effluent to a person .																																																
L5-GL	The contaminant release areas must not be used for grazing, recreational activities or as a traffic thoroughfare unless written approval is obtained from the administering authority .																																																

PART 10– TANNUM SANDS SEWAGE TREATMENT PLANT

ERA	SITE NAME	ERA LOCATION		
		ADDRESS	LOT/PLAN	MAP
63-(1d) Sewage treatment >10000 to 50000EP	Tannum Sands STP	360 Tannum Sands Road, Tannum Sands	Lot 1 Plan SP142970 & Lot 21 Plan SP252843 & Lot 35 Plan CTN1238	Refer to Appendix 6

The environmentally relevant activity conducted at the location as described above must be conducted in accordance with the following site specific conditions of approval.

Agency interest: General																													
Condition Number	Condition																												
G1-TS	An annual monitoring report must be prepared by 30 November each year, for the preceding financial year, and be submitted to the administering authority when requested. This report must include but is not limited to: - Calculation of either: - mass loads of nitrogen and phosphorus, or - the total volume of treated water, released to waters from the sewage treatment plant over the previous 12 months; - A summary of the previous 12 months monitoring results obtained in accordance with any of the monitoring requirements of this approval including graphical representations showing relevant limits if this data is not already reported to the WaTERS database; - An evaluation/explanation of the data from any monitoring programs; - An outline of actions taken or proposed to minimise the environmental risk from any deficiency identified by the monitoring or recording programs; - Calculation of the volume of treated water recycled (used for purposes other than direct discharge at the approved discharge location(s)) during the previous 12 months; and - Calculations of the volume and frequency of wet weather storage overflows, where applicable.																												
Agency interest: Water																													
Condition number	Condition																												
WT1-TS	Monitoring must be undertaken and records kept of contaminant releases to waters from the discharge location specified in condition WT2-TS for the quality characteristics and not less frequently than specified in <i>TS - Table 1 - Release Limits</i>. All determinations of the quality of contaminants released must be: - made in accordance with methods prescribed in the latest edition of the administering authority's Water Quality Sampling Manual; and - carried out on samples that are representative of the discharge. TS - Table 1 - Release Limits <table><tr><th>Discharge location</th><th>Quality characteristics</th><th>Min</th><th>50th percentile</th><th>Maximum</th><th>Monitoring Frequency</th></tr><tr><td>RP1</td><td>Suspended Solids</td><td>-</td><td>-</td><td>20 mg/l</td><td>Weekly</td></tr><tr><td>RP1</td><td>5-day Biological Oxygen Demand</td><td>-</td><td>-</td><td>20 mg/l</td><td>Weekly</td></tr><tr><td>RP1</td><td>pH</td><td>6.5</td><td>-</td><td>8.5</td><td>Weekly</td></tr></table>					Discharge location	Quality characteristics	Min	50th percentile	Maximum	Monitoring Frequency	RP1	Suspended Solids	-	-	20 mg/l	Weekly	RP1	5-day Biological Oxygen Demand	-	-	20 mg/l	Weekly	RP1	pH	6.5	-	8.5	Weekly
Discharge location	Quality characteristics	Min	50th percentile	Maximum	Monitoring Frequency																								
RP1	Suspended Solids	-	-	20 mg/l	Weekly																								
RP1	5-day Biological Oxygen Demand	-	-	20 mg/l	Weekly																								
RP1	pH	6.5	-	8.5	Weekly																								

	RP1	Total Phosphorus as P	-	1 mg/L	3 mg/l	Weekly
	RP1	Total Nitrogen as N	-	5mg/l	15 mg/l	Weekly
	RP1	Faecal coliforms	-	-	<10 MPN/100mL	Weekly
	RP2	Suspended Solids	-	-	20 mg/l	Upon release
	RP2	5-day Biological Oxygen Demand	-	-	20 mg/l	Upon release
	RP2	pH	6.5	-	8.5	Upon release
	RP2	Faecal coliforms	-	-	<10 MPN/100mL	Upon release
	RP2	Total Phosphorus as P	-	-	1627.5 kg/yr*	Upon release
	RP2	Total Nitrogen as N	-	-	542.5 kg/yr*	Upon release
*Annual mass load for nutrient allowed to be released to the Boyne River is over one calendar year. The calculation of the mass load must be performed at the time the release to the Boyne River commences and calculated until the release stops.						
WT2-TS	Discharge locations are identified as: 1. RP1 - release of treated sewage effluent from Tannum Sands sewage treatment plant storage lagoon to the Queensland Alumina Limited Residue Management Area (RMA), BITS Sports Clubs, BITS Golf Club and Dennis Park; and 2. RP2 - release of treated sewage effluent from the Tannum Sands sewage treatment plant to the Boyne River.					
WT3-TS	Treated effluent may only be released to the Boyne River at release point RP2 when the volume of stormwater exceeds the on-site storage capacity and must be in accordance with the release limits specified in condition WT1-TS: <i>TS - Table 1 - Release Limits</i> .					
WT4-TS	There must be no release of stormwater runoff that has been in contact with any contaminants at the site to any waters, roadside gutter or stormwater drain.					
WT5-TS	Suitable banks and/or diversion drains must be installed and maintained to exclude stormwater runoff that has come in contact with contaminants from entering any treated effluent ponds or other structures.					
WT6-TS	The Tannum Sands sewage treatment plant storage lagoon and emergency storage lagoon used for the storage or treatment of contaminants, sewage or wastes at or on the authorised place must be constructed, installed and maintained: 1. so as to minimise the likelihood of any release of effluent through the bed or banks of the pond to any waters (including ground water); and 2. so that a freeboard of not less than 0.5 metres is maintained at all times, except in emergencies, and 3. so as to ensure the stability of the ponds' construction.					
WT7-TS	The holder of this environmental authority must conduct a Groundwater Monitoring Program. The Groundwater Monitoring Program must include: 1. installation of groundwater bores within and bordering the irrigation and pond storage areas at the site; and 2. collecting baseline and operational data for the parameters listed in <i>TS - Table 2 - Groundwater monitoring quality characteristics</i> .					
TS - Table 2 - Groundwater monitoring quality characteristics						
Quality Characteristic			Monitoring Frequency			
pH			Quarterly			
Electrical Conductivity			Quarterly			
Sodium			Quarterly			
Faecal coliforms			Quarterly			
Calcium			Quarterly			
Magnesium			Quarterly			

