Permit

Environmental Protection Act 1994

Environmental authority EPPR00869113

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

Environmental authority number: EPPR00869113

Environmental authority takes effect on the day of approval.

The anniversary day of this environmental authority remains 17 February. The payment of the annual fee will be due each year on this day.

Environmental authority holder

Name(s)	Registered address
Northern SEQ Distributor – Retailer Authority	33 King Street Caboolture QLD 4510

Environmentally relevant activity and location details

Environmentally relevant activities	Locations
63-(1b)(ii) - operating sewage treatment works, other than no-release works, with a total daily peak design capacity of (b) more than 100 but not more than 1,500EP, if treated effluent is discharged from the works (ii) otherwise	Kenilworth Sewage Treatment Plant, Cambroon Lane, KENILWORTH QLD 4574 Lot 1 Plan RP105356 and Lot 3 Plan SP176246
63-(1c) Sewage treatment >1500 but <4000EP	Woodford SewageTreatment Plant, Canado Street, WOODFORD QLD 4514 - Lot 506 Plan CG4859 and Lot 413 Plan CG4859; Dayboro Sewage Treatment Plant, Strong Road, DAYBORO QLD 4521 - Lot 2 Plan RP808643
63-(1d) Sewage treatment >4000 but <10000EP	Cooroy Sewage Treatment Plant, Johnson Court, COOROY QLD 4563 - Lot 2 Plan SP248288; Maleny Sewage Treatment Plant, Landsborough Maleny Road, MALENY QLD 4552 - Lot 1 Plan RP177305, Lot 3 SP184546 and Lot 24 RP895755
63-(1e) Sewage treatment >10000 but <50000EP	Bribie Island Sewage Treatment Plant, First Avenue, BRIBIE ISLAND QLD 4507 - Lot 500 Plan SP199934, Lot 211 CG6386; Coolum Sewage Treatment Plant, Marsh Road, COOLUM QLD 4573 - Lot 2 Plan RP157969, Lot 880 Plan CG4583, Lot 209 Plan RP163096 and Lot 5 Plan RP157969; Landsborough Sewage Treatment Plant, Forestry Road, LANDSBOROUGH QLD 4550 - Lot 10 Plan CP907012, Lot 1

Environmentally relevant activities	Locations
	Plan RP110299, Lot 269 Plan CG921, Lot 7 Plan RP166390 and Part of Lot 561 Plan FTY1655; Nambour Sewage Treatment Plant, Nambour - Bli Bli Road, NAMBOUR QLD 4560 - Lot 2 and Lot 3 Plan RP123028, Lot 1 and Lot 3 Plan RP116900 and Lot 2 Plan RP222073;
63-(1e) Sewage treatment >10000 but <50000EP 53-(a) Processing more than 200t of organic material in a year by composting the organic material	Suncoast Sewage Treatment Plant, 730–752 David Low Way, Marcoola QLD 4564 - Lot 1003 Plan SP202093
63-(1f) Sewage treatment >50000 but <100000EP	Brendale Sewage Treatment Plant, Cribb Road, BRENDALE QLD 4500 - Lot 3 Plan SP213172; Burpengary East Sewage Treatment Plant, Uhlmann Road, BURPENGARY QLD 4505 - Lot 185 Plan SP215609; Noosa Coastal Sewage Treatment Plant, Wallum Lane, NOOSA HEADS QLD 4563 - Lot 17 SP239726; Redcliffe Sewage Treatment Plant, 257 Duffield Road, REDCLIFFE QLD 4020 - Lot 18 Plan SP231102
63-(1f) Sewage treatment >50000 but <100000EP 62 - Resource recovery and transfer facility operation (1)(c) receiving and sorting, dismantling, baling or temporarily storing category 2 regulated waste 8-(5) Chemical Storage >200m^3 liquids	Caboolture South Sewage Treatment Plant, 600 Market Drive, MORAYFIELD QLD 4506 - Lot 1 Plan SP242604
63-(1g) Sewage treatment >100000EP	Kawana Sewage Treatment Plant, Main Drive, BOKARINA QLD 4575 - Lot 101 on SP295012
63-(1g) Sewage treatment >100000EP 62 - Resource recovery and transfer facility operation (1)(c) receiving and sorting, dismantling, baling or temporarily storing category 2 regulated waste	Maroochydore Sewage Treatment Plant, 38 Commercial Road, MAROOCHYDORE QLD 4558 - Lot 103 Plan SP206542
63-(1g) Sewage treatment >100000EP 8-(5) Chemical Storage >200m3 liquids	Murrumba Downs Sewage Treatment Plant, Bickle Road, MURRUMBA DOWNS QLD 4503 - Lot 12 Plan SL10529 and Lot 2 Plan RP113846

Environmentally relevant activities	Locations
63-(1e) Sewage treatment >10000 but <50000EP 7(6a) Chemical manufacturing >200t but less than 1000t	Nambour Sewage Treatment Plant, Nambour - Bli Bli Road, NAMBOUR QLD 4560 - Lot 2 and Lot 3 Plan RP123028, Lot 1 and Lot 3 Plan RP116900 and Lot 2 Plan RP222073;

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.

	**12 July 2021**
Signature	Date

Liz Clarke
Department of Environment and Science
Delegate of the administering authority
Environmental Protection Act 1994

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)

Conditions of Environmental Authority

Part 1 - Common Conditions for all sites

Environmentally relevant activities	Locations
63-(1b)(ii) - operating sewage treatment works, other than no-release works, with a total daily peak design capacity of (b) more than 100 but not more than 1,500EP, if treated effluent is discharged from the works (ii) otherwise	Kenilworth Sewage Treatment Plant, Cambroon Lane, KENILWORTH QLD 4574 Lot 1 Plan RP105356 and Lot 3 Plan SP176246
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	Nambour Sewage Treatment Plant, Nambour - Bli Bli Road, NAMBOUR QLD 4560 - Lot 2 and Lot 3 Plan RP123028, Lot 1 and Lot 3 Plan RP116900 and Lot 2 Plan RP222073;
63-(1e) Sewage treatment >10000 but <50000EP 53-(a) Processing more than 200t of organic material in a year by composting the organic material	Suncoast Sewage Treatment Plant, 730–752 David Low Way, Marcoola QLD 4564 - Lot 1003 Plan SP202093
63-(1f) Sewage treatment >50000 but <100000EP	Brendale Sewage Treatment Plant, Cribb Road, BRENDALE QLD 4500 - Lot 3 Plan SP213172; Burpengary East Sewage Treatment Plant, Uhlmann Road, BURPENGARY QLD 4505 - Lot 185 Plan SP215609; Noosa Coastal Sewage Treatment Plant, Wallum Lane, NOOSA HEADS QLD 4563 - Lot 17 SP239726; Redcliffe Sewage Treatment Plant, 257 Duffield Road, REDCLIFFE QLD 4020 - Lot 18 Plan SP231102
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The environmentally relevant activity conducted at the location as described above must be conducted in accordance with the following site-specific conditions of the 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	The **activity** must be undertaken in accordance with written procedures that: 1. identify potential risks to the environment from the **activity** during routine operations and emergencies; 2. establish and maintain control measures that minimise the potential for environmental harm; 3. ensure plant, equipment and measures are maintained in a proper and effective condition; 4. ensure plant, equipment and measures are operated in a proper and effective manner; 5. ensure that staff are trained and aware of their obligations under the *Environmental Protection Act 1994;* and 6. ensure that reviews of environmental performance are undertaken at least annually.
G3	The daily operation of the sewage treatment plant must be carried out by a **competent person** to ensure the effective operation of the treatment system and control equipment.
G4	Any environmental incident (includes operation outside of the environmental authority conditions) must be reported to the **administering authority** within 24 hours of becoming aware and record full details of the environmental incident and any subsequent actions. Note: This condition does not cover non-compliances covered by Condition G5.
G5	Monthly non-compliances with effluent quality release limits in Schedule 2 must be reported to the **administering authority** in writing within two weeks of the end of every calendar month.
G6	All information and records that are required by the conditions of this environmental authority must be kept for a period of at least 5 years and provided to the **administering authority** upon request.
G7	An **appropriately qualified person(s)** must monitor, interpret and record all parameters that are required to be monitored, in the manner provided, as per Schedule 1, Table 2 at the monitoring locations described in Schedule 1, Table 1.
G8	All instruments, equipment and measuring devices used for measuring or monitoring in accordance with any condition of this environmental authority must be calibrated, and appropriately operated and maintained.
G9	All analysis and tests required under this environmental authority must be carried out by a laboratory that has NATA certification for such analysis and tests. The only exception to this condition is for the in-situ monitoring of pH, electrical conductivity, chlorine (free and total) and dissolved oxygen.
G10	All determinations of the quality of contaminants released to **waters** or land must be made in accordance with methods prescribed in the **administering authority**'s Water Quality Sampling Manual, or more recent additions or supplements to that document as such become available, or as specifically approved by the **administering authority**.
G11	**Contaminant Releases to Waters and Land – Monitoring Volume** The daily volume of treated sewage effluent released from the sewage treatment plants to **waters** or land must be determined or estimated for each release point, and records kept of such determinations.

G12	The holder of this environmental authority must ensure that for all sewage treatment plants, the results of all monitoring performed in accordance with this environmental authority (excluding REMP's) for the period covered by the return are submitted to the WaTERS database.
G13	**Annual Monitoring Report** An annual monitoring report must be prepared each year and be provided to the **administering authority** with the annual return. The annual monitoring report must include, but not be limited to: (a) An evaluation/explanation of the data from any monitoring programs; and (b) Calculation of annual mass loads of nitrogen and phosphorus released to waters from the sewage treatment plants over the previous 12 months; and (c) An outline of actions taken or proposed to minimise the environmental risk from any deficiency identified by the monitoring or recording programs. *Note: To remove any doubt, monitoring data that has been submitted electronically to the **administering authority** in accordance with a written agreement, for example to the WaTERS database, does not need to be resubmitted in an annual monitoring report.* N*ote: The annual report for the sites listed below are to be provided upon request:* *a) Nambour* *b) Cooroy* *c) Maroochydore* *d) Kawana/Landsborough* *e) Burpengary East* *f) South Caboolture* g) *Woodford*
G14	**By-pass** releases must only occur for wet weather related flows that are in excess of three times **ADWF** of the sewage treatment plants unless specified otherwise within this environmental authority.
G15	**By-pass** releases must, at a minimum, be screened before being released.
G16	The **administering authority** must be notified within 24 hours of any **by-pass** release.
G17	The holder of this approval must record the following details in relation to each **by-pass** release: (a) the start time, date and duration of the release; (b) the estimated daily volume of the bypass; and (c) any monitoring undertaken of the quality of the wastewater released.
Agency interest: Air	
Condition number	**Condition**
A1	Odours or airborne contaminants must not cause **environmental nuisance to any sensitive place** or **commercial place**.
Agency interest: Water	
Condition number	**Condition**
WT1	Other than as permitted within this environmental authority, contaminants must not be released from any site to any **waters** or the bed and banks of any **waters**.
WT2	Other than as permitted within this environmental authority, contaminants must not be released to groundwater or at a location where they are likely to release to groundwater.

WT3	The only contaminants permitted to be released to **waters**, in accordance with the conditions of this environmental authority, are treated sewage effluents.
WT4	Notwithstanding the effluent quality release limits in Schedule 2, the release of contaminant to **waters** must not produce any slick or other visible evidence of oil or grease, nor contain visible floating oil, grease, scum, litter or other objectionable matter.
Agency interest: Noise	
Condition number	**Condition**
N1	Noise from the activities must not exceed the levels identified in Schedule 2, Tables 24, 32, 33 and 34 and the associated requirements at any **nuisance sensitive place** or **commercial place**.
N2	Monitoring must be undertaken to investigate any complaint of noise nuisance upon receipt of a written request from the **administering authority** to carry out such monitoring.
N3	The method of measurement and reporting of noise levels must comply with the **administering authority**'s Noise Measurement Manual or more recent additions or supplements to that document as they become available.
N4	The method of measurement and reporting of noise levels must be undertaken by a person or body possessing appropriate experience and qualifications to perform the required measurements.
Agency interest: Land	
Condition number	**Condition**
L1	Other than as permitted within this environmental authority, contaminants must not be released to land.
L2	The only contaminants permitted to be released to land, in accordance with the conditions of this environmental authority, are sewage treatment effluents.
L3	Re-use of sewage treatment effluents and irrigation of landscaped areas at the **approved places** is permitted.
L4	Treated sewage effluent may be removed from the site and used for an alternate purpose, with the written consent of any third party involved.
L5	The release of contaminants to land must not be carried out within 50 metres of any watercourse.
L6	The release of contaminants to land must not be carried out if soil moisture conditions are such that surface runoff or ponding is likely to occur.
L7	Spray from any release of contaminants to land must not drift beyond the boundaries of the **approved places**.
Agency interest: Waste	
Condition number	**Condition**
WS1	All waste generated in carrying out the activity must be lawfully reused, recycled or removed to a facility that can lawfully accept the waste.

Part 2 - Site Specific Conditions for the following site

Environmentally relevant activities	Location
63-(f) Sewage treatment >50000 but <100000EP	Brendale Sewage Treatment Plant, Cribb Road, Brendale Qld 4500 - Lot 3 Plan SP213172

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

Agency interest: Water	
Condition number	**Condition**
BDW1	Contaminants must not be directly or indirectly released from the **approved place** to any **waters** at any location other than the location listed below: **Release Point W1** - Outfall pipe to **waters** described as the South Pine River, at approximately 7.5 km **AMTD**.
BDW2	The release of contaminants to **waters** must comply, except during bypass events, with each of the limits specified in Schedule 2, Table 1 for each quality characteristic.
BDW3	The total mass load of nitrogen and phosphorus released for any consecutive 365 day period (as calculated in accordance with condition BDW4) shall be less than the limits specified in Schedule 2 Table 2 - Mass load limits.
BDW4	The holder of this environmental authority must calculate yearly mass loads of total nitrogen and total phosphorus discharged at release point W1. Calculate rolling values as follows: Annual Mass Load TN (kg) = Yearly sum of Daily Release Volume (ML) for all dry weather days / the number of dry weather days x 365 x Yearly Median TN Concentration (mg/L) Annual Mass Load TP (kg) = Yearly sum of Daily Release Volume (ML) for all dry weather days / the number of dry weather days in the year x 365 x Yearly Median TP Concentration (mg/L).
BDW5	The holder of this environmental authority must develop and implement a Receiving Environment Monitoring Program to monitor the effects of the release of contaminants on the receiving environment to effectively determine whether environmental values are being protected.
BDW6	In developing the Receiving Environment Monitoring Program, the holder of this environmental authority must: (a) submit a proposal for the Receiving Environment Monitoring Program to the **administering authority** for its review and comment: (i) in the case of the holder of this environmental authority not becoming a **participating member**, 90 days from the date this environmental authority takes effect; or (ii) in the case of the holder of this environmental authority ceasing to be a **participating member**, 60 days from the date the holder of this environmental authority ceases to be a **participating member**; and (b) ensure the proposed program describes and addresses at least the following:

	(i) description of potentially affected environment including key communities and ambient water quality; (ii) description of water quality objectives and biological objectives to be achieved; (iii) description of selected physico-chemical and biological indicators and reasons for their inclusion; (iv) the proposed monitoring locations including control locations and reasons for their selection; (v) the proposed sampling depths; (vi) the frequency of sampling and analysis; (vii) any historical data sets to be relied upon; and (viii) description of the statistical basis on which conclusions are drawn; and (c) reflect the comments of the **administering authority** in the finalisation of the Receiving Environment Monitoring Program.
BDW7	The holder of this environmental authority must submit a report of the results of the Receiving Environment Monitoring Program including an assessment of the impact of the release of contaminants upon the receiving environment with each annual return. The assessment must address whether environmental values are being protected with reference to water quality data and any other monitoring data obtained and state the basis on which conclusions are drawn.
BDW8	As an alternative to developing and implementing a Receiving Environment Monitoring Program, the holder of this environmental authority may become and remain a **participating member** in a study carried out by other persons or agencies that meets the requirements of this environmental authority, such as, the Southeast Queensland Regional Water Quality Management Study and the Ecological Health Monitoring Program proposed to be carried out under the Study.
BDW9	If the holder of this environmental authority ceases to be to be a **participating member** in an equivalent study, then the holder of this environmental authority must within fourteen (14) days notify the **administering authority** in writing that they are no longer a **participating member**.

Part 3 - Site Specific Conditions the following site

Environmentally relevant activities	Location
63-(1e) Sewage treatment >10000 but <50000EP	Bribie Island Sewage Treatment Plant, First Avenue, Bribie Island Qld 4507 - Lot 500 Plan SP199934 and Lot 211 CG6386

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

Agency interest: Water	
Condition number	**Condition**
BIW1	Contaminants must not be directly or indirectly released from the **approved place** to any **waters** at any location other than at the location listed below: **Release Point W1** Outfall pipe discharged to groundwater via the 7 rapid sand infiltration ponds, located approximately 1 km south east of the treatment plant **Release Point W2** Original effluent sewage disposal area

BIW2	The quantity of release of treated effluent must not exceed 11535 cubic metres on any **dry weather day** and 32040 cubic metres on any **wet weather day**.
BIW3	The release of contaminants to **waters** must comply, except during bypass events, with each of the limits specified in Schedule 2, Table 3 for each quality characteristic.
BIW4	The holder of this environmental authority must conduct an on-going Groundwater Monitoring Program to monitor the quality of groundwater affected, or likely to be affected, by the indirect discharge of treated wastes to the groundwater via the sand infiltration ponds.
BIW5	The Groundwater Monitoring Program must include but not be limited to the following: (a) validation of the plume flow direction as per groundwater modelling; (b) measurement of standing water levels in bores on each occasion that samples are obtained for groundwater monitoring; (c) collecting samples of groundwater from each of the 17 groundwater bores except when any of the bores are dry or inaccessible once in every month and analysing the samples for at least the following indicators: (i) total nitrogen; (ii) nitrate; (iii) total Kjeldahl nitrogen; (iv) total phosphorus; (v) chloride; (vi) conductivity; (vii) pH; (viii) E. coli (ix) faecal coliforms; and (x) enteroviruses; (d) determining changes in vegetation by aerial photography and ground observation.
BIW6	Each groundwater monitoring bore must be fitted with a locked cap at all times other than at the time of sampling.
BIW7	The holder of this environmental authority must submit a report of the results of the Groundwater Monitoring Program including an assessment of the impact of the discharge upon the receiving environment with respect to water quality criteria with each Annual Return. This 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.

