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
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

ABN 46 640 294 485

Environmentally relevant activities	Locations
63-(2) Sewage treatment - pumping station (1)(b)	• 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 Strokarck 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
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.

Hayden Woodall
Department of Environment and Science
Delegate of the administering authority
Environmental Protection Act 1994

Date approved: 22/03/2024

Enquiries:
Utilities and Government Organisations Assessment
Department of Environment and Science
Phone: 1300 130 372
Email: palm@des.qld.gov.au

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: 1. the potential circumstances and actions that may have contributed to the contravention; and 2. the environmental impact of the contravention; and 3. 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 *Environmental Protection Act 1994* 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
63-(2) Sewage treatment - pumping station (1)(b)	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
	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 ("1st station from the boat ramp")	Lot 5 SP181595
	CUR L2	Unnamed road, CURTIS ISLAND ("2nd 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 ("3rd 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 Strokarck 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 *Table 1 - Release Limits*. 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 *Water Quality Sampling Manual*; 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 *ALD - Table 1 - Release Limits*.
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.

ALD - Table 1 - Release Limits

Monitoring Point	Quality Characteristics	Minimum	50th %ile	80th %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
W1	Residual free chlorine	-	-	-	0.7 mg/l	Weekly
W1	Faecal Coliforms, based on a minimum of five samples collected at not less than half-hourly intervals	-	150 organisms per 100 mL	600 organisms per 100 mL	-	Weekly

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 *Escherichia coli* (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: 1. so as to minimise the likelihood of any release of effluent through the bed or banks of the pond to any waters (including groundwater); 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.
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: 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.
WT4-YAR	The groundwater monitoring program required by condition WT3-YAR, must include at least the following: 1. be able to determine the impacts of the licensed activity on the groundwater quality in the underlying aquifer; and 2. 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: a. establish the quality of groundwater that has not been affected by seepage or drainage of contaminants to groundwater from the activity; and b. detect any seepage of contaminants to groundwater from the licensed place; and 3. include monitoring of background groundwater quality, hydraulically up-gradient of any release of contaminants to groundwater; and 4. 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 *Groundwater Quality Assessment Guideline 2017* 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, 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
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	
Boron	mg/L	No change from background	
pH	(pH units)	No change from background	
Enterococci /E.coli 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 *Groundwater Quality Assessment Guideline 2017*; and

<table>
<tr><td></td><td>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.</td></tr>
<tr><td>WT7-YAR</td><td>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 Groundwater Quality Assessment Guideline 2017 to develop site-specific trigger levels that are provided to the department upon request.</td></tr>
<tr><td colspan="2">Agency interest: Land</td></tr>
<tr><td>Condition number</td><td>Condition</td></tr>
<tr><td>L1-YAR</td><td>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 as specified in YAR Table 2 – Contaminant limits for releases to land; and
2. releases are monitored at all monitoring locations and at the minimum monitoring frequency for each quality characteristic specified in YAR Table2 – Contaminant limits for releases to land and associated requirements; and
3. the associated requirements specified under YAR Table 2 - Contaminant limits for releases to land 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
1. monitoring must be in accordance with the administering authority's Water Quality Sampling Manual and all monitoring devices must be effectively calibrated and maintained; and
2. sampling to be undertaken at the outlet of the wet weather storage system, except for E.coli which is to be monitored at the outlet of chlorination facilities.</td></tr>
<tr><td>L2-YAR</td><td>Releases to land authorised under condition L1-YAR must comply with the following:
1. the effluent disposal areas as shown in Appendix 2 - Yarwun STP Lot 139 Plan CTN2130</td></tr>
</table>

	Land Application Area 2 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 2. Releases to **land** must only occur in the effluent disposal areas as shown in *Appendix 2 - Yarwun STP Lot 139 Plan CTN2130 Land Application Area 2* of this environmental authority, consisting of the areas labelled "existing irrigation area" and "new irrigation area"; and 3. a daily maximum irrigation application rate of 10mm is permitted to occur every day to half the irrigation area (2.5 ha); and 4. 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 5. 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: 1. the **person** the **effluent** was supplied to; and 2. the *Escherichia coli* (E.coli) (MPN/100mL) concentration of the **effluent** supplied; and 3. the volume of **effluent** supplied; and 4. 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: 1. the release limits for each quality characteristic are complied with at the monitoring locations as specified in *CAL-Table 1 – Contaminant limits for releases to land*; and 2. releases are monitored at all monitoring locations and at the minimum monitoring frequency for each quality characteristic specified in *CAL-Table 1 – Contaminant limits for releases to land*; and 3. the associated requirements specified under *CAL-Table 1 - Contaminant limits for releases to land* are complied with and records that demonstrate that compliance are made.
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: 1. the **person** the **effluent** was supplied to; and 2. the *Escherichia coli* (E.coli) (MPN/100mL) concentration of the **effluent** supplied; and 3. the volume of **effluent** supplied; and 4. the date the **effluent** was supplied.
L7-CAL	Immediately upon the request of the **administering authority, you** must cease providing **effluent** to a **person**.

CAL - Table 1 - Contaminant limits for releases to land

Monitoring Location	Quality Characteristics	Release Limits	Limit Type	Frequency
Chlorine contact tank	5 day Biochemical Oxygen Demand (mg/L)	20	80th percentile	Weekly
	Suspended Solids (mg/L)	30	80th percentile	Weekly
	pH (pH units)	6.5-8.0	range	Weekly
	E.coli (MPN/100mL)	1000	80th percentile	Weekly

Associated requirements

1. Monitoring must be in accordance with the administering authority's Water Quality Sampling Manual and all monitoring devices must be effectively calibrated and maintained
2. Monitoring must be undertaken when **effluent** is being disposed, unless **effluent** disposal has ceased for longer than the relevant parameters specified minimum frequency

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 *BOY - Table 1 – Release Quality Characteristic Limits* and the associated requirements.
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.**

BOY - Table 1 - Release Quality Characteristic Limits

Quality Characteristics	Unit	Minimum	80th%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

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 *Escherichia coli* (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: 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.
Agency interest: Water	
Condition number	**Condition**
WT1-ST	Contaminants generated by the **activity** must only be released to the discharge location specified in *ST Table 1 – Contaminant limits for releases to surface water* where the following requirements are complied with: 1. the contaminants being released comply with the release limits for each quality characteristic specified in *ST Table 1 - Contaminant limits for releases to surface water* ; and 2. the contaminants being released are monitored at their minimum monitoring frequency for each quality characteristic specified in *ST Table 1 – Contaminant limits for releases to surface water;* and 3. the associated requirements below *ST Table 1 – Contaminant limits for releases to surface water* are complied with and records that demonstrate that compliance are made.

ST - Table 1 - Contaminant limits for releases to surface waters

Discharge Locations	Quality Characteristics	Unit	Minimum	80th %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

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

WT2-ST

The total quantity of contaminants released to waters via the discharge point listed in *ST - Table 2 - Total Quantity of Contaminants*, must not exceed the respective quantities stated in *ST - Table 2 - Total Quantity of Contaminants* on any dry weather day or on any one day.

ST - Table 2 - Total Quantity of Contaminants

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 *Escherichia coli* (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 *E.coli*, 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.