	Chloride	Quarterly																																											
	Sulfate	Quarterly																																											
	Alkalinity	Quarterly																																											
	Nitrate Nitrogen	Quarterly																																											
	Nitrite Nitrogen	Quarterly																																											
	Organic Nitrogen	Quarterly																																											
	Total Phosphorus	Quarterly																																											
	Total Nitrogen	Quarterly																																											
WT8-TS	The holder of this environmental authority must produce a report where monitoring results indicate that an impact is occurring to groundwater quality or when requested by the administering authority.																																												
WT9-TS	The holder of this environmental authority must prepare an annual report of the results of the Groundwater Monitoring Program by July 01 each year, including an assessment of the impact of the discharge of effluent to land upon environmental values of groundwater. The report must include an interpretation of the results and conclusions by an expert in the field of groundwater monitoring as to whether there is any contamination and if so, the level of environmental harm caused as a result of such contamination. The report must be submitted to the administering authority when requested.																																												
WT10-TS	Contaminants must not be released to groundwater.																																												
WT11-TS	Each groundwater monitoring bore must be fitted with a locked cap at all times other than at the time of sampling.																																												
Agency interest: Land																																													
Condition number	Condition																																												
L1-TS	The only contaminants permitted to be released to land are Tannum Sands sewage treatment plant treated effluent. The Tannum Sands sewage treatment plant effluent may be used only when in compliance with the release limits specified in <i>TS - Table 3 - Water quality specifications for Class A to Class D recycled water</i> and the conditions of this approval and only for recycled water uses specified in <i>TS - Table 4 - Recycled Water uses and class</i>. TS - Table 3 - Water quality specifications for Class A to Class D recycled water <table><tr><th>Class</th><th><i>E.Coli</i> (median¹) cfu/100mL or MPN/100mL</th><th>BOD5 mg/L median¹</th><th>Turbidity NTU 95% ile (max.)</th><th>SS, mg/L median¹</th><th>TDS, mg/L or EC, µ/cm Median¹ TDS/EC</th><th>pH</th></tr><tr><td>A</td><td><10</td><td>20</td><td>2(5)</td><td>5</td><td>1000/1600</td><td>6-8.5</td></tr><tr><td>B</td><td><100</td><td>20</td><td>-</td><td>30</td><td>1000/1600</td><td>6-8.5</td></tr><tr><td>C</td><td><1000</td><td>20</td><td>-</td><td>30</td><td>1000/1600</td><td>6-8.5</td></tr><tr><td>D</td><td><10,000</td><td>-</td><td>-</td><td>-</td><td>1000/1600</td><td>6-8.5</td></tr></table> ¹ Median means the median of five consecutive samples taken at not less than ½ hourly intervals. TS - Table 4 - Recycled Water uses and class <table><tr><th>Class</th><th>Uses</th><th>Requirements</th></tr><tr><td rowspan="2">Class A</td><td>Municipal open space irrigation or golf course irrigation</td><td>1. Minimum on-site controls, and 2. Spray drift control.</td></tr><tr><td>Irrigation of highly-processed food crops and non-food crops</td><td>1. Minimum on-site controls. <i>If members of the public may be in the vicinity of the irrigation area:</i> 1. Spray drift control or drip irrigation.</td></tr></table>		Class	<i>E.Coli</i> (median ¹) cfu/100mL or MPN/100mL	BOD5 mg/L median ¹	Turbidity NTU 95% ile (max.)	SS, mg/L median ¹	TDS, mg/L or EC, µ/cm Median ¹ TDS/EC	pH	A	<10	20	2(5)	5	1000/1600	6-8.5	B	<100	20	-	30	1000/1600	6-8.5	C	<1000	20	-	30	1000/1600	6-8.5	D	<10,000	-	-	-	1000/1600	6-8.5	Class	Uses	Requirements	Class A	Municipal open space irrigation or golf course irrigation	1. Minimum on-site controls , and 2. Spray drift control .	Irrigation of highly-processed food crops and non-food crops	1. Minimum on-site controls . <i>If members of the public may be in the vicinity of the irrigation area:</i> 1. Spray drift control or drip irrigation.
Class	<i>E.Coli</i> (median ¹) cfu/100mL or MPN/100mL	BOD5 mg/L median ¹	Turbidity NTU 95% ile (max.)	SS, mg/L median ¹	TDS, mg/L or EC, µ/cm Median ¹ TDS/EC	pH																																							
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		Dust suppression	1. Minimum on-site controls , and 2. Low pressure dispersion of recycled water (e.g. gravity-fed 'dribble bar')
		Irrigation of pasture and fodder crops for beef and dairy cattle*	1. Minimum on-site controls , and 2. Exclude lactating dairy cattle during irrigation and until pasture is dry, and 3. Fodder must be allowed to dry before being supplied as feed. <i>If members of the public may be in the vicinity of the irrigation area:</i> 1. Spray drift control
		Industrial purposes	1. Minimum on-site controls , and 2. Open system permitted, potential for occasional human contact, but with safeguards to prevent contact in place.
	Class B	Municipal open space irrigation or golf course irrigation	1. Minimum on-site controls , and 2. Restricted access during irrigation and for four hours after use or until dry, and 3. Spray drift control or a buffer zone of at least 25 metres
		Irrigation of highly-processed food crops and non-food crops	1. Minimum on-site controls . <i>If members of the public may be in the vicinity of the irrigation area:</i> 1. Restricted access and one of the following: 2. A spray drift control , or 3. Drip irrigation, or 4. A buffer zone of at least 25 metres
		Dust suppression	1. Minimum on-site controls , and 2. Low pressure dispersion of recycled water (e.g. gravity-fed 'dribble bar'), and 3. Restricted access during dust suppression activities until dry.
		Irrigation of pasture and fodder crops for beef and dairy cattle*	1. Minimum on-site controls , and 2. Exclude lactating dairy cattle during irrigation and until pasture is dry, and 3. Fodder must be allowed to dry before being supplied as feed. <i>If members of the public may be in the vicinity of the irrigation area:</i> 1. Restricted access and 2. Spray drift control or a buffer zone of at least 25 metres
	Class C	Municipal open space irrigation	1. Minimum on-site controls , and 2. Restricted access during irrigation and for four hours after use or until dry, and 3. Spray drift control , and 4. A buffer zone of at least 25 metres
		Golf course irrigation	1. Minimum on-site controls , and 2. Restricted access during irrigation, and 3. Spray drift control , and 4. A buffer zone of at least 25 metres
		Irrigation of highly-processed food crops and non-food crops	1. Minimum on-site controls , and 2. Highly-processed food crops must be allowed to dry before harvesting. <i>If members of the public may be in the vicinity of the irrigation area:</i> 1. Restricted access and two of the following: a. Spray drift control , or b. Drip irrigation, or c. A buffer zone of at least 25 metres, Or 2. Restricted access and an extended buffer zone of at least 50 metres.
		Irrigation of pasture and fodder crops for beef and dairy cattle*	1. Minimum on-site controls , and 2. Exclude grazing animals from pasture during irrigation and for five days following irrigation, and 3. Fodder must be allowed to dry before being supplied as feed <i>If members of the public may be in the vicinity of the irrigation area:</i> 1. Restricted access , a spray drift control , and a buffer zone of at least 25 metres, or

			2. Restricted access and an extended buffer zone of at least 50 metres
		Industrial purposes	1. Minimum on-site controls , and 2. Use must be closed system (low human contact).
		Irrigation of "no public access" areas	1. Minimum on-site controls 2. No public access and drip irrigation, or restricted access , a spray drift control , and a buffer zone of at least 50 metres
		Class D Irrigation of non-food crops	1. Minimum on-site controls. <i>If members of the public may be in the vicinity of the irrigation area:</i> 1. No public access and drip irrigation, or 2. Restricted access , a spray drift control , and a buffer zone of at least 50 metres
L2-TS	The irrigation of effluent must be carried out in a manner such that: 1. vegetation is not damaged; 2. soil erosion and soil structure damage is avoided; 3. there is no surface ponding of effluent; 4. percolation of effluent beyond the plant root zone is minimised; 5. the capacity of the land to assimilate nitrogen, phosphorus, salts, organic matter as measured by oxygen demand and water is not exceeded; and 6. the quality of ground water is not adversely affected.		
L3-TS	Prior to, and bi-annually following irrigation to any one site for a consecutive year, an Irrigation Management Plan must be submitted to the administering authority. The Irrigation Management Plan must address the following: 1. efficiency of application; 2. control of sodicity in the soil; 3. minimisation of degradation of soil structure; 4. control of build ups of nutrients and heavy metals in the soil and subsoil from effluent and other sources; 5. preventing impacts to the groundwater resource through infiltration; 6. preventing the runoff of effluent from the site(s) by limitation of application rates and the use of structures such as tail water dams; 7. preventing subterranean flows of effluent to waters; 8. method of application; and 9. health and safety in relation to effluent handling and irrigation.		
L4-TS	The holder of this environmental authority must conduct and keep records of any contaminant releases to land from the Tannum Sands sewage treatment plant at the monitoring points, frequency, and for the parameters specified <i>TS - Table 3 - Water quality specifications for Class A to Class D recycled water.</i>		
L5-TS	Notices must be prominently displayed on areas undergoing effluent irrigation, warning the public that the area is irrigated with effluent and not to use or drink the effluent. These notices must be maintained in a visible and legible condition.		
L6-TS	Treated sewage effluent may be removed from the site and provided to a person with the written consent of that person .		
L7-TS	Records of treated effluent removed from the site and supplied to a person must be made		

	and include the following: 1. the person the effluent was supplied to; and 2. the <i>Escherichia coli</i> (E.coli) (MPN/100mL) concentration of the effluent supplied; and 3. the volume of effluent supplied; and 4. the date the effluent was supplied.
L8-TS	Immediately upon the request of the administering authority, you must cease providing effluent to a person .
L9-TS	Effluent must only be dispersed to places that have implemented an Irrigation Management Plan, which adequately addresses the following: 1. efficiency of application; 2. control of sodicity in the soil; 3. minimisation of degradation of soil structure; 4. control of build ups of nutrients and heavy metals in the soil and subsoil from effluent and other sources; 5. preventing impacts to the groundwater resource through infiltration; 6. preventing the runoff of effluent from the sites by limitation of application rates and the use of structures such as tail water dams; 7. preventing subterranean flows of effluent to waters; 8. method of application; and 9. health and safety in relation to effluent handing and irrigation.
L10-TS	Spillage of all chemicals and fuels must be contained within an on-site containment system and controlled in a manner that prevents environmental harm. <i>NOTE: All petroleum product storage s must be designed, constructed and maintained in accordance with AS 1940 - Storage and handling of Flammable and Combustible Liquids.</i>