Part 4 - Site Specific Conditions for the following site

Environmentally relevant activities	Location
63-(1f) Sewage treatment >50000 but <100000EP	Burpengary East Sewage Treatment Plant, Uhlmann Road, Burpengary Qld 4505 - Lot 185 Plan SP215609

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

Agency interest: Water	
Condition number	**Condition**
BEW1	Contaminants must not be directly or indirectly released from the **approved place** to any **waters** at any location other than at the location listed below:

	Release Point W1 Outfall pipe to **waters** described as the Caboolture River at approximately **AMTD** 1.2 km.
BEW2	The discharge of contaminants from release point W1 must only occur four and a half (4.5) hours on either side of high tide.
BEW3	The release of contaminants to **waters** must comply, except during bypass events, with each of the limits specified in Schedule 2, Table 3 for each quality characteristic.
BEW4	The total mass load of Nitrogen and Phosphorus released for any consecutive 365 day period (as calculated in accordance with condition BEW5) shall be less than the limits specified in Schedule 2 Table 4 - Mass load limits or Schedule 2 Table 4a - Net Annual Combined Mass Load Release Limits.
BEW5	The holder of this environmental authority must calculate yearly mass loads of total nitrogen and total phosphorus discharged at release point W1. Calculate rolling values as follows: Annual Mass Load TN (kg) = Yearly sum of Daily Release Volume (ML) for all dry weather days / the number of dry weather days x 365 x Yearly Median TN Concentration (mg/L) Annual Mass Load TP (kg) = Yearly sum of Daily Release Volume (ML) for all dry weather days / the number of dry weather days in the year x 365 x Yearly Median TP Concentration (mg/L).
BEW6	The holder of this environmental authority must develop and implement a Receiving Environment Monitoring Program to monitor the effects of the release of contaminants on the "receiving environment" to effectively determine whether environmental values are being protected. "Receiving environment" for the purpose of the Receiving Environment Monitoring Program means the Caboolture River and Moreton Bay.
BEW7	In developing The Receiving Environment Monitoring Program, the holder of this environmental authority must: (a) submit a proposal for the Receiving Environment Monitoring Program to the **administering authority** for its review and comment: (i) in the case of the holder of this environmental authority not becoming a **participating member**, 90 days from the date this environmental authority takes effect; or (ii) in the case of the holder of this environmental authority ceasing to be a **participating member**, 60 days from the date the holder of this environmental authority ceases to be a **participating member**; and (b) ensure the proposed program describes and addresses at least the following: (i) description of potentially affected environment including key communities and ambient water quality; (ii) description of water quality objectives and biological objectives to be achieved; (iii) description of selected physico-chemical and biological indicators and reasons for their inclusion; (iv) the proposed monitoring locations including control locations and reasons for their selection; (v) the proposed sampling depths; (vi) the frequency of sampling and analysis; (vii) any historical data sets to be relied upon; and (viii) description of the statistical basis on which conclusions are drawn; and (c) reflect the comments of the **administering authority** in the finalisation of the Receiving Environment Monitoring Program.

<table>
<tr><td>BEW8</td><td>As an alternative to developing and implementing a Receiving Environment Monitoring Program, the holder of this environmental authority may become and remain a participating member in a study carried out by other persons or agencies that meets the requirements of conditions BEW6 and BEW7 (the equivalent study), such as, the Southeast Queensland Regional Water Quality Management Study and the Ecological Health Monitoring Program proposed to be carried out under the Study.</td></tr>
<tr><td>BEW9</td><td>If the holder of this environmental authority ceases to be to be a participating member in an equivalent study, then the holder of this environmental authority must within fourteen (14) days notify the administering authority in writing that they are no longer a participating member.</td></tr>
<tr><td>O1</td><td>The holder of the environmental authority must undertake a Caboolture River catchment study and submit the report to the administering authority prior to commencing Schedule 2 Table 4a - Net Annual Combined Mass Load Release Limits.

The study must include:
1. The relative contributions of the wastewater releases from both the Burpengary East Sewage Treatment Plant and Caboolture South Sewage Treatment Plant considering the current and potential future releases from the other point and diffuse source contributions in the Caboolture River catchment.
2. Alternatives to direct release of wastewater from Burpengary East and Caboolture South Sewage Treatment Plants such as irrigation and reuse.
3. Alternative nutrient management options for loads released to the Caboolture Estuary from the Burpengary East Sewage Treatment Plant and Caboolture South Sewage Treatment Plant included but not limited to, treatment, offsets and bubble licences.
4. Action/s to be implemented following completion of the study relative to a timeline for improvements in receiving water quality based on the relative contributions of the wastewater releases from both the Burpengary East Sewage Treatment Plant and Caboolture South Sewage Treatment Plant.</td></tr>
<tr><td>O2</td><td>If the holder of this environmental authority carries out an offsite nutrient reduction action via streambank stabilisation works within the catchment of Caboolture River, it must be in accordance with Option A in document entitled: Unitywater Burpengary East Sewage Treatment Plant – Lower Caboolture River Nutrient Offset Project Delivery Proposal Caboolture River Planning and Design, prepared by SEQC Services Pty Ltd, prepared for Unity water, dated 6 April 2018 included in Attachment 2 of Schedule 4 of this environmental authority.</td></tr>
<tr><td>O3</td><td>The offset nutrient reduction action referred to in condition O2 must generate pollution credits for total nitrogen and total phosphorus specified in Table 1 – Pollution credit requirements
Table 1 – Pollution Credit Requirement
<table>
<tr><th>Pollutant</th><th>Pollution Credit (tonnes/year)</th></tr>
<tr><td>Total Nitrogen</td><td>4.51</td></tr>
<tr><td>Total Phosphorus</td><td>1.12</td></tr>
</table>
Associated requirement:
1. The pollution credit continues to have effect for a period of ten (10) years from the date of practical completion.</td></tr>
<tr><td>O4</td><td>The holder of this environmental authority must implement the Offsite Nutrient Reduction Action Monitoring Program described in Table 4b of Schedule 2 of this environmental authority.</td></tr>
</table>

Part 5a - Site Specific Conditions for the following site

Environmentally relevant activities	Location

63-(1f) Sewage treatment >50000 but <100000EP 62 - Resource recovery and transfer facility operation (1)(c) receiving and sorting, dismantling, baling or temporarily storing category 2 regulated waste 8-(5) Chemical Storage >200m^3 liquids	Caboolture South Sewage Treatment Plant, , 600 Market Drive, Morayfield Qld 4506 - Lot 1 Plan SP242604

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

Agency interest: General	
Condition number	**Condition**
CSG1	Chemicals and fuels in containers of greater than 15 litres must be stored within a **secondary containment system.**
Agency interest: Water	
Condition number	**Condition**
CSW1	Contaminants must not be directly or indirectly released from the **approved place** to any **waters** at any location other than at the location listed below: **Release Point W1** Outfall pipe to **waters** described as the Caboolture River at 19.0 km **AMTD**.
CSW2	Release point W1 must be submerged such that the top of the outfall pipe is at least 0.14 metres below Low Water Datum in the Caboolture River.
CSW3	The release of contaminants to **waters** must comply, except during bypass events, with each of the limits specified in Schedule 2, Table 3 for each quality characteristic.
CSW4	The total mass load of nitrogen and phosphorus released for any consecutive 365 day period (as calculated in accordance with condition CSW5) shall be less than the limits specified in Schedule 2 Table 5 - Mass load limits.
CSW5	The holder of this environmental authority must calculate yearly mass loads of total nitrogen and total phosphorus discharged at release point W1. Calculate rolling values as follows: Annual Mass Load TN (kg) = Yearly sum of Daily Release Volume (ML) for all dry weather days / the number of dry weather days x 365 x Yearly Median TN Concentration (mg/L) Annual Mass Load TP (kg) = Yearly sum of Daily Release Volume (ML) for all dry weather days / the number of dry weather days in the year x 365 x Yearly Median TP Concentration (mg/L).
CSW6	The holder of this environmental authority must develop and implement a Receiving Environment Monitoring Program to monitor the effects of the release of contaminants on the "receiving environment" to effectively determine whether environmental values are being protected. "Receiving environment" for the purpose of the Receiving Environment Monitoring Program means the Caboolture River and Moreton Bay.

CSW7	In developing The Receiving Environment Monitoring Program, the holder of this environmental authority must: (a) submit a proposal for the Receiving Environment Monitoring Program to the **administering authority** for its review and comment: (i) in the case of the holder of this environmental authority not becoming a **participating member**, 90 days from the date this environmental authority takes effect; or (ii) in the case of the holder of this environmental authority ceasing to be a **participating member**, 60 days from the date the holder of this environmental authority ceases to be a **participating member**; and (b) ensure the proposed program describes and addresses at least the following: (i) description of potentially affected environment including key communities and ambient water quality; (ii) description of water quality objectives and biological objectives to be achieved; (iii) description of selected physico-chemical and biological indicators and reasons for their inclusion; (iv) the proposed monitoring locations including control locations and reasons for their selection; (v) the proposed sampling depths; (vi) the frequency of sampling and analysis; (vii) any historical data sets to be relied upon; and (viii) description of the statistical basis on which conclusions are drawn; and (c) reflect the comments of the **administering authority** in the finalisation of the Receiving Environment Monitoring Program.
CSW8	Within 30 days of the date of receipt of written comment from the **administering authority** as per condition CSW8, or such other period as advised in writing by the **administering authority**, the applicant must commence carrying out the Receiving Environment Monitoring Program.
CSW9	As an alternative to developing and implementing a Receiving Environment Monitoring Program, the holder of this environmental authority may become and remain a **participating member** in a study carried out by other persons or agencies that meets the requirements of conditions CSW6 and CSW7 (the equivalent study), such as, the Southeast Queensland Regional Water Quality Management Study and the Ecological Health Monitoring Program proposed to be carried out under the Study.
CSW10	If the holder of this environmental authority ceases to be to be a **participating member** in an equivalent study, then the holder of this environmental authority must within fourteen (14) days notify the **administering authority** in writing that they are no longer a **participating member**.
Agency interest: Waste	
Condition number	**Condition**
CSWA1	Only the following waste streams can be received at the site: Asbestos piping.
CSWA2	All asbestos stored at the approved site must be stored in a dedicated skip bin which is double lined with heavy duty plastic sheeting (minimum 200 µm thickness) and either: a) Double bagged and sealed in heavy duty polythene bags (minimum 200 µm thickness); or b) Where the volume or size of asbestos waste is greater than the volume or size of a bag, kept damp and completely sealed in the skip bin with plastic sheeting and adhesive.
CSWA3	All asbestos stored at the approved place must be:

	a) Labelled with a warning statement to indicate the presence of asbestos and that dust creation and inhalation needs to be avoided; b) Stored securely in such a way that does not cause the packaging to rupture; c) Repackaged immediately if rupturing of the packaging does occur.

Part 5b - Site Specific Conditions for the following site

Environmentally relevant activities	Location
8-(5) Chemical Storage >200m^3 liquids	Caboolture South Sewage Treatment Plant, , 600 Market Drive, Morayfield Qld 4506 - Lot 1 Plan SP242604

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

Agency interest: Water	
Condition number	**Condition**
CSW11	The stormwater runoff from **disturbed areas**, generated by a storm event up to and including a **24 hour storm event with an average recurrence interval of 1 in 10 years** must be retained on site or managed to remove contaminants before released offsite.

Part 6 - Site Specific Conditions for the following site

Environmentally relevant activities	Location
63-(1e) Sewage treatment >10000 but <50000EP	Coolum Sewage Treatment Plant, Marsh Road, Coolum Qld 4573 - Lot 2 Plan RP157969, Lot 880 Plan CG4583, Lot 209 RP163096 and Lot 5 Plan RP157969

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

Agency interest: Water	
Condition number	**Condition**
CLW1	Contaminants must not be directly or indirectly released from the **approved place** to any **waters** at any location other than at the location listed below: **Release point W1** - Coolum STP outfall located at approximately 13.0 km **AMTD** Maroochy River.
CLW2	The release of contaminants to **waters** must comply, except during bypass events, with each of the limits specified in Schedule 2 Table 7 for each quality characteristic.

CLW3	The total mass load of nitrogen and phosphorous released for any consecutive 365 day period (as calculated in accordance with CLW4) shall be less than the limits specified in Schedule 2, Table 8 – Mass Load Limits.
CLW4	The holder of this environmental authority must calculate yearly mass loads of total nitrogen and total phosphorus discharged in fully treated effluent at release point W1. Calculate rolling values as follows: Annual Mass Load TN (kg) = Yearly sum of Daily Release Volume (ML) for all dry weather days / the number of dry weather days x 365 x Yearly Median TN Concentration (mg/L) Annual Mass Load TP (kg) = Yearly sum of Daily Release Volume (ML) for all dry weather days / the number of dry weather days in the year x 365 x Yearly Median TP Concentration (mg/L).

Part 7 - Site Specific Conditions for the following site

Environmentally relevant activities	Locations
63-(1d) Sewage treatment >4000 but <10000EP	Cooroy Sewage Treatment Plant, Johnson Court, Cooroy Qld 4563 - Lot 2 Plan SP248288

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

Agency interest: Water	
Condition number	**Condition**
COW1	Contaminants must only be directly or indirectly released from any source to any **waters** at the locations described below: **Release Point W1** – release of effluent from the chlorine contact tank to **waters** described as the constructed wetlands at a location described as Lot 5 on SP188234 Parish of Tewantin, County of March. **Release Point W2** – release of effluent from the constructed wetlands via v-notch weir and open channel to **waters** described as Cooroy Creek at a location described as adjacent to Lot 5 on SP188234 Parish of Tewantin, County of March.
COW2	The release of contaminants to **waters** must comply, except during bypass events, with each of the limits specified in Schedule 2, Table 9.
COW3	Within 12 months of this environmental authority taking effect, a Receiving Environment Monitoring Program must be designed and conducted to monitor the effects of the release of contaminants on the receiving water environment.
COW4	The REMP for the sewage treatment plant must include but not be limited to the following: (a) description of potentially affected receiving **waters** including key communities and background water quality characteristics based on accurate and reliable monitoring data that takes into consideration any temporal variation (e.g. seasonality); and (b) description of applicable environmental values and water quality objectives to be achieved (i.e. as scheduled pursuant to the *Environmental Protection (Water) Policy 2009*); and

	(c) description of selected physio-chemical and biological indicators and reasons for their inclusion; and (d) the locations of monitoring stations including monitoring transects away from the outfall of the approved release as well as any control locations; and (e) the proposed sampling depths; and (f) the water quality characteristics of receiving **waters** to be determined and clarification of contaminant concentrations or levels indicating adverse environmental impacts during the REMP; and (g) the frequency of sampling and analysis; and (h) any historical data sets to be relied upon; and (i) description of the statistical basis on which conclusions are drawn; and (j) any relevant reports prepared by other governmental or professional research organisations that relate to the receiving environment within which the REMP is proposed.

Part 8 - Site Specific Conditions for the following site

Environmentally relevant activities	Location
63-(1c) Sewage treatment >1500 but <4000EP	Dayboro Sewage Treatment Plant, Strong Road, Dayboro Qld 4521 - Lot 2 Plan RP808643

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

Agency interest: Land	
Condition number	**Condition**
DBL1	Contaminants must only be released to the defined contaminant release areas described as irrigation areas No. 1, 2, 3, 4 and 5 as marked on the Unitywater Dayboro Irrigation Farm, Irrigation Management Plan.
DBL2	A minimum of nine (9) hectares of land must be provided for the contaminant release area.
DBL3	The quantity of contaminants released to the release area during any day must not exceed 650 cubic metres.
DBL4	The rate of application of contaminants to the release area must not exceed 18 litres per second.
DBL5	Treated sewage effluent released to the Wet Weather Storage Dam must be monitored as per Schedule 1, Table 2.
DBL6	Treated sewage effluent released from the Wet Weather Storage Dam to land must be monitored as per Schedule 1, Table 3.

DBL7	The contaminants released from the sewage treatment plant to the Wet Weather Storage Dam must comply with each of the release limits specified in Schedule 2, Table 10 for each quality characteristic.
DBL8	The quality of treated sewage effluent used for irrigation purposes, or supplied to another party for irrigation purposes must be monitored as a minimum in accordance with the Queensland Water Recycling Guidelines 2005 or more recent editions or replacements of this document and the conditions of this environmental authority.
DBL9	Public access to any contaminant release area must be denied during the release of contaminants to land and until the release area has dried.
DBL10	Pipelines and fittings for the release of contaminants to land must be clearly identified. Standard water taps, hoses and cocks must not be fitted to contaminant release pipelines, and the contaminant release system must not be connected to other service pipelines. Lockable valves or removable handles must be fitted to the contaminant release pipelines where there is public access to the contaminant release areas.
DBL11	All treated effluent and bypassed sewage must be directed to a wet weather storage.
DBL12	The wet weather storage must be designed to hold a volume equivalent to approximately 110 days storage based on 340 cubic metres per day average wastewater generation rate.
DBL13	The wet weather storage must be designed and operated to have a total excess capacity of at least thirty-four (34) megalitres at all times, except in the period after wet weather and provided all reasonable and practicable measures are taken to dispose of the excess effluent by irrigation.
DBL14	The holder of this environmental authority must develop and implement a Contaminant Release Area Monitoring Program to effectively monitor the condition of the land to which contaminants are released.
DBL15	Monitoring required by Condition DBL14 shall include the taking of top soil and sub-soil samples from at least thirty (30) representative sites for the quality characteristics and at the frequency specified in Schedule 1, Table 4.
DBL16	The Contaminant Release Area Monitoring Program must include but not be limited to the following: (i) the locations of monitoring stations including soil types and depths.
DBL17	The holder of this environmental authority must submit with each annual return a report on the Contaminant Release Area Monitoring Program including an assessment of the impact and sustainability of the application of sewage treatment effluent to the contaminant release area. This report must include an interpretation of the results and conclusions by an expert in the field of effluent land disposal.

Part 9 - Site Specific Conditions for the following site

Environmentally relevant activities	Location
63-(1b)(ii) - operating sewage treatment works, other than no-release works, with a total daily peak design capacity of (b) more than 100 but not more than 1,500EP, if treated effluent is discharged from the works (ii) otherwise	Kenilworth Sewage Treatment Plant, Cambroon Lane, KENILWORTH QLD 4574 Lot 1 Plan RP105356 and Lot 3 Plan SP176246

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

Agency interest: Water	
Condition number	**Condition**
KWW1	Contaminants must not be directly or indirectly released from the **approved place** to any **waters** at any location other than the location listed below: **Release point W1** – Outfall pipe located in waters described as Beattie Creek at a location described as Sewage Treatment Plant.
KWW2	The total quantity of contaminants released from **release point W1** during any dry weather day must not exceed 125 cubic metres and during a wet weather day must not exceed 375 cubic metres.
KWW3	The release of contaminants to waters must comply, except during bypass events, with each of the limits specified in Schedule 2 Table 11 for each quality characteristic.
KWW4	All ponds used for the storage or treatment of contaminants or wastes must be installed and maintained to ensure the stability of the ponds construction.
KWW5	Ponds or other structures used for the storage or treatment of contaminants or wastes, including any associated pumps and control equipment, must not be located in any area below the one in ten year flood level.
KWW6	Ponds or other structures used for the storage or treatment of contaminants or wastes must not be located in any area likely to receive substantial stormwater runoff.
KWW7	Suitable banks and or diversion drains must be installed and maintained to exclude stormwater runoff from any ponds or other structures used for the storage or treatment of contaminants or wastes.
Agency interest: Land	
Condition number	**Condition**
KWL1	The contaminants to be released to land are treated sewage effluent in accordance with the limits specified in Schedule 2 Table 11a - Treated effluent release limits to land at Kenilworth STP and the associated requirements.
KWL2	Treated effluent released to land must be done in accordance with documentation that ensures: a) drainage to groundwater and subsurface flows of contaminants to surface waters are prevented b) surface pondage and run-off of effluent is prevented c) degradation of soil structure is minimised d) soil sodicity and the build-up of nutrients and heavy metals in the soil and subsoil are minimised e) spray drift or overspray does not carry beyond effluent disposal areas f) effluent disposal areas are maintained with an appropriate crop in a viable state for transpiration and nutrient uptake g) sufficient buffer zones are maintained between irrigation sites and sensitive environmental receptors.

KWL3	A receiving environment monitoring program must be designed and implemented by an appropriately qualified person(s) to monitor the effects of the activity on land.
KWL4	The receiving environment monitoring program required by condition KWL3, must include at least the following: A soil survey, to ensure that the capacity of the land to assimilate nitrogen, phosphorus, salts and organic matter is not exceeded. The survey needs to 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 irrigation release areas; and 2. 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; and 3. reporting of monitoring results and an assessment of the impact of the releases on the irrigation areas.
KWL5	The holder of this environmental authority must submit report on the receiving environment monitoring program including an assessment of the impact and sustainability of the application of treated sewage effluent to the contaminant release area on a biennial basis. This report must include an interpretation of results and conclusions by an expert in the field of effluent land disposal.
KWL6	The defined contaminant release area is described as sludge disposal area.
KWL7	All contaminants must be stored or disposed of on the defined contaminant disposal area.