<table>
<tr><td>WT4-AW</td><td>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 National Guidelines for Recycled Water – Table 3.8; or
2. Another use or to another person(s) as approved by the administering authority.</td></tr>
<tr><td>WT5-AW</td><td>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 AW - Table 1 - Release Limits.</td></tr>
<tr><td>WT6-AW</td><td>Monitoring of contaminants in recycled water from the sewage treatment works must be undertaken as specified in AW - Table 1 - Release Limits 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>Median[1]</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.</td></tr>
<tr><td>WT7-AW</td><td>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.</td></tr>
<tr><td>WT8-AW</td><td>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</td></tr>
</table>

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/100ml	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/100ml	Detected	

<table>
<tr><td></td><td>
<table>
<tr><td>Total Metals: (Al, Fe, Mn, As, Cd, Cr, Co, Cu, Pb, Hg, Ni, Se, Ag, Sn, Zn)</td><td>mg/L or µg/L</td><td>Within ANZECC Guidelines</td><td rowspan="18">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</td></tr>
<tr><td>Dissolved Metals: (Al, Fe, Mn, As, Cd, Cr, Co, Cu, Pb, Hg, Ni, Se, Ag, Sn, Zn)</td><td>mg/L or µg/L</td><td>Within ANZECC Guidelines</td></tr>
<tr><td>Total and dissolved Al (pH>6.5)</td><td>µg/L</td><td>55</td></tr>
<tr><td>Total and dissolved Fe</td><td>µg/L</td><td>1900</td></tr>
<tr><td>Total and dissolved Mn</td><td>µg/L</td><td>1900</td></tr>
<tr><td>Total and dissolved As (V)</td><td>µg/L</td><td>13</td></tr>
<tr><td>Total and dissolved Cd</td><td>µg/L</td><td>0.2</td></tr>
<tr><td>Total and dissolved Cr (III)</td><td>µg/L</td><td>3.3</td></tr>
<tr><td>Total and dissolved Cr (VI)</td><td>µg/L</td><td>1.0</td></tr>
<tr><td>Total and dissolved Co</td><td>µg/L</td><td>1.4</td></tr>
<tr><td>Total and dissolved Cu</td><td>µg/L</td><td>1.3</td></tr>
<tr><td>Total and dissolved Pb</td><td>µg/L</td><td>3.4</td></tr>
<tr><td>Total and dissolved Hg</td><td>µg/L</td><td>0.4</td></tr>
<tr><td>Total and dissolved Ni</td><td>µg/L</td><td>11</td></tr>
<tr><td>Total and dissolved Se</td><td>µg/L</td><td>11</td></tr>
<tr><td>Total and dissolved Ag</td><td>µg/L</td><td>0.05</td></tr>
<tr><td>Total and dissolved Sn</td><td>µg/L</td><td>Detected</td></tr>
<tr><td>Total and dissolved Zn</td><td>µg/L</td><td>8.0</td></tr>
</table>
</td></tr>
<tr><td>WT9-AW</td><td>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.</td></tr>
<tr><td>WT10-AW</td><td>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.</td></tr>
</table>

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 *AW - Table 1 - Release Limits*, such recycled water must not be used for irrigation.
L4-AW	When recycled water has been produced that does not meet specifications in *AW - Table 1 - Release Limits*, 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 *AW - Table 1 - Release Limits*, 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 (NOx), 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 - Table 1 - Release Limits* 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 *Environmental Protection Act 1994* 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 *Escherichia coli* (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: 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.
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 *Environmental Protection (Air) Policy 2019*.
Agency interest: Water	
Condition number	**Condition**
WT1-GL	Contaminants generated by the activity must only be released to waters via the discharge location specified in *GL – Table 1 – Release and monitoring locations* where the following requirements are complied with: a) the contaminants being released are monitored at the minimum monitoring frequency for each monitoring location specified in *GL – Table 1 – Release and monitoring location* and for each quality characteristic specified in *GL – Table 2 – Contaminant limits for releases to water*; and in accordance with the associated requirements; and

b) the contaminants being released comply with the release limits for each quality characteristic specified in *GL – Table 2 – Contaminant limits for releases to water*.

GL – Table 1 – Release and monitoring locations

Release Location	Monitoring Location	Minimum Monitoring Frequency
Calliope River AMTD 2.5km via the Gladstone STP outfall structure	GLD8, outlet (overflow) of the effluent lagoon , Lat 23.8434S, Lon 151.2207E	Upon commencement of a release, and daily thereafter for the duration of the release. Only pH and Dissolved Oxygen require monitoring at this location.
	GLD6, recycled water pump station, Lat 23.8439, Lon 151.2209	Weekly

GL – Table 2 – Contaminant limits for releases to water

Quality Characteristics	Unit	Release Limits		
		Minimum	80th %ile	Maximum
pH	pH units	6.5	-	8.5
Dissolved Oxygen	mg/L	2	-	-
Total Nitrogen	mg/L	-	-	-
Total Phosphorus (as P)	mg/L	-	-	-
BOD5	mg/L	-	20	-
Ammonia Nitrogen	mg/L	-		-
Suspended Solids	mg/L	-	30	-

Associated Requirements

1. Samples required by condition WT1-GL must be taken in accordance with methods prescribed in the latest edition of the administering authority's Water Quality Sampling Manual; and
2. Samples required by condition WT1-GL must be representative of the general condition of the releases; and
3. A record of daily volumes released must be maintained.

WT2-GL	The total quantity of contaminants released to waters via the outlet (overflow) location at GLD8 must not exceed a maximum of 10,000 kL/day on any dry weather day or on any one day
Agency interest: Land	
Condition number	**Condition**
L1-GL	Treated effluent generated by the activity must only be released to land, or given to another person for irrigation purposes or other use, where the following requirements are complied with:

a) releases are monitored at the monitoring location and at the minimum monitoring frequency for each quality characteristic specified in *GL – Table 3 – Contaminant limits for releases to land*; and in accordance with the associated requirements; and

b) the release limits for each quality characteristic are complied with at the monitoring location as specified in *GL – Table 3 – Contaminant limits for releases to land*.

GL – Table 3 – Contaminant limits for releases to land

Monitoring Location	Quality Characteristics	Unit	Release Limits			Minimum Monitoring Frequency
			Minimum	80th %ile	Maximum	
GLD6, recycled water pump station Lat 23.8439, Lon 151.2209	pH	pH units	6.5	-	8.5	Weekly
	Dissolved Oxygen	mg/L	2	-	-	
	Total Nitrogen	mg/L	-	-	-	
	Total Phosphorus (as P)	mg/L	-	-	-	
	BOD5	mg/L	-	20	-	
	Ammonia Nitrogen	mg/L	-		-	
	Suspended Solids	mg/L	-	30	-	

Associated Requirements

1. Samples required by condition L1-GL must be taken in accordance with methods prescribed in the latest edition of the administering authority's Water Quality Sampling Manual; and
2. Samples required by condition L1-GL must be representative of the general condition of the releases.

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 *Escherichia coli* (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: 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.
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 *TS - Table 1 - Release Limits*. 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 Water Quality Sampling Manual; and 2. carried out on samples that are representative of the discharge.

TS - Table 1 - Release Limits

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: *TS - Table 1 - Release Limits*.
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 *TS - Table 2 - Groundwater monitoring quality characteristics*.

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 *TS - Table 3 - Water quality specifications for Class A to Class D recycled water* and the conditions of this approval and only for recycled water uses specified in *TS - Table 4* **-** *Recycled Water uses and class.*

TS - Table 3 - Water quality specifications for Class A to Class D recycled water

Class	*E.Coli* (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

[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

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**. *If members of the public may be in the vicinity of the irrigation area:* 1. **Spray drift control** or drip irrigation.