PART 11 – AGNES WATER DESALINATION PLANT

ERA	SITE NAME	ERA LOCATION	
		ADDRESS	LOT/PLAN
64-(1a) Water treatment >0.5 but <5ML water day seawater	Agnes Water Desalination Plant	Springs Road, Agnes Water	Lot 6 Plan SP150900 Lot 40 Plan SP206868 Lot 52 Plan SP155903 Lot 41 Plan SP206868

The environmentally relevant activity conducted at the location as described above must be conducted in accordance with the following site specific conditions of approval.

Agency interest: Water																																																																																															
Condition number	Condition																																																																																														
WT1-AWDP	Contaminants must not be directly or indirectly released from the place to which this Environmental Authority relates to any waters or the bed and banks of any waters except desalination effluent in compliance with the corresponding release limits listed in AWDP - <i>Table 1 - Contaminant release water quality limits and release locations</i> and in accordance with the conditions of this Environmental Authority. AWDP - Table 1 – Contaminant release water quality limits and release locations <table> <tr> <th>Monitoring Point</th><th>Release Point Quality Characteristic</th><th>Units</th><th>Min</th><th>5%ile</th><th>95%ile</th><th>Max</th><th>Monitoring Frequency</th></tr> <tr> <td>P1¹</td><td>Turbidity</td><td>NTU</td><td>-</td><td>-</td><td>-</td><td>BG⁺ + 20⁶</td><td>Online Continuous⁵</td></tr> <tr> <td>P1¹</td><td>Dissolved Oxygen</td><td>mg/L</td><td>3.4</td><td>-</td><td>-</td><td>-</td><td>Online Continuous⁵</td></tr> <tr> <td>P1¹</td><td>Total Dissolved Solids</td><td>ppt</td><td>-</td><td>-</td><td>less than or equals 67 if BG⁺ less than 38 otherwise 67 x BG⁺/38</td><td>Less than or equals 75 if BG⁺ less than 38 otherwise 785 x BG⁺/38</td><td>Calculated continuously³</td></tr> <tr> <td>P1¹</td><td>Electrical Conductivity</td><td>µS/cm</td><td>-</td><td>-</td><td>TDS equivalent</td><td>TDS equivalent</td><td>Online Continuous⁵</td></tr> <tr> <td>P1¹</td><td>pH</td><td>-</td><td>5.5</td><td>6.5</td><td>8.5</td><td>9.5</td><td>Online Continuous⁵</td></tr> <tr> <td>P1¹</td><td>Total Chlorine</td><td>µg/L</td><td>-</td><td>-</td><td>120</td><td>700</td><td>Online Continuous⁵</td></tr> <tr> <td>P1¹</td><td>Temperature</td><td>°C</td><td>-</td><td>-</td><td>BG⁺ + 2</td><td>BG⁺ + 5</td><td>Online Continuous⁵</td></tr> <tr> <td>P1¹</td><td>Total Suspended Solids</td><td>mg/L</td><td>-</td><td>-</td><td>10 if BG⁺ less than 10 otherwise BG⁺+2</td><td>20 if BG⁺ less than 10 otherwise BG⁺+10</td><td>Weekly of composite sample⁴</td></tr> <tr> <td>P1¹</td><td>Total Nitrogen²</td><td>µg/L as Nitrogen</td><td>-</td><td>-</td><td>-</td><td>-</td><td>Weekly of composite sample⁴</td></tr> <tr> <td>P1¹</td><td>Total Phosphorus²</td><td>µg/L as Phosphorus</td><td>-</td><td>-</td><td>-</td><td>-</td><td>Weekly of composite sample⁴</td></tr> </table> * intake seawater at time of measurement.							Monitoring Point	Release Point Quality Characteristic	Units	Min	5%ile	95%ile	Max	Monitoring Frequency	P1 ¹	Turbidity	NTU	-	-	-	BG ⁺ + 20 ⁶	Online Continuous ⁵	P1 ¹	Dissolved Oxygen	mg/L	3.4	-	-	-	Online Continuous ⁵	P1 ¹	Total Dissolved Solids	ppt	-	-	less than or equals 67 if BG ⁺ less than 38 otherwise 67 x BG ⁺ /38	Less than or equals 75 if BG ⁺ less than 38 otherwise 785 x BG ⁺ /38	Calculated continuously ³	P1 ¹	Electrical Conductivity	µS/cm	-	-	TDS equivalent	TDS equivalent	Online Continuous ⁵	P1 ¹	pH	-	5.5	6.5	8.5	9.5	Online Continuous ⁵	P1 ¹	Total Chlorine	µg/L	-	-	120	700	Online Continuous ⁵	P1 ¹	Temperature	°C	-	-	BG ⁺ + 2	BG ⁺ + 5	Online Continuous ⁵	P1 ¹	Total Suspended Solids	mg/L	-	-	10 if BG ⁺ less than 10 otherwise BG ⁺ +2	20 if BG ⁺ less than 10 otherwise BG ⁺ +10	Weekly of composite sample ⁴	P1 ¹	Total Nitrogen ²	µg/L as Nitrogen	-	-	-	-	Weekly of composite sample ⁴	P1 ¹	Total Phosphorus ²	µg/L as Phosphorus	-	-	-	-	Weekly of composite sample ⁴
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	Associated Requirements 1. P1 - Monitoring Point located at the Backwash Tank outlet pipe. 2. Data for these parameters will be used as part of the REMP. 3. Indicates TDS to be calculated from conductivity measurements. The site specific conductivity to TDS ratio to be established and checked monthly. 4. A sample taken over a 24 hour period once per week. The sample to be made up of a composite of samples taken at least every 2 hours and being representative of the flow. 5. Indicates that any on-line continuous monitoring must have a minimum frequency of every 5 minutes and is calculated over the last 12 hours 6. Results for turbidity exceed the nominated criteria for a sustained period of more than 3 minutes.
WT2-AWDP	The release of contaminants from the premises must not: 1. Produce any slick, discoloration of ambient waters or visible evidence of oil or grease nor contain visible floating oil, grease, scum, litter or other offensive matter; nor 2. have any other properties nor contain any other contaminants in concentrations that may cause environmental harm beyond the edge of the mixing zone.
WT3-AWDP	Any spillage of wastes, contaminants or other materials must be cleaned up as quickly as practicable. Such spillages must not be cleaned up by hosing, sweeping or otherwise releasing such wastes contaminants or material to any waters.
WT4-AWDP	The environmental authority holder must undertake monitoring of contaminants released from the Agnes Water Desalination Plant at the monitoring point (P1), and must keep records, for the quality characteristics and the frequency specified in condition WT1-AWDP: <i>AWDP - Table 1 - Contaminant release water quality limits and release locations</i>. All determinations of the quality of contaminants in desalination effluent released must be made on samples that are representative of the discharge via flow-proportioned or time-based composite sample taken over 24 hours at intervals not greater than 2 hours.
WT5-AWDP	The environmental authority holder must ensure there is sufficient backup power available to operate monitoring equipment associated with the Agnes Water Desalination Plant at all times.
WT6-AWDP	Inspections of all diffusers and intake ports must be undertaken every six months.
WT7-AWDP	The daily volume and daily average flow rate of seawater influent treated must be determined or estimated by an appropriate method with an accuracy of +/- 5%, and records kept of such determinations.
WT8-AWDP	The daily volume and daily average flow rate in m ³ /s of desalination effluent and brine discharged to marine waters must be determined or estimated by an appropriate method with an accuracy of +/- 5%, and records kept of such determinations.
WT9-AWDP	Monitoring of seawater influent for pH, temperature, turbidity, and conductivity must involve instrumentation that is continuous, on-line, real-time and be able to be recorded and alarmed.
WT10-AWDP	Monitoring of desalination effluent for pH, chlorine, dissolved oxygen concentration and percent saturation, temperature, turbidity, and conductivity must involve instrumentation that is continuous, online, real-time and be able to be recorded and alarmed.
WT11-AWDP	A receiving environment monitoring program must be designed and implemented by appropriately qualified persons to monitor the effects of the activity on waters. The REMP must include but not be limited to the following: 1. description of potentially affected environment including key flora and fauna communities sediment and ambient water quality; and