Part 10 - Site Specific Conditions for the following sites

Environmentally relevant activities	Locations
63-(1e) Sewage treatment >10000 but <50000EP	Landsborough Sewage Treatment Plant, Forestry Road, Landsborough Qld 4550 - Lot 10 Plan CP907012, Lot 1 Plan RP110299, Lot 269 Plan CG921, Lot 7 Plan RP166390 and Part of Lot 561 Plan FTY1655
63-(1g) Sewage treatment >100000EP	Kawana Sewage Treatment Plant, Main Drive, Bokarina Qld 4575 - Lot 101 on SP295012

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

Agency interest: Water	
Condition number	**Condition**
KLW1	Contaminants must not be directly or indirectly released from the **approved place**s to any **waters** at any location except at the locations detailed below: **Release Point W1** Outfall pipe located in **waters** described as the Pacific Ocean off Warana Beach, Caloundra. **Release Point W2** via the Ornamental Wetlands on Lot 1, RP110299 and Lot 269 on Crown Grant 921, County of Canning, Parish of Bribie located adjacent to Ewan Maddock Dam and Glasshouse Mountains Road, Landsborough, Qld 4550, to the outfall pipe located in **waters** described as the Pacific Ocean off Warana Beach, Caloundra. **Release Point W3** Outfall pipe located in **waters** described as Mooloolah River at a location described as opposite Portion 360, Parish of Mooloolah, County of Canning.
KLW2	Release Point W3 must not be used except during times of unavailability of Release Point W1 due to maintenance of the Pacific Ocean outfall, its pumps and associated infrastructure, or excessive rainfall resulting in excess of 3 x **ADWF** reporting to the Kawana sewage treatment plant and storage of the effluent is no longer possible.
KLW3	Uses of Release Point W3 are notifiable incidents under Condition G4.
KLW4	The total quantity of contaminants released from release point numbers W1 and W3 during any **dry weather day** must not exceed 34,000 cubic metres and during a **wet weather day** must not exceed 170,000 cubic metres.
KLW5	Only effluent that has treated by biological treatment, clarification and disinfection is permitted to be discharged via release point W3.
KLW6	The release of contaminants to **waters** at W1 and W3 must comply, except during bypass events, with each of the limits specified in Schedule 2 Table 12 for each quality characteristic.
KLW7	The release of contaminants to **waters** at W2 must comply, except during bypass events, with each of the limits specified in Schedule 2 Table 13 for each quality characteristic.
KLW8	The Ornamental Wetland must be designed and maintained to prevent any discharge or overflow to any **waters** (including groundwater).
KLW9	A Mooloolah River Monitoring Program must be designed and conducted to monitor the effects of any release of contaminants via release point W3 to the Mooloolah River.
KLW10	The program required by KLW9 must include but not be limited to the following: (a) description of potentially affected receiving waters including key communities and background water quality characteristics based on accurate and reliable monitoring data that takes into consideration any temporal variation (e.g. seasonality); and (b) description of applicable environmental values and water quality objectives to be achieved (i.e. as scheduled pursuant to the *Environmental Protection (Water) Policy 2009*); and (c) description of selected physio-chemical and biological indicators and reasons for their inclusion; and (d) the locations of monitoring stations including monitoring transects away from the outfall of the approved release as well as any control locations; and (e) the proposed sampling depths; and

	(f) the water quality characteristics of receiving waters to be determined and clarification of contaminant concentrations or levels indicating adverse environmental impacts during the monitoring program; and (g) the frequency of sampling and analysis; and (h) any historical data sets to be relied upon; and (i) description of the statistical basis on which conclusions are drawn; and (j) any relevant reports prepared by other governmental or professional research organisations that relate to the receiving environment within which the monitoring is proposed.

Part 11 - Site Specific Conditions for the following site

Environmentally relevant activities	Location
63-(1d) Sewage treatment >4000 but <10000EP	Maleny Sewage Treatment Plant, Landsborough Maleny Road, Maleny Qld 4552 - Lot 24 Plan RP895755, Lot 1 Plan RP177305, and Lot 3 Plan SP184546.

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

Agency interest: Water	
Condition number	**Condition**
MLW1	Treated sewage effluent must only be released from the Maleny Sewage Treatment Plant to **waters** from the following release point(s): **- Release Point W1** - release of effluent to **waters** described as the constructed treatment wetland at a location described as Lot 3 on SP184546 and shown in attachment 1 – Plan prepared by GHD titled Water Monitoring Locations (revision 0) and dated FEB 2012. **- Release Point W2** – release of effluent from the constructed treatment wetland via a vegetated drainage channel to **waters** described as Obi Obi Creek at a location described as Lot 3 on SP184546 and shown in attachment 1 - Plan prepared by GHD titled Water Monitoring Locations (revision 0) and dated FEB 2012. **- Release Point W3** – - release of fully treated effluent directly from the treatment plant to Obi Obi Creek during flows in excess of 3 x **ADWF** but less than 5 x **ADWF**; or - release of fully treated effluent to Obi Obi Creek during times of unavailability of Release Point W1 due to maintenance of essential infrastructure; or - by-pass flows to Obi Obi Creek when flow to the plant exceeds the peak design capacity.
MLW2	Release of effluent to release point W1 must only occur when: a) flows to the plant exceed 1 x average dry weather flow; and/or b) the irrigation forest is unavailable due to maintenance; and/or c) to **maintain biological integrity** of the constructed wetlands; and/or d) compliance with condition MLL3 cannot be achieved.
MLW3	In the event that release to release point W3 occurs as a result of flows exceeding 3 x **ADWF** but not exceeding 5 x **ADWF,** or infrastructure maintenance, the release limits in Schedule 2, Table 14 apply to the release.
MLW4	The release of contaminants to **waters** must comply, except during bypass events, with each of the limits specified in Schedule 2, Table 14.

MLW5	Monitoring of effluent from the sewage treatment plant and water released from the constructed wetland must be undertaken for the characteristics and frequency specified in Schedule 1, Table 7.
MLW6	The total mass load of nitrogen and phosphorus released to Obi Obi Creek from release points W2 and W3 (excluding by-pass events) for any consecutive 365 day period (as calculated in accordance with condition MLW7) shall be less than the following limits: Total Nitrogen – 786kg/year Total Phosphorous – 178 kg/year
MLW7	The holder of this environmental authority must calculate yearly mass loads of total nitrogen and total phosphorus discharged in fully treated effluent to Obi Obi Creek. Calculate rolling values as follows: Annual Mass Load TN (kg) = Yearly sum of Daily Release Volume (ML) for all dry weather days / the number of dry weather days x 365 x Yearly Median TN Concentration (mg/L) Annual Mass Load TP (kg) = Yearly sum of Daily Release Volume (ML) for all dry weather days / the number of dry weather days in the year x 365 x Yearly Median TP Concentration (mg/L).
MLW8	An investigation into the treatment performance of the constructed wetland must be initiated within 10 business days of an exceedance of a trigger value stated in Schedule 2, Table 15, or if requested by the **administering authority**. The investigation must: (a) Identify the potential cause of the exceedance; and (b) Identify actions and associated timeframes necessary to prevent further exceedances.
MLW9	The person undertaking the **activity** to which this environmental authority relates must notify the **administering authority** of the results of the investigation within 10 business days of completion of the investigation.
MLW10	The operation of the forest irrigation area and constructed wetland must not result in adverse environmental impacts on groundwater.
MLW11	Within 12 months of this environmental authority taking effect, a Receiving Environment Monitoring Program must be designed and conducted to monitor the effects of the release of contaminants on the Obi Obi Creek[1]. The REMP for the sewage treatment plant must include but not be limited to the following:

[1] The holder of this approval becoming and remaining a "participating member" in any water quality strategies and monitoring programs relevant to Obi Obi Creek achieves compliance with the requirement for a REMP.

The holder of this approval is deemed by the administering authority to be a "participating member" in regional studies in the following situation:

(a) The operator is a "contributing member" to the regional studies of water quality and ecosystem health; and

(b) The operator is identified as a "contributing member" in a written statement to the administering authority from the authority carrying out the regional studies; and

(c) The operator continues to be a "contributing member" of such regional studies.

	(a) description of potentially affected receiving waters including key communities and background water quality characteristics based on accurate and reliable monitoring data that takes into consideration any temporal variation (e.g. seasonality); and (b) description of selected physicochemical and biological indicators and reasons for their inclusion; and the locations of monitoring stations including any control locations; and the proposed sampling depths; and (c) the water quality characteristics of receiving waters to be determined and clarification of contaminant concentrations or levels indicating adverse environmental impacts during the REMP; and 3. the frequency of sampling and analysis; and any historical data sets to be relied upon; and 5. description of the statistical basis on which conclusions are drawn; and (d) any relevant reports prepared by other governmental or professional research organisations that relate to the receiving environment within which the REMP is proposed.
MLW12	The holder of this environmental authority must seek comment from the **administering authority** on the REMP design and reflect the comments made by the **administering authority** in finalising the requirements of the REMP.
MLW13	If the holder of this environmental authority no longer meets the criteria as a **participating member**, the operator must: (a) Within 30 days of ceasing to be a **participating member**, submit a proposal to the **administering authority** that details how the holder will fulfill the requirements for a REMP as per condition MLW11; (b) Implement the REMP within 6 months of ceasing to be a **participating member**.
Agency interest: Land	
Condition number	**Condition**
MLL1	Contaminants must only be released to land at the **approved place** from the following release point: **Release Point L1** - release of effluent to land described as the forest irrigation area at a location described as within the northern extent of Lot 3 on SP184546 and shown in a plan included in Attachment 1 of Schedule 4 of this environmental authority.
MLL2	The release of contaminants from Release Point L1 must comply with each of the limits specified in Schedule 2, Table 16.
MLL3	The holder of this environmental authority may cause or permit the release of treated wastewater to the forest irrigation area only while all of the following apply: (a) daily rainfall is between 0 and 15mm; (b) irrigation only occurs between 8pm and 6am only; (c) no wastewater is released within 10m of any property boundary; (d) no wastewater is released within 30m of a residential area; (e) no wastewater is released within 100m of Obi Obi Creek; (f) no erosion is caused by the irrigation of wastewater; (g) vegetation is not damaged by the irrigation of wastewater; (h) there is no surface ponding of wastewater; and

	(i) any run-off of wastewater from the forest irrigation area must be directed to the constructed wetland.
MLL4	The holder of this environmental authority must ensure that, excluding any buffers required under condition MLL3: (a) a minimum area of 10.5 hectares is dedicated for the irrigation of treated wastewater from the sewage treatment plant for flows up to 750kL/day; (b) a minimum area of 13.8 hectares is dedicated for the irrigation of treated wastewater from the sewage treatment plant when flows exceed 750kL/day.
MLL5	**Soil Impact Monitoring Program** The holder of this environmental authority must implement and maintain a soil impact monitoring program (SIMP) for the release of contaminants to land(s). As a minimum, the SIMP must include: a) Analysis of the top 300mm of soil (the active root zone) within the forest irrigation area(s), to be carried out at representative locations over the whole irrigated land area for the parameters and the frequencies specified in Schedule 1, Table 8 - Soil Monitoring Parameters and Frequency; and b) interpretation of the results of soil analysis to determine any detrimental impacts on the soil structure and any potential for contaminants to leach to surface or groundwater.
MLL6	The irrigation forest area must be planted out with a selection of native and/or locally indigenous plant species.
MLL7	**Environmental weeds** must be managed to prevent infestations.

Part 12 - Site Specific Conditions for the following site

Environmentally relevant activities	**Location**
63-(1g) Sewage treatment >100000EP 62 - Resource recovery and transfer facility operation (1)(c) receiving and sorting, dismantling, baling or temporarily storing category 2 regulated waste	Maroochydore Sewage Treatment Plant, 38 Commercial Road, Maroochydore Qld 4558 - Lot 103 Plan SP206542.

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

Agency interest: General	
Condition number	**Condition**
MCG1	This environmental authority is for the operation of a sewage treatment plant with a peak design capacity to treat waste water up to 34 ML/day (**ADWF**).

Agency interest: Water	
Condition number	**Condition**
MCW1	The release of contaminants to **waters** must comply, except during bypass events, with each of the limits specified in Schedule 2, Table 17 at the following discharge locations: • **Release point W1** - Sewage Treatment Plant outfall pipe located in **waters** described as the Maroochy River at approximately 5 km **AMTD**. • **Release point W2** - Sewage Treatment Plant effluent lagoon overflow described as Eudlo Creek at approximately 1.6 km **AMTD**.
MCW2	The discharge location W1 must be submerged such that the top of the outfall pipe is at least 2 meters below Mean Low Water Springs.
MCW3	All contaminants from discharge location W1 must be released through a suitable diffuser to achieve a minimum initial dilution of 1:30 within 100 m of the release point.
MCW4	Release point W2 shall only be used during times of unavailability of Release point W1 due to maintenance of the Maroochy River outfall, its pumps and associated infrastructure; prolonged power failure; or construction activities which may require the outfall to be taken out of service; or during periods of excessive rainfall.
MCW5	Uses of release point W2 are notifiable incidents under condition G4.
MCW6	The total mass load of nitrogen and phosphorus released for any consecutive 365 day period (as calculated in accordance with condition MCW7) shall be less than the limits specified in Schedule 2, Table 18.
MCW7	The holder of this environmental authority must calculate yearly mass loads of total nitrogen and total phosphorus discharged at release point W1. Calculate rolling values as follows: Annual Mass Load TN (kg) = Yearly sum of Daily Release Volume (ML) for all dry weather days / the number of dry weather days x 365 x Yearly Median TN Concentration (mg/L) Annual Mass Load TP (kg) = Yearly sum of Daily Release Volume (ML) for all dry weather days / the number of dry weather days in the year x 365 x Yearly Median TP Concentration (mg/L).
MCW8	The holder of this environmental authority must develop and implement a Receiving Environment Monitoring Program to monitor the effects of the release of contaminants on the "receiving environment" to effectively determine whether environmental values are being protected.
MCW9	In developing The Receiving Environment Monitoring Program, the holder of this environmental authority must: (a) submit a proposal for the Receiving Environment Monitoring Program to the **administering authority** for its review and comment: (i) in the case of the holder of this environmental authority not becoming a **participating member**, 90 days from the date this environmental authority takes effect; or (ii) in the case of the holder of this environmental authority ceasing to be a **participating member**, 60 days from the date the holder of this environmental authority ceases to be a **participating member**; and (b) ensure the proposed program describes and addresses at least the following: (i) description of potentially affected environment including key communities and ambient water quality; (ii) description of water quality objectives and biological objectives to be achieved; (iii) description of selected physico-chemical and biological indicators and reasons for their inclusion;

	(iv) the proposed monitoring locations including control locations and reasons for their selection; (v) the proposed sampling depths; (vi) the frequency of sampling and analysis; (vii) any historical data sets to be relied upon; and (viii) description of the statistical basis on which conclusions are drawn; and (c) reflect the comments of the **administering authority** in the finalisation of the Receiving Environment Monitoring Program.
MCW10	Within 30 days of the date of receipt of written comment from the **administering authority**, or other such period as advised in writing by the **administering authority**, the applicant must commence carrying out the Receiving Environment Monitoring Program.
MCW11	As an alternative to developing and implementing a Receiving Environment Monitoring Program, the holder of this environmental authority may become and remain a **participating member** in a study carried out by other persons or agencies that meets the requirements of this environmental authority, such as, the Southeast Queensland Regional Water Quality Management Study and the Ecological Health Monitoring Program proposed to be carried out under the Study.
MCW12	If the holder of this environmental authority ceases to be to be a **participating member** in an equivalent study, then the holder of this environmental authority must within fourteen (14) days notify the **administering authority** in writing that they are no longer a **participating member**.
Agency interest: Waste	
Condition number	**Condition**
MCWA1	Only the following waste streams can be received at the site: Asbestos piping
MCWA2	All asbestos stored at the approved site must be stored in a dedicated skip bin which is double lined with heavy duty plastic sheeting (minimum 200 µm thickness) and either: a) Double bagged and sealed in heavy duty polythene bags (minimum 200 µm thickness); or b) Where the volume or size of asbestos waste is greater than the volume or size of a bag, kept damp and completely sealed in the skip bin with plastic sheeting and adhesive.
MCWA3	All asbestos stored at the approved place must be: a) Labelled with a warning statement to indicate the presence of asbestos and that dust creation and inhalation needs to be avoided; b) Stored securely in such a way that does not cause the packaging to rupture; c) Repackaged immediately if rupturing of the packaging does occur.

Part 13a - Site Specific Conditions for the following site

Environmentally relevant activities	Locations
63-(1g) Sewage treatment >100000EP	Murrumba Downs Sewage Treatment Plant, Bickle Road, Murrumba Downs Qld 4503 - Lot 12 Plan SL10529, and Lot 2 Plan RP113846

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

Agency interest: General	
Condition number	**Condition**
MDG1	This environmental authority authorises the carrying out of environmentally relevant activity (ERA) 63(1g), sewage treatment, using plant and equipment with capacity to treat a maximum of 49 mega litres of sewage influent per day, under average dry weather flow conditions (based on an average dry weather flow of 31 ML per day with a 1.6 peaking factor).
MDG2	Chemicals and fuels in containers of greater than 15 litres must be stored within a **secondary containment system.**
Agency interest: Air	
Condition number	**Condition**
MDA1	**Specified Releases of Contaminants to the Atmosphere** Contaminants released to the atmosphere must be in accordance with Schedule 2, Table 23.
MDA2	Contaminants released from each release point specified in Schedule 2, Table 23 must be directed vertically upwards without any impedance or hindrance.
Agency interest: Water	
Condition number	**Condition**
MDW1	**Permitted contaminant release and discharge point(s)** The only contaminant(s) permitted to be released directly or indirectly to any **waters** from the Murrumba Downs STP are the following releases to the North Pine River: **Release Point RP1** - Treated sewage effluent including **Reverse Osmosis Concentrate** (ROC) from **AWTP1** (when in operation) and wash waters and filtrate residues from sewage recycling carried out at the **AWTP1** via the outfall located at approximately 10.2 **AMTD**.
MDW2	**Acceptance and Monitoring of Reverse Osmosis Concentrates (when the AWTP1 is in operation)** The acceptance of **reverse osmosis concentrate** (ROC) must only occur in compliance with the following conditions: 1. the volume of ROC accepted on any one day must not exceed 1.6 megalitres; 2. the ROC must be introduced from a flow balance tank(s) managed so as to maximise dilution at all times, but in no case be introduced in a proportion less than (1) one part ROC to (3.5) three and one half parts treated sewage effluent following the BNR and disinfection treatment processes; and 3. ROC must be de-chlorinated, for example by sodium metabisulphate dosing, prior to acceptance at the STP and subsequent discharge into the North Pine River.