		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. *If members of the public may be in the vicinity of the irrigation area:* 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**. *If members of the public may be in the vicinity of the irrigation area:* 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. *If members of the public may be in the vicinity of the irrigation area:* 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. *If members of the public may be in the vicinity of the irrigation area:* 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 *If members of the public may be in the vicinity of the irrigation area:* 1. **Restricted access**, a **spray drift control**, and a buffer zone of at least 25 metres, **or**

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<tr><td></td><td colspan="3"><table>
<tr><td></td><td></td><td>2. Restricted access and an extended buffer zone of at least 50 metres</td></tr>
<tr><td></td><td>Industrial purposes</td><td>1. Minimum on-site controls, and
2. Use must be closed system (low human contact).</td></tr>
<tr><td></td><td>Irrigation of “no public access” areas</td><td>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</td></tr>
<tr><td>Class D</td><td>Irrigation of non-food crops</td><td>1. Minimum on-site controls.
If members of the public may be in the vicinity of the irrigation area:
1. No public access and drip irrigation, or
2. Restricted access, a spray drift control, and a buffer zone of at least 50 metres</td></tr>
</table></td></tr>
<tr><td>L2-TS</td><td colspan="3">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.</td></tr>
<tr><td>L3-TS</td><td colspan="3">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.</td></tr>
<tr><td>L4-TS</td><td colspan="3">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 TS - Table 3 - Water quality specifications for Class A to Class D recycled water.</td></tr>
<tr><td>L5-TS</td><td colspan="3">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.</td></tr>
<tr><td>L6-TS</td><td colspan="3">Treated sewage effluent may be removed from the site and provided to a person with the written consent of that person.</td></tr>
<tr><td>L7-TS</td><td colspan="3">Records of treated effluent removed from the site and supplied to a person must be made</td></tr>
</table>

	and include the following: 1. the **person** the **effluent** was supplied to; and 2. the *Escherichia coli* (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. *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.*

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 - Table 1 - Contaminant release water quality limits and release locations* and in accordance with the conditions of this Environmental Authority.

AWDP - Table 1 – Contaminant release water quality limits and release locations

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	^{0}C	-	-	BG* + 2	BG* + 5	Online Continuous[5]
P1[1]	Total Suspended Solids	mg/L	-	-	10 if BG* less than10 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]

* intake seawater at time of measurement.

	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: *AWDP - Table 1 - Contaminant release water quality limits and release locations*. 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. *Environmental Protection (Water and Wetland Biodiversity) Policy 2019* and any other Environmental Protection Policies enacted under Queensland's *Environmental Protection Act 1994* 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 *Department of Environment and Resource Management - Queensland Water Quality Guidelines and Monitoring and Sampling Manual, September 2009,* or more recent editions or supplements to that document as such become available; and

<table>
<tr><td></td><td>2. Carried out on samples that are representative of the discharge.</td></tr>
<tr><td>WT17-AWDP</td><td>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.</td></tr>
<tr><td>WT18-AWDP</td><td>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 Minimum Construction Requirements for Water Bores in Australia, Edition 2, Revised September 2003, or more recent editions or supplements to that document as such become available.</td></tr>
<tr><td colspan="2">Agency interest: Noise</td></tr>
<tr><td>Condition number</td><td>Condition</td></tr>
<tr><td>N2-AWDP</td><td>Noise from activities must not result in measured levels greater than those specified in AWDP - Table 2 – Noise Limits: Nuisance Sensitive Place.
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</td></tr>
<tr><td colspan="2">Agency interest: Land</td></tr>
<tr><td>Condition number</td><td>Condition</td></tr>
<tr><td>L1-AWDP</td><td>Activities on site must be conducted in a way that prevents any potential or actual release of contaminants to land.</td></tr>
<tr><td>L2-AWDP</td><td>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</td></tr>
</table>

	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 fail 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: 1. be able to determine the impacts of the licensed activity on the groundwater quality in the underlying aquifer; and 2. 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: a. establish the quality of groundwater that has not been affected by seepage or drainage of contaminants to groundwater from the activity; and b. detect any seepage of contaminants to groundwater from the licensed place; and 3. include monitoring of background groundwater quality, hydraulically up-gradient of any release of contaminants to groundwater; and 4. include monitoring of upstream groundwater quality, hydraulically down gradient of all storage ponds, sewage treatment plant and irrigation areas; 5. include, but not limited to, annual monitoring of the quality of groundwater to detect any possible release(s) of contaminants; and 6. consider the potential use of groundwater in the vicinity.
Agency interest: Land	
Condition number	**Condition**

<table>
<tr><td>L1-ALF</td><td>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.</td></tr>
<tr><td>L2-ALF</td><td>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 ALF Table – Table 1 – Contaminant limits for releases to land; and
2. releases are monitored at all monitoring locations and at the minimum monitoring frequency for each quality characteristic specified in ALF Table 1 – Contaminant limits for releases to land; and
3. the associated requirements specified under ALF Table 1 - Contaminant limits for releases to land 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.</td></tr>
<tr><td>L3-ALF</td><td>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 m^2; and
2. releases to land must only occur in the effluent disposal area.
3. a maximum irrigation rate of 1.5mm/day applies.</td></tr>
<tr><td>L4-ALF</td><td>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.</td></tr>
<tr><td>L5-ALF</td><td>When soil in the effluent disposal area is saturated, effluent must not be released to land.</td></tr>
<tr><td>L6-ALF</td><td>Ponding of contaminants within the effluent disposal area must not occur.</td></tr>
<tr><td>L7-ALF</td><td>Contaminants must not run off to areas beyond the effluent disposal area.</td></tr>
</table>

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 *Escherichia coli* (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 *Environmental Protection Act 1994.*
Authorised person means a person authorised under the *Environmental Protection Act 1994.*
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. *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*
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. *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*
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 *Environmental Protection Act 1994)* 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: a) whether the harm is a direct or indirect result of the activity b) 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 *Environmental Protection Act 1994.*
Environmental value as defined under Chapter 1 of the *Environmental Protection Act 1994.*
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 *"Fast Response".*
$L_{A10,\ adj,\ 15\ mins}$ 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 *"Fast Response".*
$L_{A90,\ adj,\ 15\ mins}$ means the A-weighted sound pressure level, exceeded for 90 percent of any 15 minute measuring period, using *"Fast • Response",* 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.
L_{Aeq} 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 *Acts Interpretation Act 1954*
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 *Nature Conservation Act 1992*; or • a marine park under the *Marine Parks Act 2004*; 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 *Environmental Protection Regulation 2019* (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 *Nature Conservation Act 1992*, the *Marine Parks Act 2004* 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 *Standard Methods for the Examination of Water and Wastewater* for use in testing for compliance with the *Environmental Protection Act 1994 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