	2. description of water quality objectives and biological objectives to be achieved; and 3. description of selected physicochemical (including pH, total nitrogen, total phosphorus, dissolved iron, TDS, dissolved oxygen concentration and percent saturation, water clarity analyses) and biological indicators (including chlorophyll 'a' and macro algal monitoring) and reasons for their inclusion; and 4. the details of and justification for the impact site, reference site, and in-situ monitoring station locations, including any monitoring transects away from the outfall (diffuser) of the approved release; and 5. the sampling depths for ambient water quality and vertical water profile sampling; and 6. the water quality characteristics of receiving waters to be determined; and 7. the frequency of water, sediment and biological sampling and analysis; and 8. a detailed, complete and comprehensive description of the administering authority approved sampling methods, techniques, equipment, maintenance protocols and quality assurance; strategies to be employed for all field-related monitoring and sampling activities; and 9. any historical data sets to be relied upon; and 10. description of the statistical basis on which conclusions are drawn.
WT12-AWDP	The REMP must also consider, but not be limited to, the following: 1. Water quality criteria specified in ANZECC 2000; 2. <i>Environmental Protection (Water and Wetland Biodiversity) Policy 2019</i> and any other Environmental Protection Policies enacted under Queensland's <i>Environmental Protection Act 1994</i> concerning the receiving environment; 3. relevant reports produced as a consequence of the administering authority's Monitoring Programs; 4. any other requirements arising due to the inclusion of the receiving environment, within which the REMP is proposed, as part of any Marine Park and/or Fish Habitat Areas, if applicable, if applicable; 5. relevant reports prepared by other governmental or professional research organisations that relate to the receiving environment within which the REMP is proposed; and 6. Spatial and temporal controls to exclude potential confounding factors.
WT13-AWDP	Contaminants other than those provided for by this approval must not be released from the site to surface waters or the bed or banks of any watercourse.
WT14-AWDP	All structures used for the storage or treatment of contaminants or wastes at or on the authorised place must be constructed, installed and maintained: 1. so as to minimise the likelihood of any release of contaminants or wastes through the bed or banks of the structure to any waters (including groundwater); and 2. so as to ensure the stability of the structures' construction.
WT15-AWDP	A person carrying out an activity to which this approval relates must not release stormwater run-off into waters, a roadside gutter or stormwater drain that results in a build-up of sediment in waters, a roadside gutter or stormwater drain.
WT16-AWDP	All water quality monitoring conducted in accordance with this environmental authority must comply with the following requirements: 1. All determinations of the quality of contaminants released to waters must be made in accordance with, but are not limited to, methods prescribed in the <i>Department of Environment and Resource Management - Queensland Water Quality Guidelines and Monitoring and Sampling Manual, September 2009</i>, or more recent editions or supplements to that document as such become available; and

	2. Carried out on samples that are representative of the discharge.																																		
WT17-AWDP	The environmental authority holder of an ERA to which this approval relates must maintain the on-going Groundwater Monitoring Program (GMP) approved by the administering authority. This GMP details the established groundwater monitoring network, and process to monitor the quality of groundwater potentially impacted by any direct or indirect release of contaminants associated with any ongoing operations and/or any ERAs and/or Notifiable Activities.																																		
WT18-AWDP	The groundwater monitoring network referred to in condition WT19- AWDP must: 1. be installed and maintained by a suitably qualified and experienced person; and 2. be constructed in accordance with the Agriculture and Resource Management Council of Australia and New Zealand manual titled <i>Minimum Construction Requirements for Water Bores in Australia, Edition 2, Revised September 2003</i>, or more recent editions or supplements to that document as such become available.																																		
Agency interest: Noise																																			
Condition number	Condition																																		
N2-AWDP	Noise from activities must not result in measured levels greater than those specified in <i>AWDP - Table 2 – Noise Limits: Nuisance Sensitive Place</i> . AWDP - Table 2 – Noise Limits: Nuisance Sensitive Place <table><tr><th rowspan="2">Noise level dB(A) measured as:</th><th colspan="3">Monday to Saturday</th><th colspan="3">Sundays and Public Holidays</th></tr><tr><th>7am to 6pm</th><th>6pm to 10pm</th><th>10pm to 7am</th><th>9am to 6pm</th><th>6pm to 10pm</th><th>10pm to 9am</th></tr><tr><td>L_{A90}, adj, 15 mins</td><td>Lesser of bg+3 or 48</td><td>Lesser of bg+0 or 40</td><td>Lesser of bg+0 or 40</td><td>Lesser of bg+0 or 40</td><td>Lesser of bg+0 or 40</td><td>Lesser of bg+0 or 40</td></tr><tr><td>L_{A10}, adj, 15 mins</td><td>Lesser of bg+5 or 50</td><td>Lesser of bg+5 or 45</td><td>Lesser of bg+0 or 40</td><td>Lesser of bg+5 or 45</td><td>Lesser of bg+5 or 40</td><td>Lesser of bg+0 or 35</td></tr><tr><td>L_{A1}, adj, 15 mins</td><td>Lesser of bg+10 or 55</td><td>Lesser of bg+10 or 50</td><td>Lesser of bg+5 or 45</td><td>Lesser of bg+10 or 50</td><td>Lesser of bg+10 or 45</td><td>Lesser of bg+5 or 40</td></tr></table> Associated Requirements 1. bg = background noise level, L_{A90}, 15 mins. 2. In the event that measured bg is less than 25 dB(A), then 25 dB(A) is to be used. 3. The noise levels specified are measured outdoors in the free field at a location at least 4 metres from the external façade of a building at the nuisance sensitive place. 4. Measured levels include background plus the activity	Noise level dB(A) measured as:	Monday to Saturday			Sundays and Public Holidays			7am to 6pm	6pm to 10pm	10pm to 7am	9am to 6pm	6pm to 10pm	10pm to 9am	L _{A90} , adj, 15 mins	Lesser of bg+3 or 48	Lesser of bg+0 or 40	Lesser of bg+0 or 40	Lesser of bg+0 or 40	Lesser of bg+0 or 40	Lesser of bg+0 or 40	L _{A10} , adj, 15 mins	Lesser of bg+5 or 50	Lesser of bg+5 or 45	Lesser of bg+0 or 40	Lesser of bg+5 or 45	Lesser of bg+5 or 40	Lesser of bg+0 or 35	L _{A1} , adj, 15 mins	Lesser of bg+10 or 55	Lesser of bg+10 or 50	Lesser of bg+5 or 45	Lesser of bg+10 or 50	Lesser of bg+10 or 45	Lesser of bg+5 or 40
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Agency interest: Land																																			
Condition number	Condition																																		
L1-AWDP	Activities on site must be conducted in a way that prevents any potential or actual release of contaminants to land.																																		
L2-AWDP	The storage and handling of all contaminants, wastes and other materials on site must be: 1. contained within on-site containment systems; and 2. controlled in a manner that prevents any release to the environment; and																																		

	3. any system or measures to contain contaminants on site must be constructed in accordance with relevant Australian Standard.
L3-AWDP	All liquid chemical and waste container storages must be bunded such that the capacity of the bund is sufficient to contain at least 120% of the largest container plus 25% of the second largest container.
L4-AWDP	All bunding must be constructed of material which are impervious to the materials stored and transferred therein and must be roofed unless stored in a purpose built enclosure.
L5-AWDP	A collection sump must be provided in the floor of the bunding to facilitate the removal of liquids. The bund floor must be graded so that the fall is towards the collection sump.
L6-AWDP	All empty drums/containers must be stored on a concrete hardstand with their closures in place.
L7-AWDP	Appropriate spill kit(s) and relevant operator instructions/emergency procedure guides for the management of wastes and chemicals associated with the ERA must be kept at the site.
L8-AWDP	All relevant personnel operating under this approval must be trained in the use of the spill kit(s) and operator instructions/emergency procedure guides.