MDW3	When in operation, the daily volume of treated sewage recycled via **AWTP1** and the daily volume of ROC accepted from **AWTP1** into the Murrumba Downs STP must be determined or estimated by an appropriate method.
MDW4	**Release concentration limits** The treated sewage effluent (including ROC when the **AWTP1** is in operation) released must not exceed the release limits specified in Schedule 2, Table 19a and Schedule 2, Table 19b.
MDW5	**Treated sewage effluent including ROC - Toxic Substances (Acute and Chronic)** Notwithstanding any other condition of this environmental authority, there must be no release of any contaminants to any **waters** in any amount or concentration that are likely to cause acute toxicological effects to biota in the receiving environment.
MDW6	There must be no release of any contaminants to any **waters** where the NOEC for chronic toxicity tests to any test organisms in direct toxicity assessment (DTA) is observed at a 50% dilution i.e. the lowest observed effect concentration (LOEC) must only be observed at a dilution greater than 1:1.
MDW7	**Mass Load Limits** The total quantity of contaminants released directly or indirectly into the North Pine River from the Murrumba Downs STP during any day must not exceed any of the limits for each contaminants specified in Schedule 2, Table 20 when measured at each of the monitoring points S2 (load prior to ROC entry) and S3 (ROC load, only when **AWTP1** is in operation and producing ROC), and calculated in accordance with condition MDW8.
MDW8	The daily load (in kilograms) of the contaminants biochemical oxygen demand (BOD, measured as 5-day BOD), total nitrogen, total phosphorus and ammonia (as N) released to **waters** per day must be determined or calculated and records kept of such determinations or calculations. Calculate rolling values as follows: • Annual Mass Load TN (kg) = Yearly sum of Daily Release Volume (ML) for all dry weather days / the number of dry weather days x 365 x Yearly Median TN Concentration (mg/L) • Annual Mass Load TP (kg) = Yearly sum of Daily Release Volume (ML) for all dry weather days / the number of dry weather days in the year x 365 x Yearly Median TP Concentration (mg/L) • Annual Mass Load Ammonia (kg) = Yearly sum of Daily Release Volume (ML) for all dry weather days / the number of dry weather days x 365 x Yearly Median TN Concentration (mg/L) Annual Mass Load BOD (kg) = Yearly sum of Daily Release Volume (ML) for all dry weather days / the number of dry weather days in the year x 365 x Yearly Median TP Concentration (mg/L).[#] Note: If more than one wastewater stream is discharged that day, the formula shall be applied to each discharge viz. at S2 and S3 and the sum of the all discharge loads calculated to give a total discharge load.
MDW9	**Outfall Submergence and Minimum Dilution** Only when the **AWTP1** is in operation, contaminants must only be released to **waters** via an outfall that is fully submerged at all times and that achieves a minimum 1:1.8 (one : one point eight) dilution within two metres under all tidal conditions.

MDW10	**Routine Direct Toxicity Assessment (DTA)** Only when the **AWTP1** is in operation, the holder of this environmental authority must routinely undertake a DTA to quantify the toxicity of the effluent release. The Routine DTAs must be undertaken in accordance with the following minimum requirements: 1. During the first 12 months following the commencement of discharge of ROC to the North Pine River and during the first twelve months following commissioning of the upgraded waste water treatment plant, a DTA must be carried out on a twice yearly basis (with approximately 6 months between each Routine DTA). These are termed "confirmation DTAs". 2. After the first 12 months of operation in each case in MDW10 (1) and subject to consecutive twice yearly DTA results showing compliance with the release limits, the minimum frequency of Routine DTA shall be once every two years, except as provided by MDW10 (3) of this condition. 3. If any DTA result demonstrates non-compliance with conditions MDW5 and/or MDW6, then action is required as per MDW17, and monitoring must recommence on a six monthly basis as in MDW10 (1) unless the holder can demonstrate with data and information (see note below) to the **administering authority** that the cause of the non-complaint DTA result has been rectified and it is unlikely to recur. 4. The DTA must be undertaken on the combined contaminant release i.e. post introduction of ROC with the STP effluent with the activity's minimum ratio of ROC to the disinfected STP effluent used.
MDW11	**Treatment Train Critical Assessment** The holder of this environmental authority must undertake a Treatment Train Critical Assessment (TTCA) to determine the potential toxicity of the released effluent (at the minimum 1:3.5 dilution) when any factor in the **AWTP1** treatment process or influent water quality change may result in an increased toxicological effect to aquatic organisms in the receiving environment. [An example would be use of a new water treatment chemical that has product information or chemical formulation showing a toxicological effect to aquatic organisms].
MDW12	Where the TTCA determines that an increased toxicological effect may occur, a confirmation DTA must be undertaken utilising indicator organism(s) appropriate to the change and the results reported to the **administering authority**. [An example would be a change is planned in treatment processes and material toxicity to Crustaceans is indicated by reference material. A DTA using a Crustacean(s) or related indicator organism(s) must be carried out].
MDW13	A DTA procedure must be developed and must address the following: 1. All specific methods and protocols to determine whether concentrations of toxicants are neither acutely toxic outside the approved acute toxicity zone nor chronically toxic outside the approved chronic toxicity zone to the test biota, including: (a) Specific test organisms to be utilised for DTA testing, in accordance with Section 8.3.6.8 of the ANZECC 2000 Guidelines, to provide an accurate indication of actual and chronic toxic effects in the receiving waters, taking into consideration locally occurring species and the nature of any change being investigated; and (b) The selection and characterisation of environmental waters for dilution of the combined contaminant waste stream; (c) Characterisation of the combined contaminant waste stream, including potential toxicants present; (d) The nature of the contaminant(s); (e) Acute and chronic DTA testing conducted on end-of-pipe combined contaminant discharged; (f) Test/biological end points; (g) DTA end-points (including NOEC and LOEC); (h) Quality assurance/quality control;

	(i) Applicable Toxicity Identification Evaluation (TIE) procedures to be followed should the **administering authority** require such an evaluation; and (j) Reporting of DTA procedure results promptly to the **administering authority**, which must include but not be limited to: (i) NOEC for all bioassay results; (ii) LOEC for all bioassay results; (iii) All relevant sample collection information for the combined contaminant test sample and receiving environment dilution water; (iv) Timing of combined contaminant test sample collection in relation to process performance; (v) Details of any manipulation of the combined contaminant test sample or receiving environment dilution water; (vi) combined contaminant Test sample and receiving environment dilution water delivery details; (vii) Results of the chemical analysis of the ROC, sewage effluent prior to blending with ROC, blended ROC/sewage effluent test water, and receiving environment dilution water for known toxicants of concern (i.e. all toxicants in Table 6) are a minimum requirement in additional to parameters indicative of any suspected change). Chemical analysis is not required for every dilution water in every organism/effect tested, but may be required for test water in some dilutions where linear the relationship between the contaminant and the dilution is not linear; (viii) Time between test sample collection and commencement of the DTA, and (ix) Interpretation of results. 2. Reporting of the progress and/or results of DTA testing to the **administering authority** no more than 20 business days following the initial results of the toxicity assessment.
MDW14	The holder of this environmental authority must have due regard to the **administering authority's** comments in the finalisation and any review of the DTA procedure.
MDW15	The finalised DTA procedure must not be changed without the prior written consent of the **administering authority**.
MDW16	The DTA must be designed and performed by a **suitably qualified person**.
MDW17	**Minimum Responses to any Non-Compliant Toxicity in combined contaminant Effluent** Where a DTA has demonstrated observable toxicological effects for related tests at or greater dilutions than defined in the approved chronic toxicity limits, the holder of this environmental authority must: 1. Immediately advise the **administering authority**; and 2. Promptly investigate the toxicity result by: (a) Identifying any trend or excessive presence in any contaminant likely to cause or contribute to the observed toxicity, and (b) Undertake an additional DTA or an appropriate single-species Toxicity Bioassay (TB) (following consultation with and as agreed with the **administering authority**) to investigate whether the non-compliant toxicity is still present; and 3. If following results of the investigations in either MDW17 2(a) or 2(b) compliance with the toxicity release limits is not demonstrated, immediately advise the **administering authority** of the results and within 10 business days prepare and submit to the **administering authority** a Toxicity Management Plan (TMP) that has the following objectives: (a) Identify the causative agent(s) responsible for the observed increase in toxicity; (b) Assess the risk posed to the environment by the non-compliant toxicity, and

	(c) Reduction of toxicity to the approved chronic toxicity limit specified by this development environmental authority forthwith by providing additional treatment for the contaminant(s) eliciting the toxicity.
MDW18	The TMP must, at a minimum, present the tasks and timeframes for corrective actions directed at identifying and eliminating the observed toxicological effect(s) outside of the approved toxicity zone.
MDW19	A Confirmation DTA must be undertaken as soon as practicable after completion of the corrective action(s) required by the TMP to verify that the actions taken have been effective in eliminating the observed toxicological effects outside of the approved toxicity limits.
MDW20	**Receiving Environment Monitoring Program (REMP)** A REMP, focussing on near-field and more distant potential impacts, must be implemented, based on the outcomes of a background environmental investigation, pertaining to the receiving waters that addresses at least the following: 1. Description of potentially affected receiving waters including key communities and background water quality characteristics based on accurate and reliable monitoring data that takes into consideration any temporal variation (e.g. seasonality); and 2. Description of applicable environmental values and water quality objectives to be achieved; and 3. Any relevant reports prepared by other governmental or professional research organisations that relate to the receiving environment within which the REMP is proposed; and 4. Water quality targets within the receiving environment to be achieved, and clarification of contaminant concentrations or levels indicating adverse environmental impacts during the REMP.
MDW21	**Near-field Monitoring Program (NFMP)** A NFMP must be implemented to monitor and record the effects of the release of contaminants on the near-field receiving environment whilst contaminants are being discharged from the operation of the Murrumba Downs STP. For the purposes of the NFMP, the receiving environment is the waters of the North Pine River and connected waterways within 200 metres upstream and downstream of the outfall.
MDW22	The NFMP proposal must address (but not necessarily be limited to) the following: 1. Monitoring for any potential adverse environmental impacts caused by the release, particularly in terms of potentially toxic contaminants that may be present in the intake water; 2. Monitoring of dissolved oxygen levels; 3. Monitoring of relevant recreational indicators including Enterococci; 4. Sampling to determine the extent of the near field mixing zone around the outfall structure at various tidal phases (including the vertical profile) to validate performance of the discharge structure in meeting the performance requirements environmental authority; 5. Monitoring of selected toxicants (including ammonia nitrogen, total and free chlorine, dissolved metals and metalloids likely to be present in intake water) to assess the extent of the compliance of concentrations with water quality objectives and the extent of the toxicity zone, 6. Monitoring of selected physical chemical parameters (including turbidity, pH, dissolved oxygen saturation, conductivity, temperature) that would assist in quantifying the mixing and dilution.

	7. The locations of monitoring points including monitoring transects away from the outfall of the designated release point as well as control locations; 8. The proposed sampling depths; 9. The frequency or scheduling of sampling and analysis; 10. Any historical datasets to be relied upon; 11. Description of the statistical basis on which conclusions are drawn, and 12. Any spatial and temporal controls to exclude potential confounding factors.
MDW23	**Mid-field Monitoring Program (MFMP)** Only when the **AWTP1** is in operation, a MFMP must be implemented to monitor and record the effects of the release for any potential adverse environmental impacts to recreational values and due to ammonia loads from the release, with the aims of identifying and describing the extent of any adverse impacts to local environmental values. For the purposes of the MFMP, the receiving environment is the waters of the North Pine River and connected waterways: For ammonia - within 1 kilometres upstream and downstream of the outfall; and For assessing impacts on recreational values, from the Bruce Highway Bridge crossing downstream to North Pine River at the Gympie Road bridge crossing Petrie upstream. Note: If regional water quality studies address this monitoring, such monitoring, to the extent of any overlap, is taken to satisfy these MFMP monitoring requirements, provided that monitoring is carried out in an integrated manner.
MDW24	The MFMP proposal must address (but not necessarily be limited to) the following: 1. Monitoring of indicators related to ammonia discharge including at least dissolved oxygen (including depth profiles), ammonia nitrogen, total nitrogen and chlorophyll 'a', and selected indicators of suitability for recreational use, but including at least faecal coliforms and *Enterococci*; 2. The locations of monitoring points (where practicable utilise Pine Rivers Shire Council historic river monitoring points); 3. The proposed sampling depths; 4. The frequency or scheduling of sampling and analysis; 5. Any historical datasets and water quality objectives/guidelines to be relied upon; 6. Description of the statistical basis or approaches on which conclusions are drawn, and 7. Any spatial and temporal controls to exclude potential confounding factors.
MDW25	**Far-field Monitoring Program (FFMP)** A FFMP must be implemented to monitor the effects of the release of contaminants on the receiving environment outside the near field and mid-field whilst contaminants are being discharged from Murrumba Downs STP, with the aims of identifying and describing the extent of any adverse impacts to local environmental values. For the purposes of the FFMP, the receiving environment is the waters of the North Pine River and connected waterways.
MDW26	The FFMP proposal must address (but not necessarily be limited to) the following: 1. Monitoring for any potential adverse environmental impacts caused by the release; 2. Monitoring of selected physicochemical parameters (including total nitrogen, total phosphorus, ammonia nitrogen, NOx, FRP, chlorophyll 'a', turbidity, pH, dissolved oxygen saturation, conductivity, temperature, and total suspended solids);

	3. Monitoring of biological indicators that detect the extent of influence of the discharge on the far-field environment and ensure that environmental values are protected (including nutrient processing, processed nitrogen tracking such as del N, and seagrass and coral monitoring). 4. The locations of monitoring points including monitoring transects away from the outfall of the designated release point as well as control locations; 5. The proposed sampling depths; 6. The frequency or scheduling of sampling and analysis; 7. Any historical datasets or water quality objectives/guidelines to be relied upon; 8. Description of the statistical basis or approaches on which conclusions are drawn, and 9. Any spatial and temporal controls to exclude potential confounding factors.
MDW27	**Involvement in Regional Monitoring Studies (i.e. Far-field Monitoring Program FFMP)** As an alternative to carrying out the FFMP, the holder of this environmental authority may become and remain a **participating member** in the following regional water quality and ecosystem health monitoring studies, or any equivalent program: 1. the Southeast Queensland Regional Water quality Management Strategy; and 2. the Ecosystem Health Monitoring Program. For the purposes of regional (far-field) monitoring studies, the receiving environment is the North Pine River, Moreton Bay and connected waterways.

Part 13b - Site Specific Conditions for the following site

Environmentally relevant activities	Location
8-(5) Chemical Storage >200m^3 liquids	Murrumba Downs Sewage Treatment Plant, Bickle Road, Murrumba Downs Qld 4503 - Lot 12 Plan SL10529, and Lot 2 Plan RP113846

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

Agency interest: Water	
Condition number	**Condition**
MDW28	The stormwater runoff from **disturbed areas**, generated by a storm event up to and including a **24 hour storm event with an average recurrence interval of 1 in 10 years** must be retained on site or managed to remove contaminants before released offsite.

Part 14(1) - Site Specific Conditions for the following site

Environmentally relevant activities	Location
63-(1e) Sewage treatment >10000 but <50000EP	Nambour Sewage Treatment Plant, Nambour Bli Bli Road, Nambour Qld 4560 - Lot 2 and Lot 3 Plan RP123038, Lot 1 and Lot 3 Plan RP116900 and Lot 2 Plan RP222073

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

Agency interest: Water	
Condition number	**Condition**
NBW1	Contaminants must not be directly or indirectly released from the **approved place** to any **waters** at any location other than at the locations listed below: **Release point W1** Sewage Treatment Plant outfall pipe located in **waters** described as the Maroochy River at 26^0 38' 37.5" S latitude and 153^0 03' 32.5" E longitude (approximately **AMTD** 5 km.). **Release Point W2** Sewage Treatment Plant Effluent Storage/Reuse Lagoon overflow to **waters** described as Petrie Creek at approximately **AMTD** 11 km.
NBW2	Release Point W2 shall only be used during times of unavailability of Release Point W1 due to maintenance of the Maroochy River outfall, its pumps and associated infrastructure, prolonged power failure; excessive rainfall or construction activities which may require the outfall to be taken out of service.
NBW3	Use of Release Point W2 is a notifiable incident under condition G4.
NBW4	The release of contaminants to **waters** must comply, except during bypass events, with each of the limits specified in Schedule 2 Table 25 for each quality characteristic.
NBW5	The holder of this environmental authority must calculate yearly mass loads of total nitrogen and total phosphorus discharged in fully treated effluent at release point W1. Calculate rolling values as follows: Annual Mass Load TN (kg) = Yearly sum of Daily Release Volume (ML) for all dry weather days / the number of dry weather days x 365 x Yearly Median TN Concentration (mg/L) Annual Mass Load TP (kg) = Yearly sum of Daily Release Volume (ML) for all dry weather days / the number of dry weather days in the year x 365 x Yearly Median TP Concentration (mg/L).

Part 14(2) - Site Specific Conditions for the following site

Environmentally relevant activities	Location
7(6a) chemical manufacturing >200t but less than 1000t	Nambour Sewage Treatment Plant, Nambour Bli Bli Road, Nambour Qld 4560 - Lot 2 Plan RP222073

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

Agency interest: General	
Condition number	**Condition**
NBG1	Chemical manufacturing can only occur: (a) by electrolysis of sodium chloride; and (b) through the use of a membrane cell process.
NBG2	The only chemicals authorised to be manufactured are: (a) chlorine gas; and (b) sodium hydroxide; and (c) sodium hypochlorite, and (d) hydrogen gas.
NBG3	The maximum amount of chemicals authorised to be manufactured per year are: (a) 400 tonnes of chlorine gas (which includes chlorine gas used to produce sodium hypochlorite); and (b) 450 tonnes of sodium hydroxide; and (c) 130 tonnes of sodium hypochlorite; and (d) 12 tonnes of hydrogen gas.
NBG4	Sodium hypochlorite can only be manufactured using chlorine gas and sodium hydroxide manufactured on site.
NBG5	The operation of the chemical manufacturing facility must be carried out by a **competent person** to ensure the effective operation of the facility and control equipment.
NBG6	Records of the type and amount of chemicals produced per day must be made.
NBG7	The maximum amount of chemicals authorised to be stored at any one time are: (a) 26 tonnes of sodium chlorine; and (b) 5 tonnes of sodium hydroxide liquid (30% concentration); and (c) 10 tonnes of sodium hypochlorite liquid (12.5% concentration); and (d) 2 tonnes of chlorine gas; and (e) 1 tonne of hydrochloric acid; and (f) 1 tonne of sulphuric acid; and (g) 20 kg of sodium sulphite.

NBG8	Chemicals and fuels in containers of greater than 15 litres must be stored within a **secondary containment system**.
NBG9	The chemical type and volume must be clearly displayed on each container.
NBG10	A current Safety Data Sheet for each chemical stored on site must be presented to the administering authority upon request and within the timeframe requested.
NBG11	Unloading, loading and any internal transfer of liquids must be undertaken in a manner that minimises the possibility of spillage, occurs on an area that is impervious to the liquid, and sufficiently graded and bunded to retain any spillage or leakage.
Agency interest: Air	
Condition number	**Condition**
NBA1	The only contaminant authorised to be released to air is hydrogen gas in accordance with conditions NBA2 and NBA3.
NBA2	Hydrogen gas released to air must be: (a) released vertically through a stack on the roof of the chlorine manufacturing facility; and (b) diluted by a blower to a concentration at or below 0.0036% by volume.
NBA3	The maximum amount of hydrogen gas authorised to be released per day is 32 kg.
NBA4	A system must be installed and operated to prevent the release of hydrogen gas in the event of a failure of the blower required by condition NBA2
NBA5	A sensor system capable of detecting hydrogen gas and chlorine gas must be installed at appropriate locations, as determined by a **competent person**, within the manufacturing facility.
NBA6	The sensor system required by condition NBA5 must be operational and monitored at all times.
NBA7	If hydrogen gas and/or chlorine gas is detected in excess of 1ppm, the sensor system required by condition NBA5 must: (a) activate an audible and visual alarm readily observed by persons carrying out the activity and monitoring the sensor system; and (b) automatically shut down the chlorine manufacturing process.
NBA8	The administering authority must be notified within 24 hours of any activation of the alarm system when triggered under condition NBA7.
NBA9	Within 7 days of notifying the administering authority under condition NBA7, a report must be provided to the administering authority providing: (a) full details of the release; and (b) any potential environmental risks resulting from the release; and (c) any actions taken to rectify the release; and (d) any actions taken to prevent the release from reoccurring.