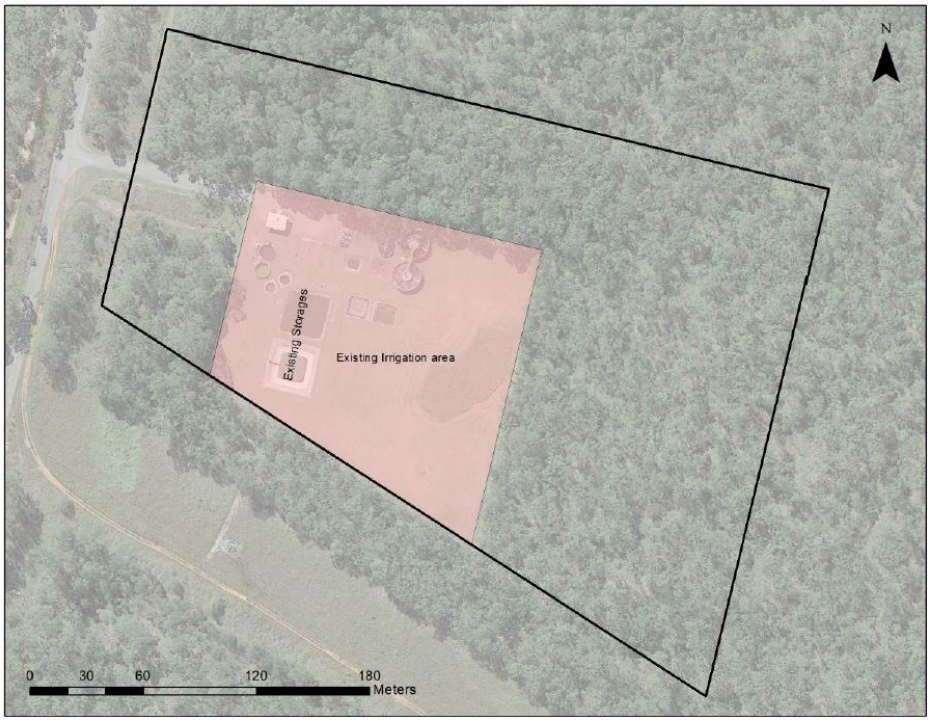
during the environmental activity(ies) works.
80th percentile (also abbreviated as 80th %ile) means not more than one fifth of the measured values are to exceed the stated release limit for the limit period, e.g. not more than ten (10) for any fifty (50) consecutive samples for the **long term period**.