PART 12 – ALF LARSON SEWAGE TREATMENT PLANT

ERA	SITE NAME	ERA LOCATION	
		ADDRESS	LOT/PLAN
63-(1a)(i) Sewage treatment >21 to 100EP	Alf Larson STP	Blomfield Street MIRIAM VALE	Opposite Lot 1 Plan SP170940 Opposite Lot 155 Plan RP911103

The environmentally relevant activity conducted at the location as described above must be conducted in accordance with the following site specific conditions of approval.

Agency interest: General	
Condition Number	Condition
G1-ALF	All analyses required under this environmental authority must be carried out by a laboratory that has National Association of Testing Authorities (NATA) certification, or an equivalent certification, for such analyses.
G2-ALF	An annual monitoring report must be prepared and submitted to the administering authority by 30 November each year, for the preceding financial year.
G3-ALF	Storage of chemicals and fuels in bulk or in containers of greater than 15 litres must be within a secondary containment system and releases controlled in a manner that prevents environmental harm.
Agency interest: Water	
Condition number	Condition
WT1-ALF	Stormwater contaminated by the activity must be managed to minimise or prevent any adverse effect on the environmental values of the receiving environment.
WT2-ALF	A groundwater monitoring program must be prepared and implemented. The monitoring must include at least the following: - be able to determine the impacts of the licensed activity on the groundwater quality in the underlying aquifer; and - include, but not be limited to, a sufficient number of bores (minimum of three) installed at locations and depths which yield representative groundwater samples from at least the uppermost aquifer so as to: - establish the quality of groundwater that has not been affected by seepage or drainage of contaminants to groundwater from the activity; and - detect any seepage of contaminants to groundwater from the licensed place; and - include monitoring of background groundwater quality, hydraulically up-gradient of any release of contaminants to groundwater; and - include monitoring of upstream groundwater quality, hydraulically down gradient of all storage ponds, sewage treatment plant and irrigation areas; - include, but not limited to, annual monitoring of the quality of groundwater to detect any possible release(s) of contaminants; and - consider the potential use of groundwater in the vicinity.
Agency interest: Land	
Condition number	Condition

L1-ALF	A soil survey and management report must be prepared and completed every 12 months. The soil survey and management report must include: 1. soil and sub-soil analysis, including assessment of the soils from representative locations, including type, structure, pH, phosphorus adsorption level and capacity, nutrient status, salinity and sodicity, and cation exchange capacity of the treated effluent release areas; and 2. determination of the quantity and quality of contaminants applied to the soils from the treated effluent releases; and 3. periodic re-assessment including modelling of the water, nutrient and salt balances and irrigation rate and return period to ensure sustainable use of the release areas; and 4. reporting of monitoring results and an assessment of the impact of the releases on the release areas.																																
L2-ALF	Contaminants generated by the activity must only be released to the effluent disposal area where the following requirements are complied with: 1. the release limits for each quality characteristic are complied with at the monitoring locations as specified in <i>ALF Table – Table 1 – Contaminant limits for releases to land</i>; and 2. releases are monitored at all monitoring locations and at the minimum monitoring frequency for each quality characteristic specified in <i>ALF Table 1 – Contaminant limits for releases to land</i>; and 3. the associated requirements specified under <i>ALF Table 1 - Contaminant limits for releases to land</i> are complied with and records that demonstrate that compliance are made. ALF – Table 1 – Contaminant release limits to land <table><tr><th>Monitoring Location</th><th>Quality Characteristics</th><th>Unit</th><th>Release limit</th><th>Limit type</th><th>Frequency</th></tr><tr><td rowspan="6">Final effluent storage tank</td><td>Total Nitrogen (TN)</td><td>mg/L</td><td>30</td><td>maximum</td><td rowspan="6">Quarterly</td></tr><tr><td>Total phosphorus (TP)</td><td>mg/L</td><td>7</td><td>maximum</td></tr><tr><td>Electrical conductivity</td><td>µS/cm</td><td>2500</td><td>maximum</td></tr><tr><td>pH</td><td>pH unit</td><td>6.5-8.0</td><td>range</td></tr><tr><td>Total residual chlorine (if used for disinfection)</td><td>mg/L</td><td>3</td><td>maximum</td></tr><tr><td>E. coli</td><td>cfu/100ml</td><td>10</td><td>maximum</td></tr></table> Associated requirements 1. Monitoring must be undertaken when treated sewage effluent is being irrigated, unless irrigation has ceased for longer than the relevant parameters specified minimum frequency (e.g. if TSS was only required to be monitored once a week, then a TSS sample would not be required after the first week following cessation of the release); and 2. Monitoring must be undertaken in accordance with the administering authority's latest edition of the Monitoring and Sampling Manual. Indicators for TN and TP are recommended to be done as grab samples.	Monitoring Location	Quality Characteristics	Unit	Release limit	Limit type	Frequency	Final effluent storage tank	Total Nitrogen (TN)	mg/L	30	maximum	Quarterly	Total phosphorus (TP)	mg/L	7	maximum	Electrical conductivity	µS/cm	2500	maximum	pH	pH unit	6.5-8.0	range	Total residual chlorine (if used for disinfection)	mg/L	3	maximum	E. coli	cfu/100ml	10	maximum
Monitoring Location	Quality Characteristics	Unit	Release limit	Limit type	Frequency																												
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	Electrical conductivity	µS/cm	2500	maximum																													
	pH	pH unit	6.5-8.0	range																													
	Total residual chlorine (if used for disinfection)	mg/L	3	maximum																													
	E. coli	cfu/100ml	10	maximum																													
L3-ALF	Releases to land authorised under condition L2-ALF must comply with the following: 1. the effluent disposal area must have a minimum surface area of 1500 m²; and 2. releases to land must only occur in the effluent disposal area. 3. a maximum irrigation rate of 1.5mm/day applies.																																
L4-ALF	All organic material removed from vegetation growing in the effluent disposal area must be transported and disposed of in an area other than in the effluent disposal area.																																
L5-ALF	When soil in the effluent disposal area is saturated, effluent must not be released to land.																																
L6-ALF	Ponding of contaminants within the effluent disposal area must not occur.																																
L7-ALF	Contaminants must not run off to areas beyond the effluent disposal area.																																

L8-ALF	Soil structure must not be degraded as a result of the activity .
L9-ALF	Soil sodicity and the build-up of nutrients and heavy metals in the soil and subsoil must be minimised
L10-ALF	The effluent disposal area must be maintained with an appropriate crop in a viable state .
L11-ALF	Effluent may be removed from the site and provided to a person with the written consent of that person .
L12-ALF	Records of treated effluent removed from the site and supplied to a person must be made and include the following: 1. the person the effluent was supplied to; and 2. the <i>Escherichia coli</i> (E.coli) (MPN/100mL) concentration of the effluent supplied; and 3. the volume of effluent supplied; and 4. the date the effluent was supplied.
L13-ALF	Immediately upon the request of the administering authority , you must cease providing effluent to a person .

Definitions

Key terms and/or phrases used in this document are defined in this section. Where a term is not defined, the definition in the *Environmental Protection Act 1994*, its regulations or environmental protection policies must be used. If a word remains undefined it has its ordinary meaning.