Part 15 - Site Specific Conditions for the following site

Environmentally relevant activities	Location
63-(1e) Sewage treatment >50000 but <100000EP	Noosa Coastal Sewage Treatment Plant, Wallum Lane, Noosa Heads Qld 4563 - Lot 17 Plan SP239726

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

Agency interest: Water	
Condition number	**Condition**
NHW1	Contaminants must not be directly or indirectly released at the **approved place** to any **waters** at any location other than at the location listed below: **Release point W3** - effluent from the treatment of sewage to **waters** described as Burgess Creek at approximately 3.04 km **AMTD**.
NHW2	The release of contaminants to **waters** must comply, except during **by-pass** events, with each of the limits specified in Schedule 2 Table 26.
NHW3	The total mass load of nitrogen and phosphorous released for any consecutive 365 day period (as calculated in accordance with NHW4) shall be less than the limits specified in Schedule 2, Table 27 – Mass Load Limits.
NHW4	The holder of this environmental authority must calculate yearly mass loads of total nitrogen and total phosphorus discharged in fully treated effluent at release point W3. Calculate rolling values as follows: Annual Mass Load TN (kg) = Yearly sum of Daily Release Volume (ML) for all dry weather days / the number of dry weather days x 365 x Yearly Median TN Concentration (mg/L) Annual Mass Load TP (kg) = Yearly sum of Daily Release Volume (ML) for all dry weather days / the number of dry weather days in the year x 365 x Yearly Median TP Concentration (mg/L).
NHW5	The holder of this environmental authority must design and conduct a Receiving Environment Monitoring Program to monitor the effects of the release of contaminants on the receiving water environment.
NHW6	The Receiving Environment Monitoring Program for the sewage treatment work must include but not be limited to the following: (a) description of potentially affected environment including key communities and ambient water quality; (b) description of water quality objectives and biological objectives to be achieved; (c) description of selected physio-chemical and biological indicators and reasons for their inclusion; (d) the locations of monitoring stations including monitoring transects away from the outfall of the approved release as well as any control locations; (e) the proposed sampling depths; (f) the water quality characteristics of receiving waters to be determined; (g) the frequency of sampling and analysis; (h) any historical data sets to be relied upon; and (i) description of the statistical basis on which conclusions are drawn.

Part 16 - Site Specific Conditions for the following site

Environmentally relevant activities	Location
63-(1f) Sewage treatment >50000 but <100000EP	Redcliffe Sewage Treatment Plant, 257 Duffield Road, Redcliffe Qld 4020 - Lot 18 Plan SP231102.

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

Agency interest: Water	
Condition number	**Condition**
RCW1	The release of contaminants to **waters** must comply, except during **bypass** events, with each of the limits specified in Schedule 2, Table 28.
RCW2	Contaminants must not be directly or indirectly released from the **approved place** to any **waters** at any location other than at the location listed below: **Release Point W1** - outfall pipe to **waters** described as the tidal reach of Hay's Inlet at **AMTD** 2 km.
RCW3	The total mass load of nitrogen and phosphorus released for any consecutive 365 day period (as calculated in accordance with condition RCW4) shall be less than the limits specified in Schedule 2 Table 29 - Mass load limits.
RCW4	Calculate yearly mass loads of total nitrogen and total phosphorus discharged at release point W1. Calculate rolling values as follows: Annual Mass Load TN (kg) = Yearly sum of Daily Release Volume (ML) for all dry weather days / the number of dry weather days x 365 x Yearly Median TN Concentration (mg/L) Annual Mass Load TP (kg) = Yearly sum of Daily Release Volume (ML) for all dry weather days / the number of dry weather days in the year x 365 x Yearly Median TP Concentration (mg/L).

Part 17 - Site Specific Conditions for the following site

Environmentally relevant activities	Location
63-(1e) Sewage treatment >10000 but <50000EP 53(a) Processing more than 200t of organic material in a year by composting the organic material	Suncoast Sewage Treatment Plant, 730–752 David Low Way, Marcoola QLD 4564 - Lot 1003 Plan SP202093.

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

Agency interest: Land – ERA 53(a) only	
Condition number	**Condition**
SNL1	An area which provides an impervious barrier to subsoil and **groundwater** must be used for: 1. receiving, mixing and storing processing materials for the **activity** 2. collecting and storing **leachate.**
SNL2	All receiving, mixing and storing bays are to be located in accordance with Attachment 3 – Suncoast STP **–** location of bays relating to composting activity.
SNL3	Land that has been disturbed for **activities** conducted under this environmental authority must be rehabilitated in a manner such that: 1. the potential for erosion is minimised; and 2. the quality of water, including seepage, released from the site does not cause environmental harm; and 3. the potential for **environmental nuisance** caused by dust is minimised; and 4. the water quality of any residual water body does not have potential to cause environmental harm. 5. Suitable vegetation for the location is established and sustained to protect earthen surfaces from erosion consistent with on-going use of the site for sewage treatment/conveyance purposes
Agency Interest: Waste – ERA 53(a) only	
SNW1	All manufactured compost and soil conditioner products in which biosolids are used must: 1. comply with the requirements and be supplied in accordance with **AS4454, AS4419** or **AS3743**; and 2. must meet the following quality characteristics: a) Enteric viruses <1PFU per 4 grams (total dry weight); and b) Helminth ova <1 per4 grams (total dry weight); and c) E-coli <100 MPN per gram (dry weight); and d) Faecal coliforms < 1000 MPN per gram (dry weight): and e) Salmonella species – Not detected. 3. Meet the quality characteristics specified in Schedule 3 – Suncoast STP - Composting activities Table 1 – Contaminant limit and associated requirements; and 4. not contain any other contaminants or qualities at concentrations or levels that are likely to cause environmental harm when used.

	Note: Where there is an inconsistency between an Australian Standard and a final product quality characteristic stated in *Table 1 Contaminant limit* for a quality characteristic, the lower contamination limit must be complied with to the extent of the inconsistency.
SNW2	All compost produced must: 1. Be composted at conditions of at least 55°C for at least 3 consecutive days; and 2. Have been treated in an aerobic process for at least 14 days. During that time, the temperature of the biosolids must have been >40°C and the average temperature >45° C.
SNW3	Compost and soil conditioner products that do not comply with condition **SNW1** and **SNW2** are a waste and must be disposed of in accordance with condition **WS1.**
Agency interest: Water	
Condition number	**Condition**
SNWT1	Contaminants must not be directly or indirectly released from the **approved place** to any **waters** at any location other than at the locations listed below: **Release point W1** – Suncoast Sewage Treatment Plant outfall pipe located in **waters** described as the Maroochy River at approximately **AMTD** 9.5m. **Release point W2** – Suncoast Sewage Treatment Plant effluent pump station overflow pipe located in **waters** described as drainage channel adjacent to sewage treatment works entrance.
SNWT2	Release Point W2 shall only be used during times of unavailability of Release Point W1 due to maintenance of the Maroochy River outfall, its pumps and associated infrastructure and during flooding which may require the outfall to be taken out of service.
SNWT3	Uses of Release Point W2 are notifiable incidents under Condition G4.
SNWT4	The release of contaminants to **waters** must comply, except during **bypass** events, with each of the limits specified in Schedule 2 Table 30 for each quality characteristic.
SNWT5	The total mass load of nitrogen and phosphorus released for any consecutive 365 day period (as calculated in accordance with condition SNWT6) shall be less than the limits specified in Schedule 2 Table 31 -Mass load limits.
SNWT6	The holder of this environmental authority must calculate yearly mass loads of total nitrogen and total phosphorus discharged at release point W1. Calculate rolling values as follows: Annual Mass Load TN (kg) = Yearly sum of Daily Release Volume (ML) for all dry weather days / the number of dry weather days x 365 x Yearly Median TN Concentration (mg/L) Annual Mass Load TP (kg) = Yearly sum of Daily Release Volume (ML) for all dry weather days / the number of dry weather days in the year x 365 x Yearly Median TP Concentration (mg/L).
Agency interest: Water - ERA 53(a) only	
Condition number	**Condition**
SNWT7	The stormwater runoff from **disturbed areas**, generated by a storm event up to and including a **24 hour storm event with an average recurrence interval of 1 in 10 years** must be retained on site or managed to remove contaminants before released offsite.

Part 18 - Site Specific Conditions for the following site

Environmentally relevant activities	Location
63-(1c) Sewage treatment >1500 but <4000EP	Woodford Sewage Treatment Plant, Canado Street, Woodford Qld 4514 - Lot 506 Plan CG4859 and Lot 413 Plan CG4859

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

Agency interest: Water	
Condition number	**Condition**
WFW1	Contaminants must not be directly or indirectly released from the **approved place**s to any **waters** at any location other than at the location listed below: **Release Point W1** Outfall pipe to **waters** described as the Stanley River at 64.0 km **AMTD**
WFW2	The release of contaminants to **waters** must comply, except during **bypass** events, with each of the limits specified in Schedule 2 Table 3 for each quality characteristic.
WFW3	The total mass load of nitrogen and phosphorus released for any consecutive 365 day period (as calculated in accordance with condition WFW4) shall be less than the limits specified in Schedule 2 Table 6 -Mass load limits.
WFW4	The holder of this environmental authority must calculate yearly mass loads of total nitrogen and total phosphorus discharged at release point W1. Calculate rolling values as follows: Annual Mass Load TN (kg) = Yearly sum of Daily Release Volume (ML) for all dry weather days / the number of dry weather days x 365 x Yearly Median TN Concentration (mg/L) Annual Mass Load TP (kg) = Yearly sum of Daily Release Volume (ML) for all dry weather days / the number of dry weather days in the year x 365 x Yearly Median TP Concentration (mg/L).
WFW5	The holder of this environmental authority must develop and implement a Receiving Environment Monitoring Program to monitor the effects of the release of contaminants on the "receiving environment" to effectively determine whether environmental values are being protected. "Receiving environment" for the purpose of the Receiving Environment Monitoring Program means the Stanley River.
WFW6	In developing The Receiving Environment Monitoring Program, the holder of this environmental authority must: (a) submit a proposal for the Receiving Environment Monitoring Program to the **administering authority** for its review and comment: (i) in the case of the holder of this environmental authority not becoming a **participating member**, 90 days from the date this environmental authority takes effect; or (ii) in the case of the holder of this environmental authority ceasing to be a **participating member**, 60 days from the date the holder of this environmental authority ceases to be a **participating member**; and (b) ensure the proposed program describes and addresses at least the following:

	(i) description of potentially affected environment including key communities and ambient water quality; (ii) description of water quality objectives and biological objectives to be achieved; (iii) description of selected physico-chemical and biological indicators and reasons for their inclusion; (iv) the proposed monitoring locations including control locations and reasons for their selection; (v) the proposed sampling depths; (vi) the frequency of sampling and analysis; (vii) any historical data sets to be relied upon; and (viii) description of the statistical basis on which conclusions are drawn; and (c) reflect the comments of the **administering authority** in the finalisation of the Receiving Environment Monitoring Program.
WFW7	Within 30 days of the date of receipt of written comment from the **administering authority** as per condition WFW6, or such other period as advised in writing by the **administering authority**, the applicant must commence carrying out the Receiving Environment Monitoring Program.
WFW8	As an alternative to developing and implementing a Receiving Environment Monitoring Program, the holder of this environmental authority may become and remain a **participating member** in a study carried out by other persons or agencies that meets the requirements of conditions WFW5 and WFW6 (the equivalent study), such as, the Southeast Queensland Regional Water Quality Management Study and the Ecological Health Monitoring Program proposed to be carried out under the Study.
WFW9	If the holder of this environmental authority ceases to be to be a **participating member** in an equivalent study, then the holder of this environmental authority must within fourteen (14) days notify the **administering authority** in writing that they are no longer a **participating member**.

Definitions

Key terms and/or phrases used in this document are defined in this section. Applicants should note that 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 Heritage Protection or its successor.

ADWF means average dry weather flow.

AMTD means Adopted Middle Thread Distance as per the Queensland Water Resources Commission publication entitled "Atlas of AMTD Maps, January 1984".

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.

Approved place(s) means the place(s) authorised under this environmental authority for the carrying out of the specified environmentally relevant activities.

AS3743 means Australian Standard 3743 Potting mixes (2003) or its most recent version.

AS4419 means Australian Standard 4419 Soils for landscaping and garden use (2003) or its most recent version.

AS4454 means Australian Standard 4454 Composts, soil conditioners and mulches (2012) or its most recent version.

AWTP means the advanced water treatment plant associated with the Murrumba Downs Sewage Treatment Plant as outlined in AWTP Planning Report Pages 25-26 dated September 2007, designed to receive 5.4 megalitres of treated sewage effluent for recycling.

Background noise level means either:

$L_{A90, T}$ being the A-weighted sound pressure level exceeded for 90 percent of the time period not less than 15 minutes, using Fast response, or

$L_{Abg, T}$ being the arithmetic average of the minimum readings measured in the absence of the noise under investigation during a representative time period of not less than 15 minutes, using Fast response.

By-pass means sewage that has by-passed full treatment at the plant as a result of the peak design of the plant being exceeded.

cfu means colony forming units.

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

Composite in respect of sampling means either time based taken at hourly intervals to cover the period in the 24 hours of the sampling day during which a contaminant release occurs; or taken after set flow volumes to cover the period of the sampling day during which the contaminant release occurs.

Competent person means a person or persons who has professional qualifications, training, skills or experience relevant to the nominated subject matter.

Disturbed areas includes areas:

1. that are susceptible to erosion;
2. that are contaminated by the activity; and/or
3. upon which stockpiles of soil or other materials are located.

Dry weather day means a day during which no 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 three preceding days exceeds 100 mm.

Dry weather flow means flow which occurs from the sewage treatment plant to the designated receiving water during a dry weather day.

Environmental nuisance as defined in Chapter 1 of the *Environmental Protection Act 1994*

Environmental weeds plants declared under the *Land Protection (Pest and Stock Route Management) Act 2002* and species identified in Sunshine Coast Regional Council publications as local weeds.

Grab sample means "a single sample taken at a point at a single time".

Groundwater monitoring system means a system of groundwater monitoring devices, such as monitoring bores, used to provide data in respect to the level and quality of groundwater in the uppermost aquifer where the location of the groundwater monitoring devices is such that comparisons of groundwater quality and groundwater level can be made between groundwater flowing from beneath the site (down-gradient flow) of the activity and groundwater flowing towards the site of the activity (up-gradient flow).

Long term 50 percentile means that the median value of the measured values in ranked order of the quality characteristic is not to exceed the stated release limit for any fifty consecutive samples where:

- the consecutive samples are taken over a one year period or longer where required;
- the consecutive samples are taken at approximately equal periods; and
- the time interval between the taking of each consecutive sample is not more than seven days.

$L_{Amax\ adj,\ T}$ means the average maximum A-weighted sound pressure level, adjusted for noise character and measured over a time period of not less than 15 minutes, using Fast response.

$L_{Amax\ adj,\ 1\ hr}$ means the A weighted equivalent continuous sound pressure level measured on fast response, adjusted for tonality and impulsiveness, where the sound pressure level is measured for a period of 1 hour.

$L_{A\ 10,\ adj,\ 10\ mins}$ 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.

Leachate means a liquid that has passed through or emerged from, or is likely to have passed through or emerged from, a material stored, processed or disposed of at the site that contains soluble, suspended or miscible contaminants likely to have been derived from the said material.

Long term 80th percentile means that not more than ten of the measured values of the quality characteristic are to exceed the stated release limit for any fifty consecutive samples where:

- the consecutive samples are taken over a one year period or longer where required;
- the consecutive samples are taken at approximately equal periods; and
- the time interval between the taking of each consecutive sample is not more than seven days.

Maintain biological integrity means the management of water levels within the constructed wetlands to manage weed species and also in dry periods to ensure no unacceptable loss of wetland plants and therefore treatment capacity.

Max$L_{pA\ T}$ means the maximum A-weighted sound pressure level measured over a time period of not less than 15 minutes, using Fast response.

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.

mg/L means milligrams per litre.

MPN means most probable number

No Observed Effect Concentration or NOEC means the "No Observed Effect Concentration" which is the highest concentration of effluent tested that produces no statistically significant adverse effect on the exposed sample population of test organisms when compared to a control sample population.

Noxious means harmful or injurious to health or physical wellbeing.

NTU means nephelometric turbidity units.

Nuisance sensitive place means the following and includes a place within the curtilage of such a place reasonably used by persons at that place:
1. a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises; or
2. a motel, hotel or hostel; or
3. a kindergarten, school, university or other educational institution; or
4. a medical centre or hospital; or
5. a protected area under the *Nature Conservation Act 1992*, the *Marine Parks Act 2004* or a World Heritage Area; or
6. for noise, a place defined as a sensitive receptor for the purposes of the Environmental Protection (Noise) Policy 2008.

Odour Unit (ou) means that concentration of odorant(s) at standard conditions that elicits a physiological response from a panel (detection threshold) equivalent to that elicited by one **Reference Odour Mass** (ROM), evaporated in one cubic metre of neutral gas at standard conditions as measured under AS/NZS-4323.3:2001 - Australian and New Zealand Standard, Stationary source emissions - Determination of odour concentration by dynamic olfactometry.

Odour emission rate ("ou.m^3/s") means the arithmetic product of the odour concentration of the release of contaminants and the volume rate of discharge (in wet cubic metres per second referred to a temperature of zero degrees Celsius and a pressure of 101.3 kilopascals.

Offsite nutrient reduction action means an action taken to counter-balance a point source nutrient increase under the department's *'Flexible options for managing point source water emissions: A voluntary market-based mechanism for nutrient management'.*

Offensive means causing offence or displeasure; is disagreeable to the sense; disgusting, nauseous or repulsive.

Participating member means, for the purposes of an equivalent REMP, being an actively participating member in a study which is the equivalent of the REMP and any monitoring program resulting from such study.

Pollution Credit means a unit of pollution reduction, expressed in tonnes per year, equivalent to the pollutant load generated by an offset nutrient reduction action under the department's *'Flexible options for managing point source water emissions: A voluntary market-based mechanism for nutrient management'*. Pollution Credits accrue on the date of practical completion of the offsite nutrient reduction action designed to generate a pollution credit.

Reference Odour Mass (ROM) means the acceptable reference value for the odour unit, equal to a defined mass of a certified reference material. One ROM is equivalent to 132 μg n-butanol which evaporated in 1 cubic metre of neutral gas at standard conditions produces a concentration of 40 ppb (μmol/mol).

Reverse osmosis concentrate means the concentrated waste stream generated during operation of the advanced water treatment plant utilising reverse osmosis processes.

Secondary containment system means a system designed, installed and operated to prevent any release of contaminants from the system, or containers within the system, to land, groundwater, or surface waters and excludes a first flush stormwater containment system.

Short term 50 percentile means that the median value of the measured values in ranked order of the quality characteristic is not to exceed the stated release limit for any five (5) consecutive samples where:

- the consecutive samples are taken over a five week period;
- the consecutive samples are taken at approximately equal periods; and
- the time interval between the taking of each consecutive sample is not more than seven days.

Short term 80 percentile means that not more than one of the measured values of the quality characteristic are to exceed the stated release limit for any five consecutive samples where:

- the consecutive samples are taken over a five week period;
- the consecutive samples are taken at approximately equal periods; and
- the time interval between the taking of each consecutive sample is not more than seven days.

The date of practical completion means the practical completion of the offsite nutrient reduction action agreed in writing by the administering authority and the holder of the environmental authority.

Total Nitrogen means the sum of Organic Nitrogen, Ammonia, Nitrite plus Nitrate, as mg/L of Nitrogen.

Total Phosphorus 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.

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.

Wet weather day means a day which is not a dry weather day.

50th percentile means not more than three (3) of the measured values of the quality characteristic are to exceed the stated release limit for any six (6) consecutive samples for a release/monitoring point at any time during the environmental activity(ies) works.

80th percentile means not more than one (1) of the measured values of the quality characteristic is to exceed the stated release limit for any five (5) consecutive samples for a sampling point at any time during the environmental activity(ies) works.

24 hour storm event with an average recurrence interval of 1 in 10 years means the maximum rainfall depth from a 24-hour duration precipitation event with an average recurrence interval of once in 10 years. For example, an Intensity–Frequency–Duration table for a 24-hour duration event with an average recurrence interval of 1 in 10 years identifies a rainfall intensity of 8.2mm/hour. The rainfall depth for this event is therefore 24 hour x 8.2mm/hour = 196.8mm.