Attachments

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

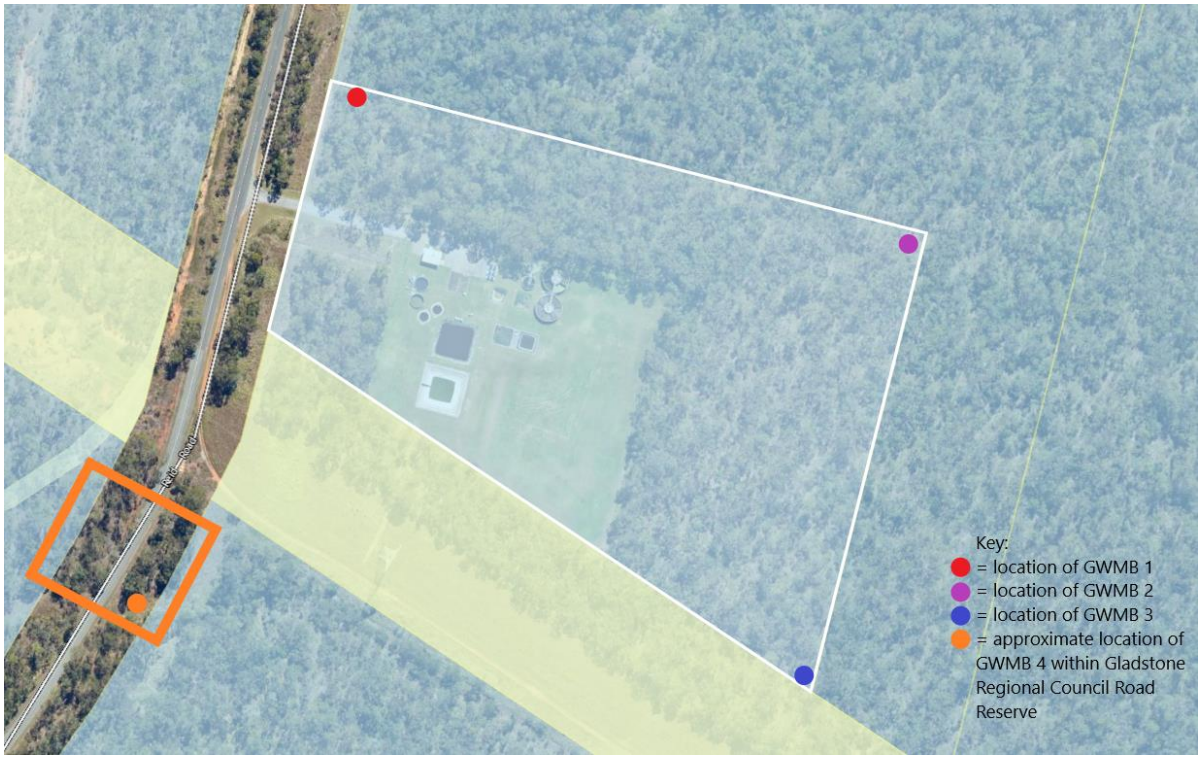
Appendices

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

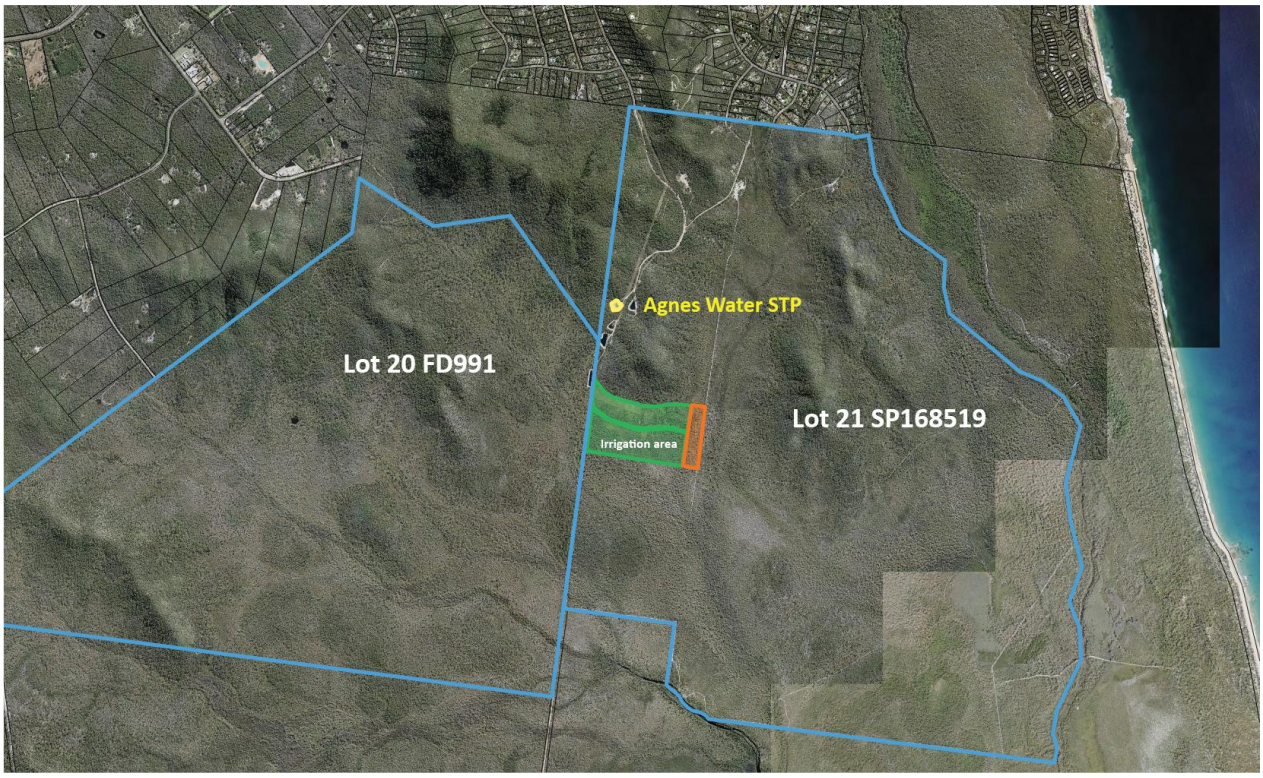


Appendix 2 – Yarwun STP Lot 139 Plan CTN2130 Land Application Area 2

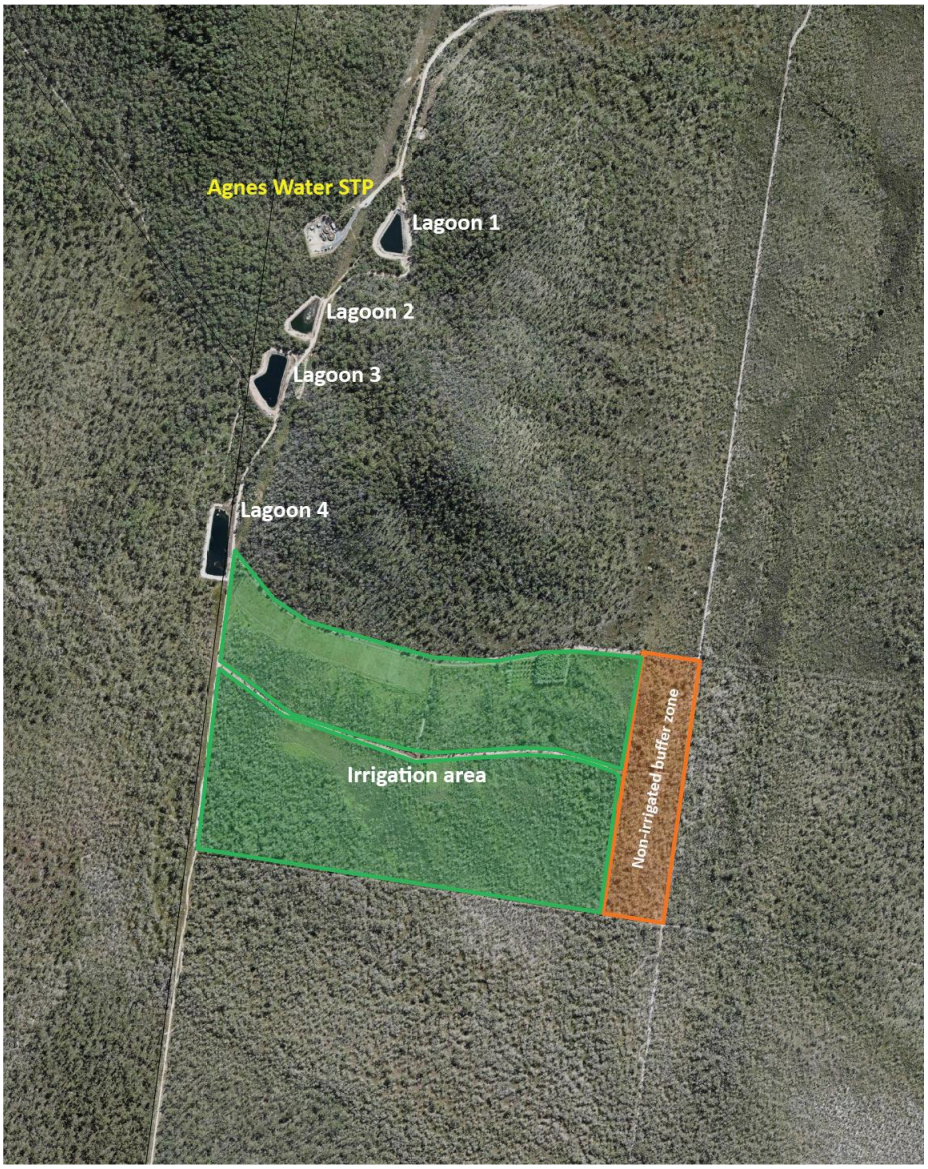
Appendix 3 –Yarwun STP Lot 139 Plan CTN2130 Groundwater Monitoring Bore (GWMB) locations



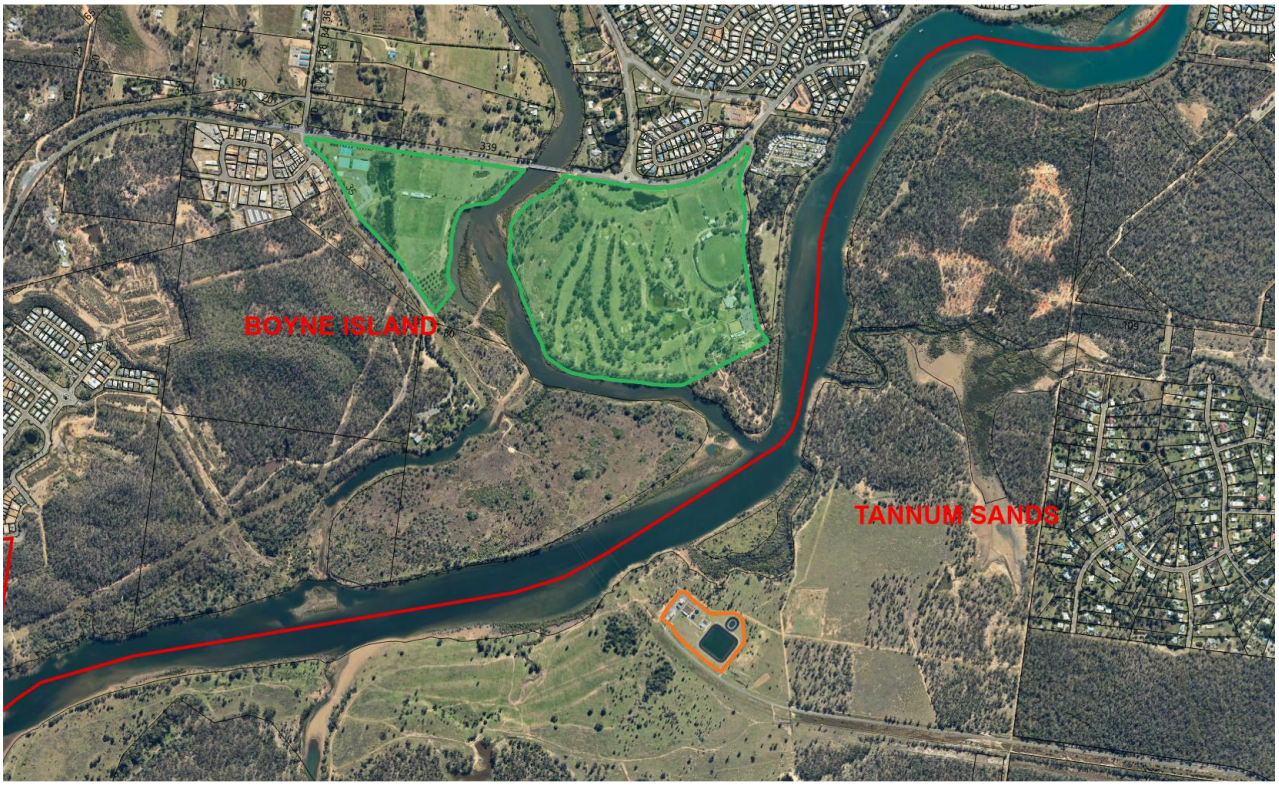
Appendix 4 – Agnes Water STP Lot 20 Plan FD991 and Lot 21 SP168519



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

Code of environmental compliance

ERA 63(2)—Sewage treatment (sewage pump station)

This code of environmental compliance (code) continues to apply under s.191 of the Environmental Protection Regulation 2019. It contains the standard environmental conditions approved by the Minister, under section 549(2) of the Environmental Protection Act 1994*, for carrying out the aspects of the environmentally relevant activity (ERA) specified in Section 3 of this code.*

Code of environmental compliance for certain aspects* of sewage treatment activities (ERA 63)

Version 1

* This code only applies to the aspects of the ERA that meet the criteria in Section 3 of this code.