Activity means the environmentally relevant activities, whether resource activities or prescribed activities, to which the environmental authority relates.
Administering authority means the Department of Environment and Science or its successor or predecessors.
Appropriately qualified person(s) means a person or persons who has professional qualifications, training, skills or experience relevant to the nominated subject matter and can give authoritative assessment, advice and analysis to performance relative to the subject matter using the relevant protocols, standards, methods or literature.
Approval means an environmental authority under the <i>Environmental Protection Act 1994</i> .
Authorised person means a person authorised under the <i>Environmental Protection Act 1994</i> .
Authorised place means the place authorised under this environmental authority for the carrying out of the specified environmentally relevant activities.
Average daily irrigation application rate means the yearly sum of daily irrigation rates in millimeters (on a rolling basis for limit calculations)/ the number of days irrigation occurred at the site over the previous 365 days. <i>e.g. if the total irrigation rate application during the previous 365 days equalled 1400 mm and irrigation occurred on 280 days, the average daily irrigation application rate for the previous year would equal 1400 mm / 280 days = 5 mm</i>
Average daily irrigation volume means the yearly sum of daily irrigation volumes in Megalitres (on a rolling basis for limit calculations)/ the number of days irrigation occurred at the site over the previous 365 days. <i>e.g. if the total irrigation volume during the previous 365 days equalled 52 ML and irrigation occurred on 280 days, the average daily irrigation volume for the previous year would equal 52 ML / 280 days = 0.186 ML</i>
Brine means the hypersaline by-product of seawater desalination.

Bund means - a) an earth mound or similar structure (e.g. a concrete block wall), whether impervious or not constructed to contain spilled material (e.g., petrol, diesel, oil etc.); or b) a structure to prevent or reduce soil erosion.
Bypass means when the standard treatment processes of the plant do not occur as a result of wet weather and inflows that are in excess of the peak design capacity for inflow resulting in the release of untreated or partially treated effluent from the sewage treatment plant to the environment.
BOD5 means the 5 day biochemical oxygen demand determined using standard tests (e.g. those used by NATA laboratories). This test is not inhibited for nitrification, otherwise would be referred to as "carbonaceous" BOD.
Canal means an artificial waterway surrendered to the State. A canal is an artificial waterway connected, or intended to be connected, to tidal water; and from which boating access to the tidal water is not hindered by a lock, weir or similar structure.
COD means chemical oxygen demand determined using standard tests (e.g. those used by NATA laboratories).
Commercial place means a place used as a workplace, an office or for business or commercial purposes and includes a place within the curtilage of such a place reasonably used by persons at that place.
Competent Person means a person possessing demonstrated qualifications (gained from an accredited provider) and experience (at least 5 years in the relevant field) to perform a task(s) in the relevant field.
Contaminant means - (Section 11 of the EP Act) • a gas, liquid or solid; or • an odour; or • an organism (whether alive or dead), including a virus; or • energy, including noise, heat, radioactivity and electromagnetic radiation; or • a combination of contaminants.
Day means any 24 hour period.
Design Average Dry Weather Flow (DADWF) means the average dry weather flow of the treatment plant at the design horizon.
Diffuser means - For the specific purpose of this development approval means a 2 ported (nozzle) structure located approximately 600m offshore designed to facilitate uniform mixing of the desalination seawater concentrate in seawater.
DO means - Dissolved Oxygen in water or effluent, calculated either as percent (mg/L) at ambient temperature and salinity conditions.
Dry weather day means a day which less than 1 mm of rainfall is recorded at any rainfall measuring station recognised by the Commonwealth Bureau of Meteorology within the sewered area connected to the sewage treatment plant, or if no such measuring station exists, at the nearest such station to the sewage treatment plant. The term also excludes days during which recorded rainfall over the 4 preceding days exceeds a cumulative rainfall of 35 mm.
Dwelling means any of the following structures or vehicles that is principally used as a residence - • a house, unit, motel, nursing home or other building or part of a building; • a caravan, mobile home or other vehicle or structure on land;

a water craft in a marina.
Effluent means the liquid fraction of treated sewage.
Environmental complaints means an expression of dissatisfaction, concern or report, whether written or verbal, about the activity and/or its impact on the environment/
Environmental harm (as defined in Section 14 of the <i>Environmental Protection Act 1994</i>) means - is any adverse effect, or potential adverse effect (whether temporary or permanent and of whatever magnitude, duration or frequency) on an environmental value, and includes environmental nuisance. Environmental harm may be caused by an activity: - whether the harm is a direct or indirect result of the activity - whether the harm results from the activity alone or from the combined effects of the activity and other activities or factors.
Environmental nuisance as defined under Chapter 1 of the <i>Environmental Protection Act 1994</i> .
Environmental value as defined under Chapter 1 of the <i>Environmental Protection Act 1994</i> .
EP means equivalent person. $EP = V/200$, where V is the volume, in litres, of the average dry weather flow of sewage that can be treated at the works in a day.
Exfiltration means the loss of sewage to groundwater and/or surface waters and/or land from the sewerage reticulation system.
Field capacity means the amount of water retained in soil when the soil has been allowed to drain for 24hrs under normal gravity conditions.
Infrastructure includes roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, pipelines, powerlines, airstrips, helipads etc., which are constructed or installed specifically for the project.
Intrusive noise means noise that, because of its frequency, duration, level, tonal characteristics, impulsiveness or vibration – - is clearly audible to, or can be felt by, an individual; and - annoys the individual. In determining whether a noise annoys an individual and is unreasonably intrusive, regard must be given to Australian Standard 1055.2 - 1997 Acoustics - Description and Measurement of Environmental Noise Part 2 - Application to Specific Situations.
Irrigation means the watering of crops, pasture, golf courses, parks, gardens and open spaces, which may involve using different applications (e.g. drip, trickle, spray and flood)
L_A 10, adj, 10 mins means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 10% of any 10 minute measurement period, using Fast response
L_A 1, adj, 10 mins means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 1% of any 10 minute measurement period, using Fast response.
L_A, max adj, T means the average maximum A-weighted sound pressure level, adjusted for noise character and measured over any 10 minute period, using Fast response.
L_A1, adj, 15mins means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of sound) exceeded for 1 percent of any 15 minute measuring period, using " <i>Fast Response</i> ".
L_A10, adj, 15 mins means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of sound) exceeded for 10 percent of any 15 minute measuring period, using " <i>Fast Response</i> ".
L_A90, adj, 15 mins means the A-weighted sound pressure level, exceeded for 90 percent of any 15 minute measuring period, using " <i>Fast • Response</i> ", in the absence of noise from the activities.

LA_{eq, adj, 15 mins} means a A-weighted sound pressure level of a continuous steady sound, adjusted for tonal character, that within a measuring period of 15 minutes has the same mean square sound pressure as a sound level that varies with time.
LA_{eq} means the equivalent of continuous A-weighted sound pressure level of the residual noise determines over a specified time interval.
Land in the "land schedule" of this document means land excluding waters and the atmosphere.
Licensed place means the place to which this environmental authority relates.
Long term period means a limit applied to consecutive samples taken over a year on a rolling basis for limit calculations where consecutive samples are taken at the frequency as prescribed in the relevant condition and on basis of approximately equal periods.
Maximum means that the measured value of the quality characteristic or contaminant must not be greater than the release limit stated.
Measures has the broadest interpretation and includes plant, equipment, physical objects, bunding, containment systems, monitoring, procedures, actions, directions and competency.
Median means the middle value, where half the data are smaller and half the data are larger. If the number of samples is even, the median is the arithmetic average of the two middle values.
Minimum means that the measured value not be less than the release limit stated.
Minimum on site controls means compliance with all applicable plumbing requirements, prominent warning signs are displayed at public access points where recycled water is used, precautions are taken to ensure the recycled water does not contaminate any source of water used as a supply of drinking water, and measures are taken to ensure no runoff or ponding of recycled or overspray occurs.
MPN means "most probable number" and is a unit of measurement with a corresponding testing method that uses dilution cultures and a probability calculation to determine the approximate number of viable cells in a given volume of sample.
NATA means National Association of Testing Authorities.
Noxious means harmful or injurious to health or physical well-being.
NTU means nephelometric turbidity units.
Offensive means causing offence or displeasure; is unreasonably disagreeable to the sense; disgusting, nauseous or repulsive.
One in 100 year flood level means the level reached by a flood event with an annual recurrence interval of one in 100 years.
Operation means the development approved under this approval
Operator means any of the following: a) a person having the benefit of this approval b) the holder of a registration certificate for this approval c) anyone undertaking the activity to which this approval relates Note: it is an offence to carry out work under an approval without a relevant registration certificate.
Peak design capacity means means the volume of sewage, in litres, that the sewage treatment plant is designed to treat at the works in a day.
Person means as per Part 8 of the <i>Acts Interpretation Act 1954</i>
Ponded pasture means a permanent or periodic pondage of water in which the dominant plant species are