Schedule 1 — Monitoring Requirements

Table 1 – Approved Monitoring points

SEWAGE TREATMENT PLANT (STP)	MONITORING POINT(S)
Brendale	Effluent downstream of the UV contact channel
Bribie Island	Prior to chlorination, apart from the determinations of Free Chlorine Residual and microbiological quality, which shall be performed after disinfection.
Burpengary East	Prior to chlorination, apart from the determinations of Free Chlorine Residual and microbiological quality, which shall be performed after disinfection.
Caboolture South	Post chlorination
Coolum	Prior to chlorination, apart from the determinations of Free Chlorine Residual and microbiological quality, which shall be performed after disinfection.
Cooroy	SW1 – effluent from the chamber located immediately downstream of the chlorine contact tank SW2 – release of effluent from the constructed wetlands via v-notch weir and open channel to waters described as Cooroy Creek at a location described as adjacent to Lot 5 on SP188234 Parish of Tewantin, County of March
Dayboro	Outlet of the irrigation pump.
Kawana/Landsborough	Sampling Point S1 - at a location prior to discharge from release points W1 and W3 Sampling Point S2 - at a location prior to discharge to the Ornamental Wetland
Kenilworth	Storage Lagoon
Maleny	S1 – a suitable sampling point within the sewage treatment plant process downstream of the membrane bioreactor membranes.S2 – a suitable sampling point downstream of the disinfection system. S3 – a suitable sampling point at the most downstream point of the constructed wetland in Lot 3 on SP184546
Maroochydore	Downstream of disinfection
Murrumba Downs	S1 – Combined Flow below ROC inflow S2 - Upstream of ROC Monitoring Point (Only monitoring point when AWTP is not operational). S3 – ROC Inflow
Nambour	A suitable sampling point within the sewage treatment plant process downstream of the membrane bioreactor membranes
Noosa	Effluent from the wet well downstream of the UV contact channel

Redcliffe	Effluent collection tank located downstream of UV disinfection channel adjacent to the south western edge of the plant boundary.
Suncoast (Bli Bli)	Prior to chlorination, apart from the determinations of Free Chlorine Residual and microbiological quality, which shall be performed after disinfection.
Woodford	Post chlorination

Table 2 – Parameters to be monitored at all sewage treatment plants, excluding Murrumba Downs and Maleny

QUALITY CHARACTERISTIC	UNITS	FREQUENCY	PLANTS
5-day Biochemical Oxygen Demand	mg/L	Weekly except Dayboro[1]	All except Cooroy, Noosa and Maroochydore
Suspended Solids	mg/L	Weekly except Dayboro[1]	All except Noosa and Maroochydore
pH	pH scale	Weekly except Dayboro[1]	All except Noosa and Maroochydore
Dissolved Oxygen	mg/L	Weekly	All except Dayboro, Maroochydore and Noosa
Free Chlorine Residual	mg/L	Weekly	Burpengary, Caboolture, Coolum, Kawana, Landsborough, Redcliffe, Suncoast and Woodford
Faecal Coliforms[2]	cfu/100 mL	Weekly	All except Bribie Island and Dayboro
e coli[2]	cfu/100 mL	Monthly	Dayboro
Intestinal Enterococci[2]	cfu/100 mL	Weekly	All except Bribie Island
Total Nitrogen (as Nitrogen)	mg/L	Weekly except Dayboro[1] and Kenilworth[3]	All
Total Phosphorus (as Phosphorus)	mg/L	Weekly except Dayboro[1] and Kenilworth[3]	All
Ammonia (as Nitrogen)	mg/L	Weekly except Dayboro[1]	Brendale, Bli Bli, Nambour, Dayboro and Kawana outfall
Turbidity	NTU	Continuous on-line monitoring	Landsborough release to ornamental wetland only

[1] Monthly monitoring of releases to the wet weather storage dam
[2] From the takes effect date of this permit, the holder of this permit must monitor either faecal thermotolerant coliforms, e. coli or intestinal enterococci, not both.
[3] Weekly when releasing to land at Kenilworth STP.

Table 3 - Releases to Land from the Wet Weather Storage Dam at Dayboro STP

QUALITY CHARACTERISTICS	UNITS	FREQUENCY
5-day Biochemical Oxygen Demand	mg/L	Six monthly
Suspended Solids	mg/L	Six monthly
pH	pH scale	Six monthly
E. coli (geometric mean[log])	cfu/100 mL	Six monthly
Total Nitrogen (as Nitrogen)	mg/L	Six monthly
Total Phosphorus (as Phosphorus)	mg/L	Six monthly
Sodium Adsorption Ratio	calculated	Six monthly
Dissolved Solids	mg/L	Six monthly
Total Dissolved Salts (calculated)	mg/L	Six monthly
Specific Conductance or electrical conductivity	μS/cm	Six monthly
Exchangeable cations	mg/L	Six monthly
Total Aluminium	mg/L	Six monthly
Total Arsenic	mg/L	Six monthly

Total Barium	mg/L	Six monthly
Total Beryllium	mg/L	Six monthly
Boron	mg/L	Six monthly
Total Cadmium	mg/L	Six monthly
Total Chromium	mg/L	Six monthly
Hexavalent Chromium	mg/L	Six monthly
Total Cobalt	mg/L	Six monthly
Total Copper	mg/L	Six monthly
Total Iron	mg/L	Six monthly
Total Lead	mg/L	Six monthly
Total Lithium	mg/L	Six monthly
Total Manganese	mg/L	Six monthly
Mercury	mg/L	Six monthly
Total Molybdenum	mg/L	Six monthly
Total Nickel	mg/L	Six monthly
Potassium	mg/L	Six monthly
Total Selenium	mg/L	Six monthly
Total Silver	mg/L	Six monthly
Total Strontium	mg/L	Six monthly
Total Vanadium	mg/L	Six monthly
Total Zinc	mg/L	Six monthly
Total Calcium	mg/L	Six monthly
Total Chloride	mg/L	Six monthly
Total Magnesium	mg/L	Six monthly
Total Sodium	mg/L	Six monthly
Total Sulphate	mg/L	Six monthly

Table 4 – Soil monitoring requirements at the Dayboro STP

QUALITY CHARACTERISTICS	UNITS	FREQUENCY
pH	pH scale	Every 2 years
Sodium Adsorption Ratio (1:5 Soil/water mix)	calculated	Every 2 years
Calcium/Magnesium Ratio (1:5 Soil/water mix)	calculated	Every 2 years
Exchangeable Cations	mg/L	Every 2 years
Total Cations	mg/L	Every 2 years
Specific Conductance or electrical conductivity	μS/cm	Every 2 years
Total Aluminium	mg/L	Every 2 years
Total Arsenic	mg/L	Every 2 years
Total Barium	mg/L	Every 2 years
Boron	mg/L	Every 2 years
Total Cadmium	mg/L	Every 2 years
Total Chromium	mg/L	Every 2 years
Hexavalent Chromium	mg/L	Every 2 years
Total Cobalt	mg/L	Every 2 years
Total Copper	mg/L	Every 2 years
Total Iron	mg/L	Every 2 years
Total Lead	mg/L	Every 2 years
Total Lithium	mg/L	Every 2 years
Total Manganese	mg/L	Every 2 years
Total Molybdenum	mg/L	Every 2 years
Total Nickel	mg/L	Every 2 years

QUALITY CHARACTERISTICS	UNITS	FREQUENCY
Total Nitrogen	mg/L	Every 2 years
Phosphorus (extractable)	mg/L	Every 2 years
Potassium (available)	mg/L	Every 2 years
Potassium (extractable)	mg/L	Every 2 years
Total Silver	mg/L	Every 2 years
Total Strontium	mg/L	Every 2 years
Total Zinc	mg/L	Every 2 years
Total Calcium (exchangeable)	mg/L	Every 2 years
Total Chloride	mg/L	Every 2 years
Total Magnesium (exchangeable)	mg/L	Every 2 years
Total Sodium (exchangeable)	mg/L	Every 2 years

Table 5a – Monitoring requirements at the Murrumba Downs STP when the AWTP is operational

MONITORING POINT	QUALITY CHARACTERISTICS	MINIMUM MONITORING FREQUENCY
S1	Total Chlorine (as Cl)	Daily
S1	Dissolved Oxygen	Daily
S1	pH	Weekly
S1	Suspended Solids	Weekly (composite sample)
S1	5 Day Biochemical Oxygen Demand (inhibited)	Weekly (composite sample)
S1	Ammonia Nitrogen (as N)	Daily (single measurement during maximum expected rate of ROC inflow),
S1	Total Organic Carbon	Weekly (composite sample)
S1	Chemical Oxygen Demand	Weekly (composite sample)
S1	Coliforms[1]	Weekly
S1	*Enterococci* organisms[1]	Weekly
S2	Total Nitrogen (as N)	Weekly (composite sample)
S2	Total Phosphorus (as P)	Weekly (composite sample)
S2	Suspended Solids	Weekly (composite sample[2])
S2	5 Day Biochemical Oxygen Demand (inhibited)	Weekly (composite sample)
S3	Total Chlorine (as Cl)	Daily
S3	Total Nitrogen (as N)	Weekly (composite sample)
S3	Total Phosphorus (as P)	Weekly (composite sample)
S3	Ammonia Nitrogen (as N)	Daily (single measurement during maximum expected rate of ROC inflow),
S3	5 Day Biochemical Oxygen Demand (inhibited)	Weekly (composite sample)

[1] From the takes effect date of this permit, the holder of this permit must monitor either faecal coliforms or intestinal enterococci, not both.

Table 5b – Monitoring requirements at the Murrumba Downs STP when the AWTP is NOT operational

MONITORING POINT	QUALITY CHARACTERISTICS	MINIMUM MONITORING FREQUENCY
S2	Dissolved Oxygen	Weekly
S2	pH	Weekly
S2	Total Nitrogen (as N)	Weekly (composite sample)
S2	Total Phosphorus (as P)	Weekly (composite sample)
S2	Ammonia Nitrogen (as N)	Weekly (composite sample)
S2	Total Organic Carbon	Weekly (composite sample)
S2	Suspended Solids	Weekly (composite sample[2])
S2	5 Day Biochemical Oxygen Demand (inhibited)	Weekly (composite sample)
S2	*Enterococc*i organisms[1]	Weekly
S2	Faecal Coliforms[1]	Weekly

[1] From the takes effect date of this permit, the holder of this permit must monitor either faecal coliforms or intestinal enterococci, not both.

Table 6 – Releases to air at the Murrumba Downs STP

RELEASE POINT NUMBER/ MONITORING POINT AND SOURCES	CONTAMINANT	MINIMUM MONITORING FREQUENCY
RP-1 - Stack serving outlet of odour control facility	Odour	annually
RP-2 - Stack serving ventilation system for source viz. biosolids handling building	Odour	

Note 1: Annual odour monitoring for a source is not required where any odour monitoring conducted as a result of written request from the administering authority has been conducted within the preceding 3 months and the results of that monitoring indicated compliance with all the emission limitations in this Table for that source.

Table 7 – Maleny STP

QUALITY CHARACTERISTIC	SAMPLING POINT	MONITORING FREQUENCY
Suspended Solids	S1, S3	Weekly
pH	S1, S3	Weekly
Dissolved oxygen	S1, S3	Weekly
Total nitrogen	S1, S3	Weekly
Total phosphorus	S1, S3	Weekly
Total Chlorine	S2	Weekly
5-day biochemical oxygen demand	S3	Weekly
Electrical conductivity	S1	Weekly
Escherichia coli[1]	S2	Weekly
Enterococci[1]	S2	Weekly

[1] From the takes effect date of this permit, the holder of this permit must monitor either E. coli or intestinal enterococci, not both.

Table 8 – Soil Monitoring Parameters and Frequency at Maleny STP

QUALITY CHARACTERISTICS	UNITS	MONITORING FREQUENCY
pH	pH scale	On commencement and annually thereafter
Electrical conductivity of saturation extract	µS/cm[3]	On commencement and annually thereafter
Total Nitrogen as N	mg/kg	On commencement and annually thereafter
Total Phosphorus as P	mg/kg	On commencement and annually thereafter
Exchangeable cations	mg/kg	On commencement and biennially thereafter
Sodium absorption ratio	meq/100g	On commencement and annually thereafter
Exchangeable sodium percentage	%	On commencement and annually thereafter

Schedule 2 — Release limits

Table 1 – Brendale STP release limits to waters

QUALITY CHARACTERISTICS	RELEASE LIMIT	LIMIT TYPE
5-day Biochemical Oxygen Demand (inhibited)	10 mg/L	long term 80th percentile
5-day Biochemical Oxygen Demand (inhibited)	15 mg/L	short term 80th percentile
5-day Biochemical Oxygen Demand (inhibited)	30 mg/L	maximum
Suspended Solids	15 mg/L	long term 80th percentile
Suspended Solids	23 mg/L	short term 80th percentile
Suspended Solids	45 mg/L	maximum
pH	6.5 to 8.5	range
Dissolved Oxygen	2.0 mg/L	minimum
Free Chlorine Residual	0.7 mg/L	maximum
Faecal Coliforms[1]	1000 cfu/100mL	median (based on a minimum of 5 consecutive samples taken on any one day)
	4000 cfu/100mL	80th percentile (based on a minimum of 5 consecutive samples taken on any one day)
Intestinal enterococci[1]	200 cfu/mL	median (based on a minimum of 5 consecutive samples taken on any one day)
	500 cfu/100mL	Maximum (no single measurement of the samples taken on any one day should exceed this value)

[1] From the takes effect date of this permit, the holder of this permit must meet either the faecal coliforms or intestinal enterococci limits, not both. If both tests are performed in parallel, water samples for measurement of each pathogen type must be performed using water from a well-mixed water sample that has been split into two for the purpose of parallel measurements.

Table 2 – Mass Load Limits for the Brendale STP

Release Point	Average Annual Flow (ML/year)	Nitrogen 50th Percentile (mg/L)	Nitrogen Mass Load Release Limit (kg/year)	Phosphorus 50th Percentile (mg/L)	Phosphorus Mass Load Release Limit (kg/year)
W1	5584	5	27,920	1	5584

Table 3 – Caboolture South, Burpengary East, Woodford and Bribie Island STPs release limits to waters

QUALITY CHARACTERISTICS	RELEASE LIMIT [1]	RELEASE LIMIT [2]	RELEASE LIMIT [3]	LIMIT TYPE
5-day Biochemical Oxygen Demand (uninhibited)	10 mg/L	10 mg/L	20 mg/L	long term 80th percentile
5-day Biochemical Oxygen Demand (uninhibited)	15 mg/L	15 mg/L	30 mg/L	short term 80th percentile
5-day Biochemical Oxygen Demand (uninhibited)	20 mg/L	30 mg/L	40 mg/L	maximum
Suspended Solids	15 mg/L	15 mg/L	30 mg/L	long term 80th percentile
Suspended Solids	20 mg/L	20 mg/L	45 mg/L	short term 80th percentile
Suspended Solids	30 mg/L	45 mg/L	60 mg/L	maximum
Total Nitrogen (as Nitrogen)	-	-	10	long term 50th percentile
Total Nitrogen (as Nitrogen)	-	-	12.5	short term 50th percentile
Total Nitrogen (as Nitrogen)	See mass load limits	See mass load limits	20	maximum
Total Phosphorus (as Phosphorus)	-	-	2	long term 50th percentile
Total Phosphorus (as Phosphorus)	-	-	3	short term 50th percentile
Total Phosphorus (as Phosphorus)	See mass load limits	See mass load limits	5	maximum
Dissolved Oxygen	2.0 mg/L	2.0 mg/L	2.0 mg/L	minimum
pH	6.5 to 8.5	6.5 to 8.5	6.5 to 8.5	range
Free Chlorine Residual	0.7 mg/L	0.7 mg/L	-	maximum
Intestinal enterococci[4]	200 cfu/100mL as a median value (based on a minimum of 5 consecutive samples taken on any one day) 500 cfu/100mL as a maximum		**Notes** **1. Applicable to Woodford STP** **2. Applicable to Burpengary East STP and South Caboolture STP** **3. Applicable to Bribie Island STP**	
Faecal Coliforms[4]	1000 cfu/100mL as a median value (minimum of 5 consecutive samples taken on any one day, with 4 out of the 5 samples containing less than 4000 cfu/100mL			

[4] From the takes effect date of this permit, the holder of this permit must meet either the faecal coliforms or intestinal enterococci limits, not both. If both tests are performed in parallel, water samples for measurement of each pathogen type must be performed using water from a well-mixed water sample that has been split into two for the purpose of parallel measurements.

Table 4 – Mass Load Limits for the Burpengary East STP

Release Point	Average Annual Flow (ML/year)	Nitrogen 50th Percentile (mg/L)	Mass Load for Total Nitrogen (kg/year)	Phosphorus 50th Percentile (mg/L)	Mass Load for Total Phosphorus (kg/year)
W1	5108	5	25540	1	5108

Table 4a – Net Annual Combined Mass Load Release Limits for Burpengary East STP

Release Point	Average Annual Flow (ML/year)	Nitrogen 50th Percentile (mg/L)	Net Combined Annual Mass Load Release Limits for Total Nitrogen (Tonnes/Year)	Phosphorus 50th Percentile (mg/L)	Net Combined Annual Mass Load Release Limits for Total Phosphorus (Tonnes/Year)
W1	5108	5	25.54	1	5.108

Associated requirements for Table 4a:

1. The *Net Annual Combined Mass Load Release Limits* of Total Nitrogen is the Annual Mass Load of Total Nitrogen as calculated under condition BEW5 less the **Pollution Credit** generated for Total Nitrogen under condition O3.
2. The *Net Annual Combined Mass Load Release Limits* of Total Phosphorus is the Annual Mass Load of Total Phosphorus as calculated under condition BEW5 less the **Pollution Credit** generated for Total Phosphorus under condition O3.

Table 4b - Offset Monitoring Program (Riparian Establishment Phase) for Burpengary East STP

Year	Objective	Monitoring Mechanism	Reporting
Year 0	Ensure that projects works (earthworks & revegetation) are constructed in accordance with design plans in Document entitled, *Unity water Burpengary East Sewage Treatment Plant – Lower Caboolture River Nutrient Offset Project Delivery Proposal Caboolture River Planning and Design, prepared by SEQC* Services Pty Ltd, prepared for Unity water, dated 6 April 2018 included in Attachment 2 of	Pre and post works Photo Point Post works LiDAR	Practical Completion Report including 'as constructed' plans, photographs and digital elevation maps (LiDAR).

	Schedule 4 of this environmental authority		
	Select appropriate Photo Point site(s)		12 weeks after date of practical completion of project works
Year 1	Monitor and review growth of riparian	Photo point	Year 1 Annual report
Year 2		Photo point	Year 2 Annual report
Year 3	Confirm ongoing maintenance requirements	Photo point and LiDAR	Year 3 Annual report including photographs and digital elevation maps (LiDAR)
Year 4	Assess river bank erosion	Photo point	Year 4 Annual report
Year 5		Photo point and LiDAR	Year 5 Annual report including photographs and digital elevation maps (LiDAR)
Throughout Project Establishment Phase (Years 0-5)	Ensure administering authority officers are notified of significant wet weather impacts on project area. Ensure coordinated and balanced response to significant wet weather impacts on the project area.	Minor erosion event: damage to a limited area of the offsite nutrient reduction action project & within the erosion avoided factor range of 20% Photographic record. Major erosion event: damage has resulted in the erosion avoided factor being exceeded (>20%). Photographic record.	Minor erosion: No notification to administering authority. Include detail in relevant annual report Major erosion: Notify administering authority within 1 month of becoming aware of damage. Event actions and response actions managed by the Practical Completion Report.