Refer to the notes on the next page for important information about changes to how this code applies.

ABN 46 640 294 485

Queensland Government

Notes:

This code refers to ERA 63(3) for sewage pump station. On 31 March 2013, ERA 63 was amended and ERA 63(3) became ERA 63(2).

This code refers to the Environmental Protection Regulation 2008, which was repealed and replaced by the Environmental Protection Regulation 2019 on 1 September 2019. A reference to the repealed regulation or a repealed provision in this code should be read as a reference to the replacement regulation or the corresponding provision in the replacement regulation.

From 31 March 2013, codes of environmental compliance no longer have effect, and an environmental authority is required for this ERA.

The eligibility criteria and standard conditions of this code are taken to be eligibility criteria and standard conditions (an ERA Standard) for the ERA until a new ERA Standard take effect.

Any new operation commencing from 31 March 2013 that meets the eligibility criteria in Section 3 of this code and that can meet all of the standard conditions can apply for a standard approval to carry out this activity. The conditions that apply to the standard approval will be the standard conditions.

Where the operation cannot meet all the standard conditions of this code, a variation application for an environmental authority can be made. The environmental authority will include the standard conditions as modified by any approved variations.

Information on applying for an approval is at www.business.qld.gov.au.

Anyone who held a registration certificate to operate under this code immediately before 31 March 2013 is automatically taken to have an environmental authority for the ERA. The registration certificate became an environmental authority and the standard environmental conditions of this code are the conditions of the environmental authority as standard conditions. The anniversary day of the environmental authority is the anniversary day of the registration certificate.

Code of environmental compliance

ERA 63(3)—Sewage treatment

This code of environmental compliance (code) has been made under Schedule 3 of the Environmental Protection Regulation 2008. It contains the standard environmental conditions approved by the Minister, under section 549(2) of the Environmental Protection Act 1994*, for carrying out the aspects of the environmentally relevant activity (ERA) specified in Section 3 of this code.*

Code of environmental compliance for certain aspects* of sewage treatment activities

(ERA 63)

Version 1

* This code only applies to the aspects of the ERA that meet the criteria in Section 3 of this code.

ABN 46 640 294 485

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1. Introduction

The Department of Environment and Heritage Protection (EHP) has simplified the environmental compliance framework for environmentally relevant activities (ERAs) where environmental outcomes can be achieved by developing codes of environmental compliance (codes) that set out standard environmental conditions. The use of codes expedites environmental approval processes whilst still ensuring that there are appropriate standards of environmental management and protection.

Codes are appropriate for those activities that can achieve a good level of environmental protection through established, well understood practices. The standard environmental conditions are based on these practices and require the registered operator to take the necessary measures to prevent or minimise environmental harm.

Key terms and/or phrases used in this code are bolded and defined at the end of this code. Where a term is not defined in this code, the definition in the *Environmental Protection Act 1994* (EP Act), its regulations or Environmental Protection Policies must be used. If a word remains undefined it has its ordinary meaning.

2. Authorisation of the code

The Minister responsible for the EP Act, pursuant to section 549, approved the standard environmental conditions contained in this code on 4 July 2012. Approved codes are listed in Schedule 3 of the Environmental Protection Regulation 2008 (EP Reg).

3. Scope of the code

This code applies only to certain aspects of ERA 63 — Sewage treatment activities.

The aspects of ERA 63 — Sewage treatment activities, that this code applies to is threshold 3 which is outlined below (for the full definition see Schedule 2 of the EP Reg).

ERA 63	**Sewage treatment activities**
Threshold 3	Operating a sewage pumping station with a total design capacity of more than 40kL in an hour, if the operation of the pumping station is not an essential part of the operation of a sewage treatment works to which ERA 63(1) or ERA 63(2) applies.

The operation of the ERA under this code must comply with all of the criteria set out in the following table at all times:

Criteria
Operating a sewage pumping station with a total design capacity of more than 40kL in an hour.

Where the operation of a particular ERA will not meet the above criteria, this code does not apply and a development approval is required to undertake the ERA.

4. When the code takes effect

This code applies immediately to registered operators who commenced activities on or after 9 November 2012.

Registered operators who were carrying out ERA 63(3) under a development approval issued before 9 November 2012, and who continue to carry out the activity have a 12 month transitional period in which to ensure their operations comply with the code. The code becomes effective for those registered operators on 9 November 2013.

5. Enforcement of the code

This code contains standard environmental conditions for carrying out the activities that meet the criteria set out in Section 3 of this code. Failure to comply with the criteria or conditions of the code is an offence and penalties apply. A development approval is required where an ERA 63(3) activity is not self-assessable under this code—It is an offence to undertake an activity without a development approval and penalties apply. Enforcement Guidelines published by the administering authority are available at www.ehp.qld.gov.au.

6. Other requirements

In addition to the conditions in this code, the registered operator carrying out ERA 63(3) must comply with all other relevant Commonwealth, State or local government legislative requirements. Without limiting the requirements that may apply, some additional obligations under the EP Act include:

- holding a **registration certificate** issued by the **administering authority** under section 73F; and
- taking all reasonable and practicable measures to prevent or minimise environmental harm. This is referred to as the 'general environmental duty'.

7. Amendment of this code

This code may be amended from time to time by gazette notice advising that the Minister has approved new conditions. Proposed changes to the standard environmental conditions, other than changes to correct a clerical error, will be made in consultation with stakeholders. Where there is a significant change to the code, the administering authority will notify registered operators affected by the change.

8. Further information or enquiries

Further information is available at www.ehp.qld.gov.au or by contacting the relevant regional office of the administering authority.

General enquiries or suggestions for future amendments to the code should be directed to Permit and Licence Management, Implementation Support Unit on telephone 13 QGOV (13 74 68) or by email at palm@ehp.qld.gov.au.

9. Standard environmental conditions

Standard environmental condition	Advice
Condition 1 – Flooding The **operator** must ensure that **new pumping stations** are constructed to ensure that essential operational components of the pumping station are not impacted in a way which results in a failure of these components by flooding below the **one in 100 year flood level**. The **operator** must, when considering **major upgrades** of **existing pumping stations**, undertake a review of the construction of the essential operational components of the pumping station that may fail as a result of flooding below the **one in 100 year flood level**. The **operator** must consider moving these components above the **one in 100 year flood level**.	When constructing **new pumping stations** in a flood prone area, the switch gear should be located above the **one in 100 year flood level**, as identified at the time of the construction. When upgrading **existing pumping stations** in a flood prone area, the **operator** should consider relocating any switch gear that is below the **one in 100 year flood level**, as identified at the time of the upgrade. Any upgrades should be included within the sewage overflow abatement plan as required by condition 7 of this **approval**.
Condition 2 – Flooding The **operator** must ensure that **new pumping stations** are constructed so that storm and flood waters can not enter the pump well. The **operator** must, when considering **major upgrades** of **existing pumping stations**, undertake a review of the construction and consider improvements to reduce the potential for storm and flood waters to enter the pump well.	When constructing **new pumping stations** openings to the well (such as maintenance holes) should not be lower than the **one in 100 year flood level**, as identified at the time of the construction. When upgrading **existing pumping stations** in a flood prone area, the **operator** should consider upgrades to restrict water from entering the well if located below the **one in 100 year flood level**, as identified at the time of the upgrade. Any upgrades should be included within the sewage overflow abatement plan as required by condition 7 of this **approval**.
Condition 3 – Maintenance of measures, plant and equipment The **operator** must: (a) maintain all measures, plant and equipment in an effective condition and keep records of the maintenance (b) operate such measures, plant and equipment in an effective manner.	