pasture species used for grazing or harvesting.
Prescribed contaminants means contaminants listed within Schedule 10 of the Environmental Protection Regulation 2019.
Protected area means – • a protected area under the <i>Nature Conservation Act 1992</i>; or • a marine park under the <i>Marine Parks Act 2004</i>; or • a World Heritage Area.
Range means that the measured value of the quality characteristic or contaminant must not be greater than the higher release limit stated nor lower than the lower release limit stated.
Raw data means primary data collected from a source that has not been processed and includes monitoring sheets, monitoring device readings, laboratory analysis results and certificate of analysis.
Recycled water means appropriately treated effluent and urban stormwater suitable for further use.
Regulated waste means non-domestic waste mentioned in Schedule 9 of the <i>Environmental Protection Regulation 2019</i> (whether or not it has been treated or immobilised), and includes - • for an element - any chemical compound containing the element; and • anything that has contained the waste.
Release of a contaminant into the environment means to: • deposit, discharge, emit or disturb the contaminant • cause or allow the contaminant to be deposited, discharged, emitted or disturbed • fail to prevent the contaminant from being deposited, discharged emitted or disturbed • allow the contaminant to escape • fail to prevent the contaminant from escaping.
Restricted access means preventing members of the public from accessing the area where recycled water is being used, when it is being used and for four hours after use or until dry. This can be achieved through use of physical barriers appropriate to the location that deter access (e.g. uninterrupted fencing with locked gates); or irrigating at times when there is a very low likelihood of members of the public being present in the area where recycled water is being used.
Saturated means the soil moisture level is greater than the soil field capacity .
Sensitive place includes the following and includes a place within the curtilage of such a place reasonably used by persons at that place: • a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises; or • a motel, hotel or hostel; or • a kindergarten, school, university or other educational institution; or • a medical centre or hospital; or • a protected area under the <i>Nature Conservation Act 1992</i>, the <i>Marine Parks Act 2004</i> or a World Heritage Area; or • a public thoroughfare, park or gardens; or • for noise, a place defined as a sensitive receptor for the purposes of the Environmental Protection (Noise) Policy 2019.
Site means land or tidal waters on or in which it is proposed to carry out the development approved under this development approval.

Sludge means any residual, semi-solid material that is produced as a by-product from the activity .
Spray drift control means an on-site control that minimises spray from drifting beyond the irrigation area. This can be achieved by the use of low-throw sprinklers, vegetation screening (e.g. windbreaks), anemometer switching (to monitor and respond to wind conditions) and other related methods.
Suitably Qualified includes having the qualifications, experience or standing appropriate to perform the function or exercise. Note: Any relevant notification given under Section 320 or Section 350 of the Act that contains the information specified in this condition is also an exception reporting notification under this authority.
TDS means Total Dissolved Solids as calculated measures of marine water TDS based on a measured electrical conductivity value. The electrical conductivity to TDS transformation calculation should be performed as per the <i>Standard Methods for the Examination of Water and Wastewater</i> for use in testing for compliance with the <i>Environmental Protection Act 1994</i> and the latest edition of administering authority's Water Quality Sampling Manual.
Tidal water means the sea and any part of a harbour or watercourse ordinarily within the ebb and flow of the tide at spring tides.
Tonal adjustment means an adjustment applied if tonal components are significant characteristics of the sound within a measurement time interval. If tonal components are clearly audible, the adjustment will be 5 dB(A). If the components are only just detectable, an adjustment of 2 dB(A) will be appropriate.
Topsoil means the surface layer of a soil profile, which is usually more fertile, darker in colour, better structured and supports greater biological activity than underlying layers. The surface layer may vary in depth depending on soil forming factors, including parent material, location and slope, but generally is not greater than about 300mm in depth from the natural soil.
Total Nitrogen (TN) means the sum of Organic Nitrogen, Ammonia Nitrogen, Nitrite plus Nitrate Nitrogen, expressed as mg/L as Nitrogen. This includes both the inorganic and organic fraction of nitrogen.
Total Phosphorus (TP) means the sum of the reactive phosphorus, acid-hydrolysable phosphorus and organic phosphorus, as mg/L of Phosphorus. This includes both the inorganic and organic fraction of phosphorus.
TSS means Total Suspended Solids.
Viable state or viability means able to live and grow.
Waters includes river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined water, natural or artificial watercourse, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, roadside gutter, stormwater run-off, and groundwater and any part thereof.
WaTERS is the Water Tracking and Electronic Reporting System database formally known as the Point Source Database.
Watercourse means a river, creek or stream in which water flows permanently or intermittently- - in a natural channel, whether artificially improved or not; or - in an artificial channel that has changed the course of the watercourse.
Wet Weather Day means a day which is not a dry weather day.
Works or operation means the development approved under this environmental authority.
You means the holder of the environmental authority.
50th percentile means not more than three (3) of the measured values of the quality characteristic are to exceed the stated release limit for any six (6) consecutive samples for a release/monitoring point at any time

during the environmental activity(ies) works.

80th percentile means not more than one fifth of the measured values are to exceed the stated release limit for the limit period, e.g. not more than ten (10) for any fifty (50) consecutive samples for the **long term period**.

Attachments

Code of environmental compliance for certain aspects* of sewage treatment (ERA 63) – Version 1

Appendices

Appendix 1 – Yarwun STP Lot 139 Plan CTN2130 Land Application Area 1



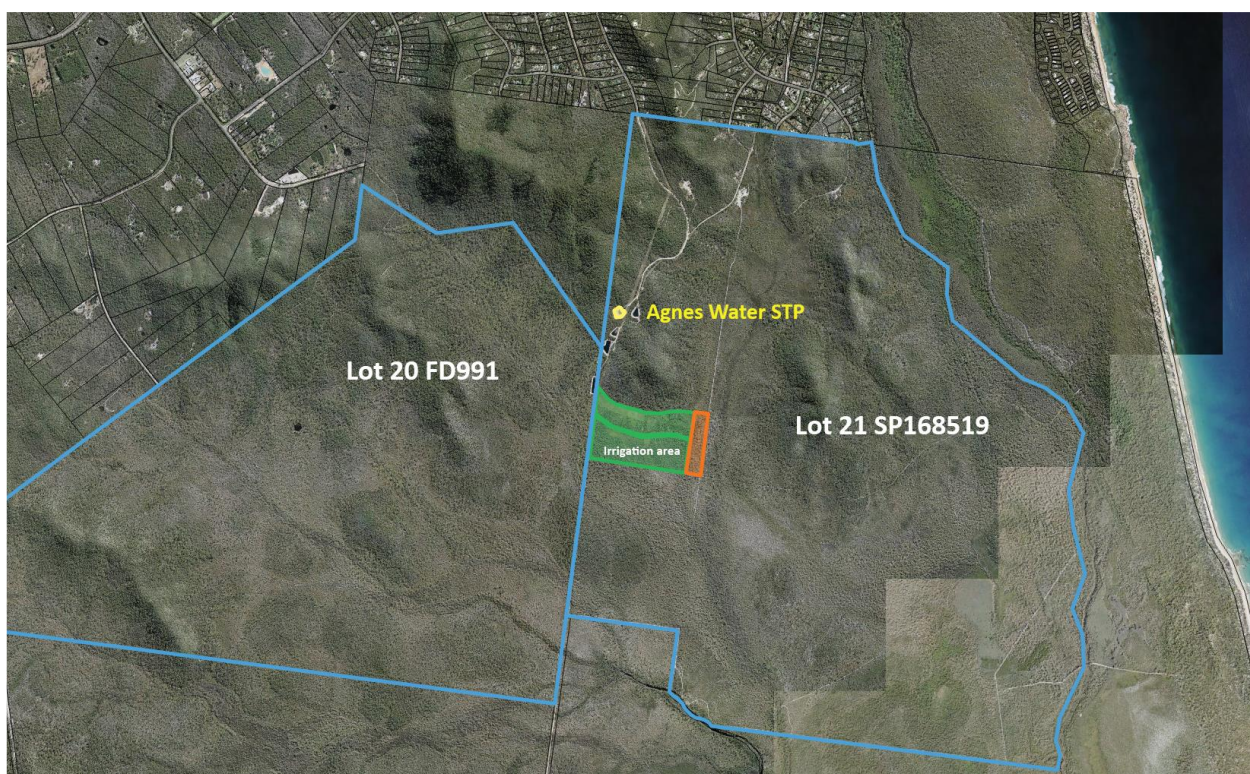
Appendix 2 – Yarwun STP Lot 139 Plan CTN2130 Land Application Area 2