Table 5 – Mass Load Limits for the Caboolture South STP

Release Point	Average Annual Flow (ML/year)	Nitrogen 50th Percentile (mg/L)	Nitrogen Mass Load Release Limit (kg/year)	Phosphorus 50th Percentile (mg/L)	Phosphorus Mass Load Release Limit (kg/year)
W1	7139.4	5	35697	1	7139.4

Table 6 – Mass Load Limits for the Woodford STP

Release Point	Average Annual Flow[1, 2] (ML/year)	Nitrogen 50th Percentile[1] (mg/L)	Nitrogen Mass Load Release Limit (kg/year)	Phosphorus 50th Percentile[1] (mg/L)	Phosphorus Mass Load Release Limit (kg/year)
W1	284.2	10	2842	2	568.4

Table 7 – Contaminant release limits to waters from the Coolum STP

QUALITY CHARACTERISTICS	RELEASE LIMIT	LIMIT TYPE
5-day Biochemical Oxygen Demand	10 mg/L	long term 80th percentile
5-day Biochemical Oxygen Demand	15 mg/L	short term 80th percentile
5-day Biochemical Oxygen Demand	30 mg/L	maximum
Suspended Solids.	15 mg/L	long term 80th percentile
Suspended Solids.	23 mg/L	short term 80th percentile
Suspended Solids.	30 mg/L	maximum
pH	6.5 to 8.5	range
Dissolved Oxygen.	2 mg/L	minimum
Ammonia Nitrogen.	3 mg/L	Long Term 50th percentile
Ammonia Nitrogen.	10 mg/L	maximum
Total Nitrogen, as nitrogen.	See mass load limits	maximum
Total Phosphorus, as phosphorus	See mass load limits	maximum
Free Residual Chlorine.	0.7 mg/L	maximum
Faecal Coliforms[1]	150 cfu/100mL	median (based on a minimum of 5 samples collected at not less than weekly intervals)
Faecal Coliforms[1]	600 cfu/100 mL	80th percentile (four out of five samples containing less than 600cfu/100mL)
Intestinal enteroccoci[1]	40 cfu/100mL	median (based on a minimum of 5 consecutive samples taken on any one day)
Intestinal enteroccoci[1]	150 cfu/100mL	maximum (no single measurement of the samples taken on any one day should exceed this value)

[1] From the takes effect date of this permit, the holder of this permit must meet either the faecal coliforms or intestinal enterococci limits, not both. If both tests are performed in parallel, water samples for measurement of each pathogen type must be performed using water from a well-mixed water sample that has been split into two for the purpose of parallel measurements.

Table 8 – Mass Load Limits for the Coolum STP

Release Point	Average Annual Flow (ML/year)	Nitrogen 50th Percentile (mg/L)	Nitrogen Mass Load Release Limit (kg/year)	Phosphorus 50th Percentile (mg/L)	Phosphorus Mass Load Release Limit (kg/year)
W1	3613	7	25,291	5	18,065

Table 9 - Contaminant release limits to waters at the Cooroy STP

Discharge location	Quality characteristic[1,2]	Minimum	Short term 50th Percentile	Long term 50th Percentile	Short term 80th Percentile	Long term 80th Percentile	Maximum
Release Point W1	Suspended Solids (mg/L)	–			15	10	30
	Total Nitrogen (mg/L as N)	–	–	3 [1]	–	–	10
	Nitrogen Mass Load Release Limit (kg/year)	–	–	–	–	–	2025 [2]
	Total Phosphorous (mg/L as P)	–	–	0.3[1]	–	–	2
	Phosphorus Mass Load Release Limit (kg/year)	–	–	–	–	–	202.5 [2]
	pH (pH units)	6.5	–	–	–	–	8.5
	Dissolved Oxygen (mg/L)	2.0	–	–	–	–	–

	Enterococci organisms [3,]	-	-	40 organisms /100ml[5]	-	-	150 organisms /100ml [4]
Release Point W2	Total Nitrogen as N	No Limit					
	Total Phosphorus as P	No Limit					

Release Point W1 – release of effluent from the treatment of sewage (chlorine tank) to waters described as the constructed wetlands at a location described as Lot 5 on SP188234 Parish of Tewantin, County of March

Release Point W2 – release of effluent from the constructed wetlands via v-notch weir and open channel to waters described as Cooroy Creek at a location described as adjacent to Lot 5 on SP188234 Parish of Tewantin, County of March

[1] The actual concentrations and annual average flows discharged are not required to be met if the respective mass loads discharged are able to be met using another mechanism and the increase in actual concentration limits does not adversely impact on the local receiving environment.
[2] The average annual flow has been calculated from the ADWF (1.54ML/d) multiplied by 1.2 to approximate expected average annual flows. Load based limits have been established using average annual flow multiplied by the long term 50th percentile concentration limit.
[3] The requirement for monitoring and meeting an Enterococci organisms performance limit will be subject to a formal review by the administrative authority and environmental authority holder two years after commissioning of the new plant to ensure that this condition remains appropriate.
[4] Long term 95th Percentile is accepted as the maximum.
[5] Based on a minimum of 3 consecutive samples taken on any one day.

Table 10 - Contaminant release limits at the Dayboro STP

QUALITY CHARACTERISTICS	RELEASE LIMIT	LIMIT TYPE
5-day Biochemical Oxygen Demand (inhibited)	20 mg/L	80th percentile compliance
5-day Biochemical Oxygen Demand (inhibited)	60 mg/L	maximum
Suspended Solids	30 mg/L	80th percentile compliance
Suspended Solids	90 mg/L	maximum
Ammonia (as Nitrogen)	2.0 mg/L	50th percentile compliance
Ammonia (as Nitrogen)	6.0 mg/L	maximum
pH	6.5 to 8.5	range
e. coli	1000 cfu/100 mL	median (minimum of 5 samples taken in any one day)
	4000 cfu/100mL	80th percentile (4 out of 5 samples less than this value)

Table 11 - Contaminant release limits to waters at the Kenilworth STP

QUALITY CHARACTERISTICS	RELEASE LIMIT	LIMIT TYPE
5-day Biochemical Oxygen Demand	20 mg/L	long term 80th percentile
5-day Biochemical Oxygen Demand	30 mg/L	short term 80th percentile
5-day Biochemical Oxygen Demand	60 mg/L	maximum
Suspended Solids	30 mg/L	long term 80th percentile
Suspended Solids	45 mg/L	short term 80th percentile
Suspended Solids	90 mg/L	maximum
pH	6.5 to 8.5	range
Dissolved Oxygen	2.0 mg/L	minimum
Faecal Coliforms[1]	150 cfu/100 mL	median (minimum of 5 samples taken at not less than weekly intervals)

QUALITY CHARACTERISTICS	RELEASE LIMIT	LIMIT TYPE
Thermotolerant Faecal Coliforms[1]	600 cfu/100 mL	80th percentile (4 out of 5 samples less than this value)
Intestinal enteroccoci[1]	40 cfu/100ml	median (based on a minimum of 5 consecutive samples taken on any one day)
Intestinal enteroccoci[1]	150 cfu/100ml	maximum (no single measurement of the samples taken on any one day should exceed this value)

[1] From the takes effect date of this permit, the holder of this permit must meet either the faecal coliforms or intestinal enterococci limits, not both. If both tests are performed in parallel, water samples for measurement of each pathogen type must be performed using water from a well-mixed water sample that has been split into two for the purpose of parallel measurements.

Table 11a - Treated effluent release limits to land at Kenilworth STP

Monitoring Point Name	Quality Characteristic (units)	Minimum	Median	Maximum	Minimum frequency
KW1	Total Nitrogen (mg/L as N)		30	60	weekly
	Total Phosphorus (mg/L as P)		10	20	
	pH (pH units)	6.5		8.5	
	Electrical Conductivity (µS/cm)		700	1200	

Associated monitoring requirements

1. The irrigation area of Release Area 1 and Release Area 2 must be in accordance with Kenilworth STP Site Plan – November 2018.
2. Monitoring must be in accordance with the administering authority's Water Quality Sampling Manual and all monitoring devices must be effectively calibrated and maintained.
3. Releases of treated effluent must not be outside of the Release Area 1 and Release Area 2 indicated on Kenilworth STP Site Plan – November 2018.
4. 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 Enterococci was only required to be monitored once a week, then a Enterococci sample would not be required after the first week following cessation of the release).
5. Indicators for TN and TP are recommended to be done as grab samples.

Table 12 – Contaminant release limits for release points W1 and W3 at the Landsborough and Kawana STPs

QUALITY CHARACTERISTICS	RELEASE LIMIT	LIMIT TYPE
5-day Biochemical Oxygen Demand	10 mg/L	long term 80th percentile
5-day Biochemical Oxygen Demand	30 mg/L	maximum
Suspended Solids	15 mg/L	long term 80th percentile
Suspended Solids	45 mg/L	maximum
pH.	6.5 to 8.5 pH units	range
Dissolved Oxygen	2 mg/L	minimum
Ammonium Nitrogen	10 mg/L	long term 50th percentile
Ammonium Nitrogen	30 mg/L	maximum
Free Residual Chlorine	0.7 mg/L	maximum
Faecal Coliforms[1]	150 cfu/100 mL	median (minimum of 5 consecutive samples taken at not less than weekly intervals)
Faecal Coliforms[1]	600 cfu/100 mL	80th percentile (4 out of 5 samples less than this value)
Intestinal enteroccoci[1]	Mooloolah River limit 40 cfu/100ml	median (based on a minimum of 5 consecutive samples taken on any one day)

	Ocean outfall limit 200 cfu/100ml	
Intestinal enteroccoci[1]	Mooloolah River limit 150 cfu/100ml Ocean outfall limit 500 cfu/100ml	maximum (no single measurement of the samples taken on any one day should exceed this value)

[1] From the takes effect date of this permit, the holder of this permit must meet either the faecal coliforms or intestinal enterococci limits, not both. If both tests are performed in parallel, water samples for measurement of each pathogen type must be performed using water from a well-mixed water sample that has been split into two for the purpose of parallel measurements.

Table 13 - Release limits for release point W2 at the Landsborough STP

QUALITY CHARACTERISTICS	RELEASE LIMITS	LIMIT TYPE
5-day Biochemical Oxygen Demand	10 mg/L	long term 80th percentile
5-day Biochemical Oxygen Demand	30 mg/L	maximum
Suspended Solids	15 mg/L	long term 80th percentile
Suspended Solids	45 mg/L	maximum
pH.	6.5 to 8.5 pH units	range
Turbidity	2 NTU	median
Turbidity	5 NTU	maximum
Dissolved Oxygen	2 mg/L	minimum
Total Nitrogen	10 mg/L	long term 50th percentile
Total Nitrogen	30 mg/L	maximum
Total Phosphorous	1 mg/L	long term 50th percentile
Total Phosphorous	3 mg/L	maximum
Free Residual Chlorine	1.0 mg/L	maximum
Faecal Coliforms[1]	10 cfu/100 mL	median (minimum of 5 consecutive samples taken at not less than weekly)
Faecal Coliforms[1]	600 cfu/100 mL	80th percentile (4 out of 5 samples less than this value)
Intestinal enteroccoci[1]	40 cfu/100ml	median (based on a minimum of 5 consecutive samples taken on any one day)
Intestinal enteroccoci[1]	150 cfu/100ml	maximum (no single measurement of the samples taken on any one day should exceed this value)

[1] From the takes effect date of this permit, the holder of this permit must meet either the faecal coliforms or intestinal enterococci limits, not both. If both tests are performed in parallel, water samples for measurement of each pathogen type must be performed using water from a well-mixed water sample that has been split into two for the purpose of parallel measurements.

Table 14 - Release limits for release point W1 at the Maleny STP (constructed wetlands)

QUALITY CHARACTERISTIC	RELEASE LIMIT	LIMIT TYPE
Suspended Solids	10 mg/L	Long term 80th percentile
Suspended Solids	15 mg/L	Short term 80th percentile
pH	6.5 – 8.5	Range
Dissolved oxygen	2 mg/L	Minimum
Total nitrogen	5 mg/L	Long term 50th percentile
Total phosphorus	1 mg/L	Long term 50th percentile
Escherichia coli[1]	< 100 cfu/100ml	median (based on a minimum of 5 consecutive samples taken no less than weekly)
Intestinal enterococci[1]	40 cfu/100ml	median (based on a minimum of 5 consecutive samples taken on any one day)

Intestinal enterococci[1]	150 cfu/100ml	maximum (no single measurement of the samples taken on any one day should exceed this value)

[1] From the takes effect date of this permit, the holder of this permit must meet either the E.coli or intestinal enterococci limits, not both. If both tests are performed in parallel, water samples for measurement of each pathogen type must be performed using water from a well-mixed water sample that has been split into two for the purpose of parallel measurements.

Table 15 – **Contaminant release trigger values for releases from W2 at the Maleny STP**

QUALITY CHARACTERISTIC	TRIGGER LIMIT*	LIMIT TYPE
Total nitrogen	3 mg/L	80th percentile
Total phosphorus	0.8 mg/L	80th percentile
Total chlorine	0.7 mg/L	Maximum

Note - * This is for investigative purposes only, the limit is not a discharge limit but a trigger which involves further monitoring and investigations.

Table 16 – Contaminant release limits from L1 at the Maleny STP

QUALITY CHARACTERISTIC	RELEASE LIMIT	LIMIT TYPE
pH	6.5 – 8.5	Range
Total nitrogen	5 mg/L	Long term 50th percentile
Total phosphorus	1 mg/L	Long term 50th percentile
Electrical conductivity	1600 µs/cm	median
Escherichia coli[1]	< 100 cfu/100ml	median (based on a minimum of 5 consecutive samples taken no less than weekly)
Intestinal enterococci[1]	40 cfu/100ml	median (based on a minimum of 5 consecutive samples taken on any one day)
Intestinal enterococci[1]	150 cfu/100ml	maximum (no single measurement of the samples taken on any one day should exceed this value)

[1] From the takes effect date of this permit, the holder of this permit must meet either the E.coli or intestinal enterococci limits, not both. If both tests are performed in parallel, water samples for measurement of each pathogen type must be performed using water from a well-mixed water sample that has been split into two for the purpose of parallel measurements.

Table 17 – Contaminant release limits for releases to waters at the Maroochydore STP

QUALITY CHARACTERISTICS	50TH PERCENTILE	MAXIMUM
Total Nitrogen (mg/L)	See mass load limits	
Total Phosphorus (mg/L)	See mass load limits	
Thermotolerant Coliforms[1] (cfu/100 mL)	50th Percentile of 150 (Four out of five samples containing less than 600, for five consecutive samples collected at not less than 6 day intervals)	
Intestinal enterococci[1] (cfu/100 mL)	40 as a median (based on a minimum of 5 consecutive samples taken on any one day 150 maximum (no single measurement of the samples taken on any one day should exceed this value)	

[1] From the takes effect date of this permit, the holder of this permit must meet either the coliforms or intestinal enterococci limits, not both. If both tests are performed in parallel, water samples for measurement of each pathogen type must be performed using water from a well-mixed water sample that has been split into two for the purpose of parallel measurements.

Table 18 – Mass Load Limits at the Maroochydore STP

Release Point	Average Annual Flow (ML/year)	Nitrogen 50th Percentile (mg/L)	Nitrogen Mass Load Release Limit (kg/year)	Phosphorus 50th Percentile (mg/L)	Phosphorus Mass Load Release Limit (kg/year)
W1/W2	14 900	3	44 700	1	14 900

Table 19a - Murrumba Downs STP release limits to waters when AWTP is operational

MONITORING POINT	QUALITY CHARACTERISTICS	RELEASE LIMIT	LIMIT TYPE
S1[1] – Combined Flow below ROC inflow	Total Chlorine (as Cl)	0.2 mg/L	Maximum
	Dissolved Oxygen	4.0 mg/L	Minimum
	pH	6.5 to 8.5	Range
	Ammonia Nitrogen (as N)	5 mg/L	Maximum
	Faecal Coliforms[5]	150 cfu/100 ml	Median of minimum 5 samples, on any one day
		600 cfu/100 ml	4 out of 5 of the above samples must meet this limit
	Intestinal enterococci[5]	40 cfu/100 ml	Median of minimum 5 samples, on any one day
	Intestinal enterococci[5]	150 cfu/100 ml	Maximum
Upstream of ROC Monitoring Point S2[3]	Total Nitrogen (as N)	3 mg/L	Long term 50th percentile
		4.5 mg/L	Short term 50th percentile[6]
		9 mg/L	Maximum
	Total Phosphorus (as P)	1 mg/L	Long term 50th percentile
		1.5 mg/L	Short term 50th percentile[6]
		3 mg/L	Maximum
	Suspended Solids	10 mg/L	Long term 80th percentile
		15 mg/L	Short term 80th percentile
		20 mg/L	Maximum
	5 Day Biochemical Oxygen Demand (inhibited)	5 mg/L	Long term 8th percentile
		10 mg/L	Short term 80th percentile[6]
		15 mg/L	Maximum
	Free Residual Chlorine	0.7mg/L	Maximum

S3[4] – ROC Inflow	Total Chlorine (as Cl)	0.2mg/L	Maximum
	Total Nitrogen (as N)	Load Limited, No Concentration Limit applies - Used in load calculations	
	Total Phosphorus (as P)	Load Limited, No Concentration Limit applies - Used in load calculations	
	Ammonia Nitrogen (as N)	Load and dilution ratio limited, No Concentration Limit applies - Used in load calculations	
	5 Day Biochemical Oxygen Demand (inhibited)	Load Limited, No Concentration Limit applies	

[1] Monitoring point S1 – Monitoring Point for release of combined effluents (including Reverse Osmosis Concentrate accepted into Murrumba Downs STP from AWTP1), [refer plan titled Murrumba Alliance Waste Water Treatment Works Development Environmental authority Location of Monitoring Points Drawing 5-35102 Rev 1 attached to this environmental authority].
3 Monitoring point S2 – Monitoring Point upstream of acceptance of Reverse Osmosis Concentrate from AWTP, after feed to AWTP [refer plan titled Murrumba Alliance Waste Water Treatment Works Development Environmental authority Location of Monitoring Points Drawing 5-35102 Rev 1 attached to this environmental authority].
4 Monitoring Point S3 – Monitoring Point at which the Reverse Osmosis Concentrate outflows from AWTP1 that are released into waste water being discharged from the Murrumba Downs STP is measured. [plan titled Murrumba Alliance Waste Water Treatment Works Development Environmental authority Location of Monitoring Points Drawing 5-35102 Rev 1]
[5] From the takes effect date of this permit, the holder of this permit must meet either the coliforms or intestinal enterococci limits, not both. If both tests are performed in parallel, water samples for measurement of each pathogen type must be performed using water from a well-mixed water sample that has been split into two for the purpose of parallel measurements.

Table 19b - Murrumba Downs STP release limits to waters when AWTP is NOT operational

MONITORING POINT	QUALITY CHARACTERISTICS	RELEASE LIMIT	LIMIT TYPE
Upstream of ROC Monitoring Point S2[3]	Dissolved Oxygen	4.0 mg/L	Minimum
	pH	6.5 to 8.5	Range
	Ammonia Nitrogen (as N)	5 mg/L	Maximum
	Faecal Coliforms[1]	150 cfu/100 ml	Median of minimum 5 samples, on any one day
	Faecal Coliforms[1]	600 cfu/100 ml	4 out of 5 of the above samples must meet this limit
	Intestinal enterococci[1]	40 cfu/100mL	Median of minimum 5 samples, on any one day
		150 cfu/100mL	Maximum
	Total Nitrogen (as N)	3 mg/L	Long term 50th percentile
		4.5 mg/L	Short term 50th percentile[6]
		9 mg/L	Maximum
	Total Phosphorus (as P)	1 mg/L	Long term 50th percentile
		1.5 mg/L	Short term 50th percentile[6]
		3 mg/L	Maximum
	Suspended Solids	10 mg/L	Long term 80th percentile
		15 mg/L	Short term 80th percentile

		20 mg/L	Maximum
	5 Day Biochemical Oxygen Demand (inhibited)	5 mg/L	Long term 8th percentile
		10 mg/L	Short term 80th percentile[6]
		15 mg/L	Maximum

Table 20 - Mass Load Limits at the Murrumba Downs STP

MONITORING POINTS FOR LOAD CACULATIONS	CONTAMINANT	RELEASE LOAD LIMIT FOR COMPOSITE DISCHARGE (kg)[1]	LIMIT TYPE[2, 3]
Upstream of ROC Monitoring Point S2[4] AND Monitoring point S1	Biochemical Oxygen Demand 5 day (inhibited)	24966 kg	Annual Load
		68 kg/day	50th percentile Load
	Ammonia Nitrogen (as N)	No specific limit – see condition Water 15	Annual Load
		No specific limit – see condition Water 15	50th percentile Load
	Total Phosphorus as P, kg	8470 kg	Annual Load
		23.2 kg/day	50th percentile Load
	Total Nitrogen as N	29000 kg	Annual Load
		79.5 kg/day	50th percentile Load

[1] Loads accepted are the Discharge loads of Total Nitrogen (as N) and Total Phosphorus (as P) in kilograms form AWTP1 that are to be calculated as per the conditions of this environmental authority by summing the respective loads from S2 (STP effluent prior to ROC inlet) and S3 (ROC inflow loads) i.e. Load = S2 load + S3 load .