Standard environmental condition	Advice
Condition 4 – Integrated environmental management system For **new pumping stations** the **operator** must document and comply with an integrated environmental management system (IEMS) prior to the commencement of this **activity**. For **existing pumping stations** the **operator** must document and comply with an IEMS within 12 months of the date this **approval** takes effect. The IEMS must identify all causes of **environmental harm** including, but not limited to, the actual and potential release of any contaminants, the nature of the **environmental harm** and the actions that will be taken to prevent **environmental harm** being caused. The IEMS must achieve the following outcomes: (a) environmental aspects and potential impacts are identified (b) a contingency plan and emergency response plan are in place (c) a network plan of the sewage collection system including connected pumping stations and likely overflow points is maintained (d) control measures that minimise the potential for **environmental harm** are in place (e) organisational structures, accountability and responsibilities are recorded (f) effective, practical communication arrangements, including documentation of such (g) all contaminant releases, and an estimate of their impact on the receiving environment are recorded (h) staff are trained and aware of the requirements of this **approval**.	The IEMS is a commitment to complying with the **approval**. It is generally for the benefit of the **operator** in helping them to clarify and comply with the **approval** requirements. The IEMS may not necessarily be site specific. It should provide guiding principles to help plan ways to manage risks and minimise any potential **environmental harm**. For example, by identifying: • what contaminants could be released • where any contaminants released would go and their impact • that actions could be taken to contain any release • what precautions could be taken to prevent a release. This information can then be used to include procedures for prioritising responses to overflow events based on the risk to the receiving environment and the extent of the release. An IEMS may be used for a sewage network. However, any IEMS used for a network must be updated to reflect a new **activity** to which this **approval** applies. An IEMS may also be used to demonstrate compliance with the general environmental duty for other pumping stations which are not licensed but may still have the potential to cause **environmental harm**.

Standard environmental condition	Advice
Condition 5 – Contingency plan For **new pumping stations** the **operator** must document and comply with a contingency plan prior to the commencement of this **activity**. For **existing pumping stations** the **operator** must document and comply with a contingency plan within 24 months of the date this **approval** takes effect. The contingency plan must provide for: (a) standard connections for emergency by-pass pumping (b) standard connections for mobile generators, or a back-up power source that automatically starts in the event of power failure (c) stand-by pumping equipment and associated controls (d) identification of critical components and a system to ensure adequate and timely access to spare parts (e) access for maintenance and emergency activities (f) testing and validation of any relevant equipment used or related to the contingency plan as necessary.	The detail of the contingency plan should reflect the complexity and risk of the **activity** at the site specific location. Where an IEMS has been developed for a sewage network there may be a contingency plan applicable to many pumping stations within the network based on the level of risk posed by the pumping stations. In this instance the one contingency plan can be used but must be updated to reflect the addition of the new **activity** to which this **approval** applies. While this condition requires the contingency plan to include provision for certain requirements, these are not intended to be restrictive. Where these requirements can be met in an alternative way or might not be relevant to a site specific **activity** this should be clearly documented. If you are proposing alternative arrangements you should consult the **administering authority**.

Standard environmental condition	Advice
Condition 6 – Emergency response plan For **new pumping stations** the **operator** must document and comply with an emergency response plan prior to the commencement of this **activity**. For **existing pumping stations** the **operator** must document and comply with an emergency response plan within 24 months of the date this **approval** takes effect. The emergency response plan must provide for: (a) an implementation manual (b) staff training (c) identification of the part of the environment to which a sewage release may occur (for example, for water bodies, a description of where contaminants may enter the particular water body) (d) remediation and clean up of areas affected by sewage releases (e) receiving environment (surface waters/land) monitoring program for all notifiable releases to examine and assess environmental impacts (f) ongoing investigation and review to establish the cause of sewage releases, initiate corrective and/or preventative measures, and report on the effectiveness of such corrective and/or preventative measures.	The detail of the emergency response plan should reflect the complexity and risk of the **activity** at the site specific location. Where an IEMS has been developed for a sewage network there may be an emergency response plan applicable to many pumping stations within the network based on the level of risk posed by the pumping stations. In this instance the one emergency response plan can be used but must be updated to reflect the addition of the new **activity** to which this **approval** applies. While this condition requires the emergency response to include provision for certain requirements, these are not intended to be restrictive. Where these requirements can be met in an alternative way or might not be relevant to a site specific **activity** this should be clearly documented. If you are proposing alternative arrangements you should consult the **administering authority**. A receiving environment monitoring program must be sufficient to demonstrate the extent of the contamination and the time taken for the receiving environment to return to normal. For a release to waters, upstream and downstream monitoring may be required.
Condition 7 – Sewage overflow abatement plan For **new pumping stations** the **operator** must document and comply with a sewage overflow abatement plan within 12 months of the date this **approval** takes effect. For **existing pumping stations** the **operator** must document and comply with a sewage overflow abatement plan within 24 months of the date this **approval** takes effect. The sewage overflow abatement plan must consider the existing performance and trends, and the potential receiving environment of the pumping station. It must: (a) identify where the greatest risks of causing **environmental harm** are (b) identify and evaluate measures in place to reduce the incidence of overflows (c) develop a program of works with a timetable for implementation (d) assess performance and trends for any implemented works.	The detail of the sewage overflow abatement plan should reflect the complexity and risk of the **activity** at the site specific location. Where an IEMS has been developed for a sewage network there may be a sewage overflow abatement plan applicable to many pumping stations within the network based on the level of risk posed by the pumping stations. In this instance the one sewage overflow abatement plan can be used but must be updated to reflect the addition of the new **activity** to which this **approval** applies. Where flooding issues have been identified (as outlined in conditions 1 and 2), upgrades must be included within the sewage overflow abatement plan.

Standard environmental condition	Advice
Condition 8 – Records The **operator** must record, compile and keep all maintenance and monitoring results, plans and documents required by this **approval** and present this information to an **authorised person** or the **administering authority** when requested.	Records should verify the provision of training programs and schedules of routine inspections.
Condition 9 – Records All records required by this **approval** must be kept for five years.	
Condition 10 – Release to land and waters The **operator** must ensure that contaminants are not released to land or waters (including the bed and banks of any waters) as a result of the **activity**.	The **administering authority** acknowledges that a typical design for sewerage system capacity is three to five times average daily dry weather flow and that overflows may occur in wet weather when the design capacity of the sewerage system is exceeded.
Condition 11 – Notifiable release The **operator** must notify the **administering authority** via the 24 hour Pollution Hotline or the district office no later than three hours after becoming aware of a sewage release that: (a) poses a threat to public health (for example, contamination of **waters** with primary recreation values); (b) results in any observable environmental impact (for example, fish kill, distress to wildlife, marine plants or other aquatic life); (c) discharges to, or is likely to impact, a sensitive environment (for example, Ramsar wetland, marine park, or area designated as a conservation zone under a relevant planning scheme); or (d) is 10 000 L or more during dry weather.	The **administering authority** may need to respond quickly to some spills with the potential to cause **environmental harm**. Priority should be given to notifying the **administering authority** of these spills immediately after they occur. The 24 hour Pollution Hotline number is 1300 130 372. Where an event has occurred that causes or threatens serious or material **environmental harm** the duty to notify **environmental harm** requirements as per ss. 320-320G of the EP Act will also apply. Where reporting under ss. 320-320G is provided and satisfies the notification conditions of this **approval**, it is not necessary to report again against this **approval**. The **administering authority**'s district office is the office responsible for the local government area where the release has occurred. Where the volume of the release is unknown an estimate is to be provided.