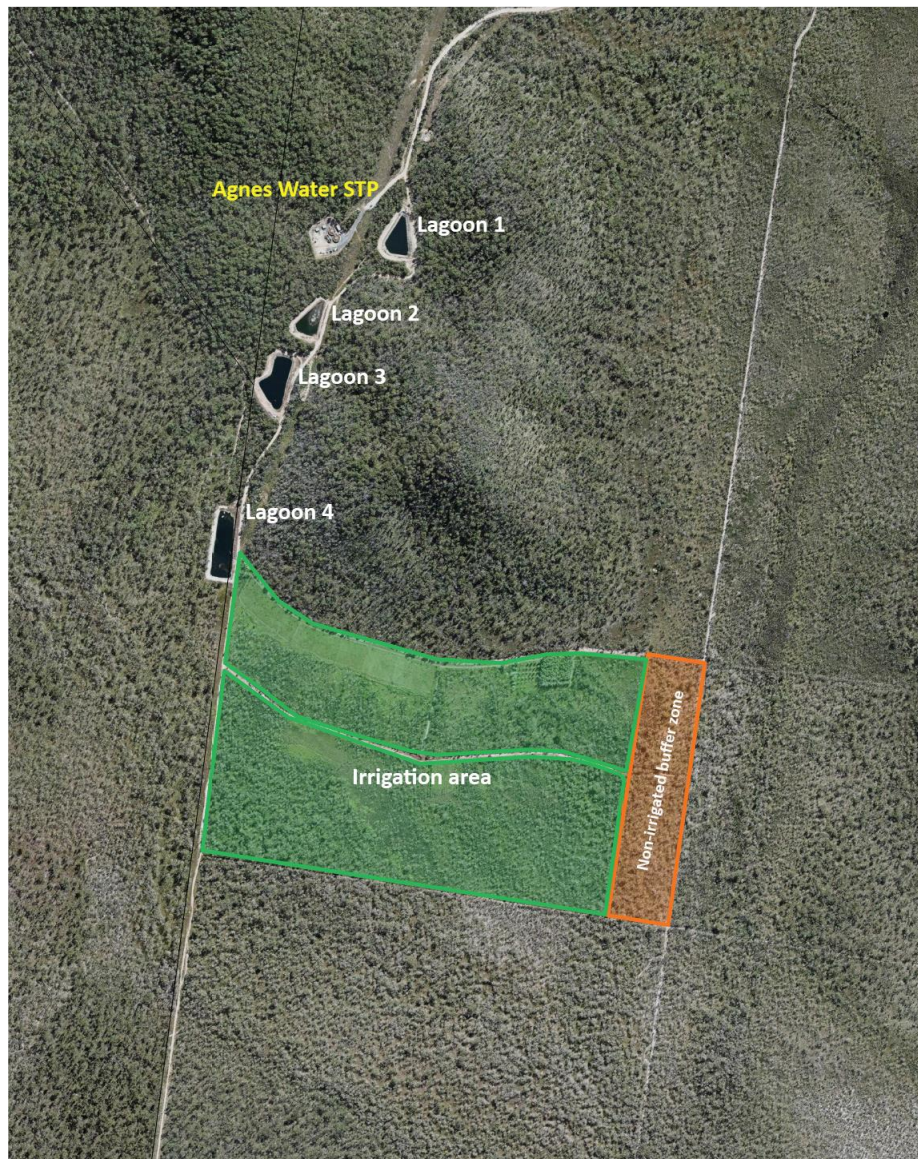
Appendix 3 –Yarwun STP Lot 139 Plan CTN2130 Groundwater Monitoring Bore (GWMB) locations



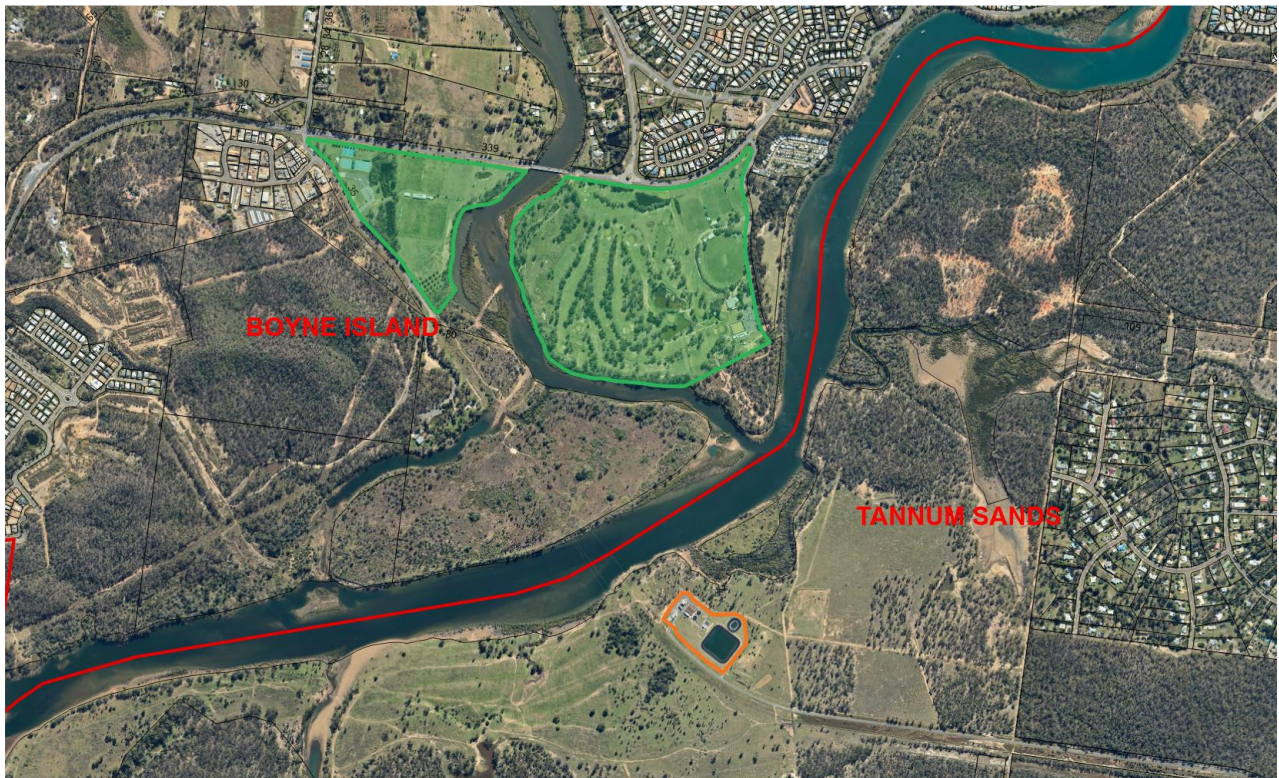
Appendix 4 – Agnes Water STP Lot 20 Plan FD991 and Lot 21 SP168519



Appendix 5 – Agnes Water STP Lot 20 Plan FD991 and Lot 21 SP168519 Land Application Area



Appendix 6 – Tannum Sands STP Lot 1 Plan SP142970, Lot 21 Plan SP252843 and Lot 35 Plan CTN1238



END OF PERMIT