Standard environmental condition	Advice
Condition 12 – Notifiable release Within 24 hours after becoming aware of a notifiable release in accordance with condition 11, email or written notification of the release must be submitted to the **administering authority** outlining the event, its nature and the circumstances in which it happened.	Where there has been a threat to public health this notification should include evidence that owners or occupiers of the affected land have been notified. This can be by public notification.
Condition 13 – Notifiable release A final report must be provided to the **administering authority** within 14 business days of the conclusion of the spill response and remediation of a notifiable release, but no later than 20 business days after the commencement of the release.	Any additional information such as sampling results maybe added to the report in the form of attachments at any time. If the commencement of the release is unknown, an estimation of the time and date of the commencement of the release is to be provided.
Condition 14 – General release reporting All releases must be reported to the **administering authority** in the form of an annual report by 30 September covering the period 1 July – 30 June of the previous year.	All discharges include notifiable releases and all other releases from the pumping station. These should be clearly identified in the report. Where the **activity** is part of a sewage network, annual reporting for the network may be provided to satisfy this condition.
Condition 15 – General release reporting Annual reports outlining all releases in accordance with condition 14 must clearly identify: (a) the waste water treatment plant which the pumping station is connected to (b) the number of releases (c) the volume (or estimate of the volume) of each release (d) the location of each release by suburb post code (e) if the release was reported under ss. 320-320G of the *Environmental Protection Act 1994*.	Reporting should be provided in a way in which the data is easy to handle and review. It would be beneficial to also include the reason for the release when reporting. An example would be in an excel spreadsheet.
Condition 16 – Monitoring The **operator** must ensure that all monitoring, assessments and reports required by this **approval** are conducted by a person with appropriate experience and/or qualifications. Water monitoring must be undertaken in accordance with the **administering authority's** Water Quality Sampling Manual and other relevant standards.	

Standard environmental condition	Advice
Condition 17 – Trained/experienced operator(s) The **operator** must ensure that the daily **operation** and maintenance of the pumping station is carried out by a person with experience and/or qualifications appropriate to ensuring the effective operation of the pumping station.	
Condition 18 – Equipment calibration The **operator** must ensure that all instruments, equipment and measuring devices used for measuring or monitoring in accordance with any condition of this **approval** are calibrated, operated and maintained in accordance with the manufacturer's specifications.	
Condition 19 – Complaint response The **operator** must record the following details for all complaints received and this information must be provided to an **authorised person** or the **administering authority** on request: (a) time, date, name and contact details of the complainant (b) reasons for the complaint (c) any investigation undertaken (d) conclusions formed (e) any actions taken.	If the complainant does not wish to have their name and contact details recorded, note this as an anonymous complaint.
Condition 20 – Air nuisance The **operator** must ensure that the release of odours or airborne contaminants resulting from the **activity** do not cause **environmental nuisance** at a nuisance **sensitive place** or **commercial place**.	
Condition 21 – Noise nuisance The **operator** must ensure that noise resulting from the **activity** does not cause **environmental nuisance** at a nuisance **sensitive place** or **commercial place**.	

Standard environmental condition	Advice
Condition 22 – Noise monitoring When requested by the **administering authority**, the **operator** must undertake noise monitoring to investigate any complaint of noise nuisance. The monitoring must be undertaken and results must be notified to the **administering authority** in the format and within the time specified by the **administering authority**. Monitoring must include: (a) measurement of $L_{A90, adj, 15 mins}$ (b) measurement of $L_{A10, adj, 10 mins}$ (c) measurement of $L_{Aeq, adj, 10 mins}$ (d) the level and frequency of occurrence of impulsive or tonal noise (e) atmospheric conditions including wind speed and direction (f) effects due to extraneous factors such as traffic noise (g) the location, date and time of monitoring.	
Condition 23 – Noise monitoring The **operator** must ensure that the method of measurement and reporting of noise levels complies with the latest edition of the **administering authority**'s Noise Measurement Manual.	The **administering authority**'s Noise Measurement Manual is available at www.ehp.qld.gov.au.
Condition 24 – Responding to potential releases The **operator** must ensure that there are appropriate physical systems in place to anticipate a potential release.	This may include an alarm system using one or more of the following; pump-failure alarms or level alarms for sewage contained in the pump well.
Condition 25 – Responding to potential releases Any system developed in line with condition 24 must be able to operate for a sufficient time to allow for notification of the potential release to the **operator** and an appropriate response.	This may include having back up power available or providing additional detention capacity.
Condition 26 – Responding to potential releases Any identification of a potential release must be responded to by the **operator**.	Response times should consider the potential for **environmental harm** based on site specific details and the potential volume of release from the pumping station.

10. Definitions

Words and phrases used throughout this guideline are defined below. Where a definition for a term used in this guideline is sought and the term is not defined the administering authority may be contacted to provide clarification.

One in 100 year flood level means the level reached by a flood event with an annual recurrence interval of one in 100 years.

Activity means ERA 63 (3).

Administering authority means the Department of Environment and Heritage Protection, or the department responsible for administering the *Environmental Protection Act 1994.*

Authorised person means a person authorised under the *Environmental Protection Act 1994*.

Approval means this code of environmental compliance.

Commercial place means a place used as an office or for business or commercial purposes.

Environmental harm (as defined in Section 14 of the *Environmental Protection Act 1994*) 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:

a) whether the harm is a direct or indirect result of the activity

b) 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 in Section 15 of the *Environmental Protection Act 1994*) means— 'unreasonable interference or likely interference with an environmental value' caused by:

a) aerosols, fumes, light, noise, odour, particles or smoke

b) an unhealthy, offensive or unsightly condition because of contamination

c) another way prescribed by regulation.

Existing pumping stations means pumping stations that were constructed before 1 January 2009.

$L_{A\ 90,\ adj,\ 15\ mins}$ means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 90 per cent of any 15 minute measurement period, using fast response.

$L_{A\ 10,\ adj,\ 10\ mins}$ means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 10 per cent of any 10 minute measurement period, using fast response.

$L_{A\ eq}$ means the equivalent continuous A-weighted sound pressure level of the residual noise determined over a specified time interval.

Major upgrades means upgrades which will involve expenditure in excess of $150 000. This figure is relevant as of 1 January 2012 and will increase by three per cent as of 1 January hereafter.

New pumping stations means pumping stations that were constructed on or after 1 January 2009.

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.

Sensitive place means:

a) a dwelling (including residential allotment, mobile home or caravan park, residential marina or other residential premises, motel, hotel or hostel

b) a library, childcare centre, kindergarten, school, university or other educational institution

c) a medical centre, surgery or hospital

d) a protected area

e) a public park or garden that is open to the public (whether or not on payment of money) for use other than for sport or organised entertainment.

Waters means all Queensland waters and includes rivers, streams, lakes, lagoons, ponds, swamps, wetlands, surface waters, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea), any ground water and any part thereof.