[2] 50th percentile load means the median of the daily total discharge loads i.e. the median of the daily totals of S2 load + S3 after 3 months operation. Once the AWTP has operated from 12 months, the data used in this calculation are the consecutive daily discharge loads of all days on which a discharge occurs over the preceding rolling 12 months.

[3]Annual load is to be calculated as prescribed in the conditions of the environmental authority by summating S2 loads and S3 loads. Once the STP has operated with the upgrade completed for 12 months, the data used in this calculation are the consecutive daily discharge loads of all days on which a discharge occurs over the preceding 12 months.

[4] Monitoring point S2 – Monitoring Point upstream of acceptance of Reverse Osmosis Concentrate from AWTP, after feed to AWTP [refer plan Murrumba Alliance Waste Water Treatment Works Development Environmental authority Location of Monitoring Points Drawing 5-35102 Rev 1 attached to this environmental authority].

Table 21 – Volumetric release limits at the Murrumba Downs STP

MAXIMUM PERMITTED QUANTITY OF RELEASE			
RELEASE POINT AND MONITORING POINT	**MAXIMUM RELEASE ON ANY DRY WEATHER DAY**	**AVERAGE RELEASE ON ANY DRY WEATHER DAY**	**MAXIMUM RELEASE ON ANY ONE DAY**
RP1[Murrumba STP] Monitoring Point S1	49.3 ML	30.8 ML	154 ML

Table 22 – Minimum Requirements for Chemical Analysis of DTA-related test waters at Murrumba Downs

WATER QUALITY INDICATORS	**UNITS**
Electrical conductivity	µS/cm
Total dissolved solids	mg/L
Total Hardness (as $CaCO_3$)	mg/L
Suspended solids	mg/L
Turbidity	NTU
pH	pH units
Dissolved oxygen	mg/L
Ammonia (as N)	mg/L
Chlorine (free and total)	mg/L
Dissolved metals and metalloids	Units
Arsenic[1]	µg/L
Boron	µg/L
Cadmium	µg/L
Chromium[2]	µg/L
Cobalt	µg/L
Copper	µg/L
Lead	µg/L
Mercury (inorganic)	µg/L
Nickel	µg/L
Silver	µg/L
Zinc	µg/L
Additional Analytes[3]	

Aluminium [3]	µg/L
Arsenic (As III) [3]	µg/L
Arsenic (As V) [3]	µg/L
Chromium (Cr III) [3]	µg/L
Chromium (Cr VI) [3]	µg/L
Manganese [3]	µg/L
Molybdenum [3]	µg/L
Selenium [3]	µg/L

[1] If dissolved As concentration is found to be >24 µg/L then speciated analyses will be required (i.e. As (III) and As (V)).
[2] If dissolved Cr concentration is found to be >1 µg/L then speciated analyses will be required (i.e. Cr (III) and Cr (VI)).
[3] These analytes must be included water quality analyses carried out with the Confirmation DTAs, but may be considered for exclusion from subsequent Routine DTAs in consultation with the toxicologist carrying out the DTA and the administering authority, which will predominantly be based upon previous chemical analysis and toxicity results.

Table 23 – Contaminant release limits to air from the Murrumba Downs STP

RELEASE POINT NUMBER/ MONITORING POINT AND SOURCES	MINIMUM RELEASE HEIGHT (METRES)	MINIMUM VELOCITY (m/sec)	CONTAMINANT	MAXIMUM RELEASE LIMIT
RP-1 Stack serving outlet of odour control facility Sources see conditions Air 2 and 4.	20 (engineered with the option of extension if necessary to 30 m)	15	Odour	Situation 1 Concentration: 500 ou and Odour emission rate: 9375 ou.m^3/s (see Note 2)
				Situation 2 Concentration: 500 ou and Odour emission rate: 11,100 ou.m^3/s (See Note 3 & 4)
RP-2 Stack serving ventilation system for source viz. biosolids handling building	15	15	Odour	Situation 1 Concentration: 1000 ou and Odour emission rate: 6667 ou.m^3/s (See Note 2)
				Situation 2 Concentration: 720 ou and Odour emission rate: 4000 ou.m^3/s (See Note 3 &4)

Note 2: Situation 1 is at commencement with aerobic zones being managed under conditions Air 3 and Air 4.
Note 3: Situation 2 arises if odours from aerobic zones are directed to the odour treatment facility under condition Air 4.
Note 4: Based on an air flow volume of 24,000 m^3/hour, being 20 building volume air changes per hour.

Table 24 – Noise Limits - Murrumba Downs STP

Time period	Noise level at a 'Noise sensitive place' measured as the Adjusted Maximum Sound Pressure Level $L_{A,max\ adj\ T}$
7am - 6pm	45 dB(A) or background noise level plus 5 dB(A), whichever is the greater
6pm - 10pm	45 dB(A) or background noise level plus 5 dB(A), whichever is the greater
10pm - 7am	40 dB(A) or background noise level plus 3 dB(A), whichever is the greater
Time period	**Noise level at a 'Commercial place' measured as the Adjusted Maximum Sound Pressure Level $L_{A,\ max\ adj\ T}$**
7am - 6pm	50 dB(A) or background noise level plus 10 dB(A), whichever is the greater
6pm - 10pm	50 dB(A) or background noise level plus 10 dB(A), whichever is the greater
10pm - 7am	45 dB(A) or background noise level plus 8 dB(A), whichever is the greater

Table 25 - Contaminant release limits to water from release points W1 and W2 at the Nambour STP

QUALITY CHARACTERISTICS	RELEASE LIMIT	LIMIT TYPE
Suspended Solids	15 mg/L	long term 80th percentile
	23 mg/L	short term 80th percentile
	45 mg/L	maximum
Total Nitrogen	5 mg/L [2]	long term 50th percentile
	21,900 Kg/year[2]	Mass load
Ammonia	1 mg/L[2]	long term 80th percentile
	5 mg/L[2]	Maximum
Total Phosphorus	1 mg/L [2]	long term 50th percentile
	3,900 Kg/year[2]	Mass load
pH	6.5 to 8.5 pH units	range
Dissolved Oxygen	2 mg/L	minimum
Faecal Coliforms[1]	150 cfu/100 mL	Median (based on a minimum of 5 consecutive samples collected at not less than weekly intervals)
Faecal Coliforms[1]	600 cfu/100 mL	80th percentile (4 of the 5 samples must not exceed this limit)
Intestinal enterococci[1]	40 cfu/100mL	Median (based on a minimum of 5 consecutive samples taken on any one day)
Intestinal enterococci[1]	150 cfu/100mL	Maximum (no single measurement of the samples taken on any one day should exceed this value)

Notes:
[1] From the takes effect date of this permit, the holder of this permit must meet either the coliforms or intestinal enterococci limits, not both. If both tests are performed in parallel, water samples for measurement of each pathogen type must be performed using water from a well-mixed water sample that has been split into two for the purpose of parallel measurements.
[2]The release limits for Nitrogen, Phosphorus and Ammonia are effective 5 November 2014, on completion of augmentation.

Table 26 - Contaminant release limits to waters from release point W3 at the Noosa STP

QUALITY CHARACTERISTIC	MEDIAN	MAXIMUM
Faecal Coliforms[1]	150 cfu/100ml (for 5 consecutive samples collected at not less than six (6) day intervals)	Four (4) out of five (5) samples containing less than 600 cfu/100mL

Intestinal enterococci[1]	40 cfu/100ml (based on a minimum of 5 consecutive samples taken on any one day)	150 cfu/100ml (no single measurement of the samples taken on any one day should exceed this value)

[1] From the takes effect date of this permit, the holder of this permit must meet either the coliforms or intestinal enterococci limits, not both. If both tests are performed in parallel, water samples for measurement of each pathogen type must be performed using water from a well-mixed water sample that has been split into two for the purpose of parallel measurements.

Table 27 – Mass Load limits at the Noosa STP

Average Annual Flow (ML/year)	Nitrogen 50th Percentile (mg/L)	Nitrogen (Kg/year)	Phosphorus 50th Percentile (mg/L)	Phosphorous (Kg/year)
5110	5	25 550	1	5 110

Table 28 - Redcliffe STP Release Limits to Waters

QUALITY CHARACTERISTICS	RELEASE LIMIT	LIMIT TYPE
5-day Biochemical Oxygen Demand (inhibited)	10 mg/L	long term 80th percentile
5-day Biochemical Oxygen Demand (inhibited)	15 mg/L	short term 80th percentile
5-day Biochemical Oxygen Demand (inhibited)	30 mg/L	maximum
Suspended Solids	15 mg/L	long term 80th percentile
Suspended Solids	23 mg/L	short term 80th percentile
Suspended Solids	45 mg/L	maximum
pH	6.5 to 8.5	range
Dissolved Oxygen	2.0 mg/L	minimum
Total Nitrogen (as Nitrogen)	Refer to mass load limit	maximum
Total Phosphorus (as Phosphorus)	Refer to mass load limit	maximum
Free Chlorine Residual	0.7 mg/L	maximum
Intestinal enterococci[1]	40 cfu/100ml	Median (based on a minimum of 5 consecutive samples taken on any one day)
	150 cfu/100ml	Maximum (no single measurement of the samples taken on any one day should exceed this value)
Faecal coliforms[1]	150 cfu/100mL	median (based on a minimum of 5 consecutive samples taken on any one day)
	400 cfu/100mL	80th percentile (4 of the 5 samples must not exceed this limit)

[1] From the takes effect date of this permit, the holder of this permit must meet either the coliforms or intestinal enterococci limits, not both. If both tests are performed in parallel, water samples for measurement of each pathogen type must be performed using water from a well-mixed water sample that has been split into two for the purpose of parallel measurements.

Table 29 – Mass Load Limits for the Redcliffe STP

Release Point	Average Annual Flow (ML/year)	Nitrogen 50th Percentile (mg/L)	Nitrogen Mass Load Release Limit (kg/year)	Phosphorus 50th Percentile (mg/L)	Phosphorus Mass Load Release Limit (kg/year)
W1	9679	5	48,395	1	9679

Table 30 – Suncoast STP release limits to waters

QUALITY CHARACTERISTICS	RELEASE LIMIT	LIMIT TYPE
5-day Biochemical Oxygen Demand	20 mg/L	long term 80th percentile
5-day Biochemical Oxygen Demand	35 mg/L	short term 80th percentile
5-day Biochemical Oxygen Demand	60 mg/L	maximum
Suspended Solids	30 mg/L	long term 80th percentile
Suspended Solids	45 mg/L	short term 80th percentile
Suspended Solids	90 mg/L	maximum
pH	6.5 to 8.5	range
Dissolved Oxygen	2 mg/L	minimum
Ammonia Nitrogen (mg/l)	5 mg/L	50th percentile
Ammonia Nitrogen (mg/l)	15 mg/L	maximum
Free Residual Chlorine (mg/l)	0.7 mg/L	maximum
Thermotolerant Faecal Coliforms[1]	150 cfu/100mL	median (based on a minimum of 5 consecutive samples collected at not less than weekly intervals)
Faecal Coliforms[1]	600 cfu/100mL	80th percentile (4 of the 5 samples must not exceed this limit)
Intestinal enterococci[1]	40 cfu/100ml	median (based on a minimum of 5 consecutive samples taken on any one day)
Intestinal enterococci[1]	150 cfu/100ml	maximum (no single measurement of the samples taken on any one day should exceed this value)

[1] From the takes effect date of this permit, the holder of this permit must meet either the coliforms or intestinal enterococci limits, not both. If both tests are performed in parallel, water samples for measurement of each pathogen type must be performed using water from a well-mixed water sample that has been split into two for the purpose of parallel measurements.

Table 31 – Mass Load Limits for the Suncoast STP

Release Point	Average Annual Flow (ML/year)	Nitrogen 50th Percentile (mg/L)	Nitrogen Mass Load Release Limit (kg/year)	Phosphorus 50th Percentile (mg/L)	Phosphorus Mass Load Release Limit (kg/year)
W1	1533	5	7665	1	1533

Table 32 – Noise Limits – All STPs other than Murrumba Downs and Nambour

NOISE LIMITS AT A NOISE SENSITIVE PLACE	
Period	***Noise Level at a Noise Sensitive Place Measured as the Adjusted Maximum Sound Pressure Level*** $L_{Amax\ adj,\ T}$
7 am - 6 pm	Background noise level plus 5 dB(A)
6 pm - 10 pm	Background noise level plus 5 dB(A)
10 pm - 7 am	Background noise level plus 3 dB(A)
NOISE LIMITS AT A COMMERCIAL PLACE	
Period	***Noise Level at a Commercial Place measured as the Adjusted Maximum Sound Pressure Level*** $L_{Amax\ adj,\ T}$
7 am - 6 pm	Background noise level plus 10 dB(A)
6 pm - 10 pm	Background noise level plus 10 dB(A)
10 pm - 7 am	Background noise level plus 8 dB(A)

Additional Notes:

1. In order for concentration limits and flow limits to not apply (and only mass load limits to apply), two requirements must be met:
- discharge to receiving environment is within mass load limits; and
- there is no environmental harm.

Table 33 – Operational noise limits – Nambour Sewage Treatment Plant and chlorine manufacturing facility

Noise level measured in dBA	Monday to Sunday		
	7am–6pm	6pm–10pm	10pm–7am
	Noise measured at the nearest sensitive place		
LAeq adj, 1 hr	50	42	37
	Noise measured at a commercial place		
LAeq adj, 1 hr	60	60	60

Table 34 – Construction noise limits – chlorine manufacturing facility at Nambour

Noise level measured in dBA	Monday to Friday			Saturday			Sunday
	7am–6pm	6pm–10pm	10pm–7am	9am–1pm	6pm–10pm	10pm–9am	All hours
	Noise measured at the nearest sensitive place						

LAeq adj, 1 hr	70	No construction	No construction	70	No construction	No construction	No construction
	Noise measured at a commercial place						
LAeq adj, 1 hr	70	No construction	No construction	70	No construction	No construction	No construction

Schedule 3 – Suncoast STP - Composting activities

Table 1 – Contaminant limit

Quality characteristic	**Contaminant limit (dry mass) in mg/kg***
Arsenic	20
Cadmium	3
Chromium (total)	100
Copper	150
Lead	150
Mercury	1
Nickel	60
Selenium	5
Zinc	300
Per and poly-fluoroalkyl substances (PFAS)	Monitoring required
Total organic fluorine (extractable)	Monitoring required
DDT/DDD/DDE	0.5
Aldrin	0.02
Dieldrin	0.02
Chlordane	0.02
Heptachlor	0.02
HCB	0.02
Lindane	0.02
BHC	0.02
PCBs	Not detected**
Notes: * Contaminant limits are NOT mean values. **Not detected at a limit of detection of 0.1 mg/kg.	

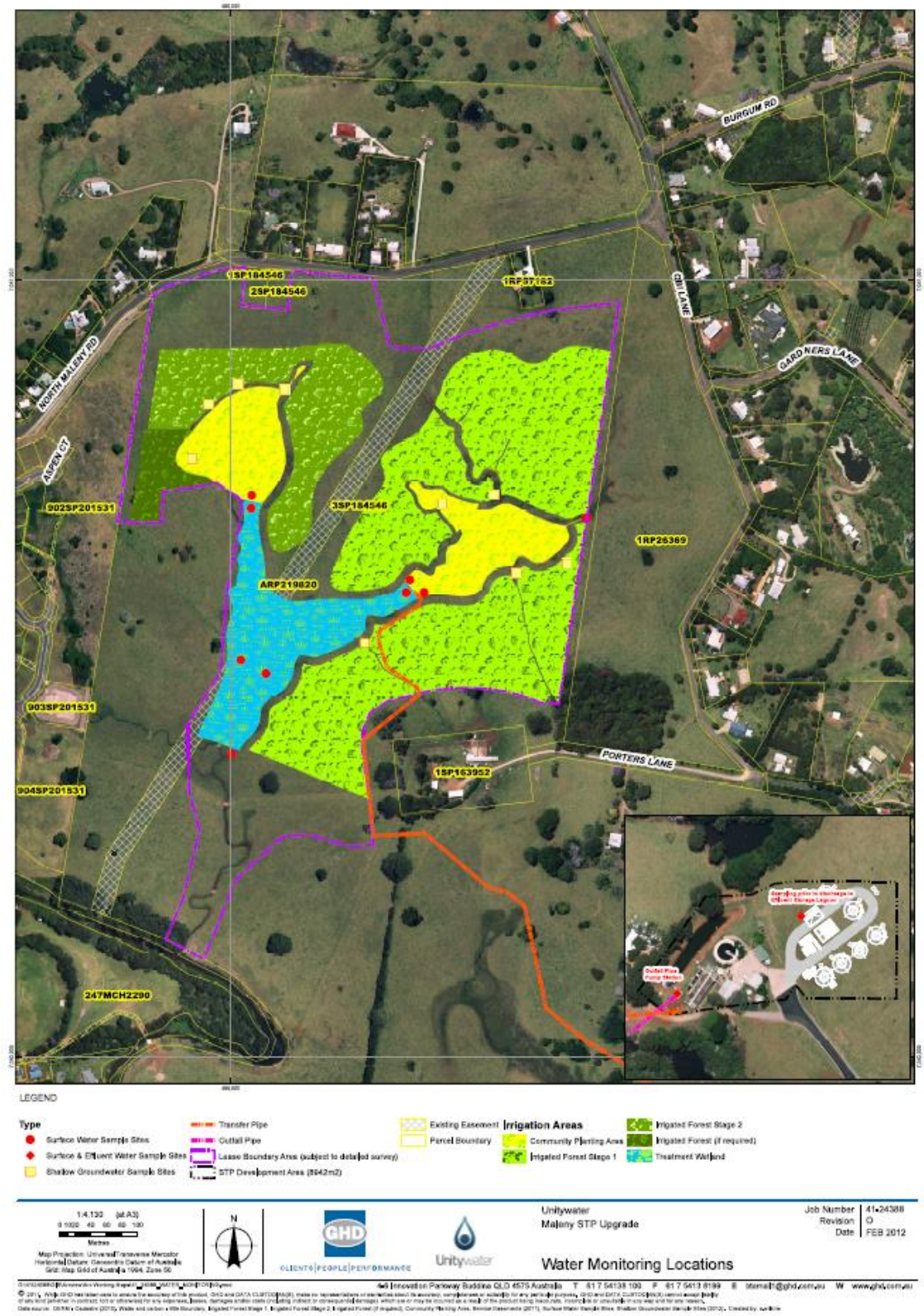
Associated Requirement

1. Contaminant levels shall be determined in accordance with the sampling and testing regime set out in Australian Standard AS4454:2012 Composts, soil conditions and mulches.

Schedule 4 - Attachments

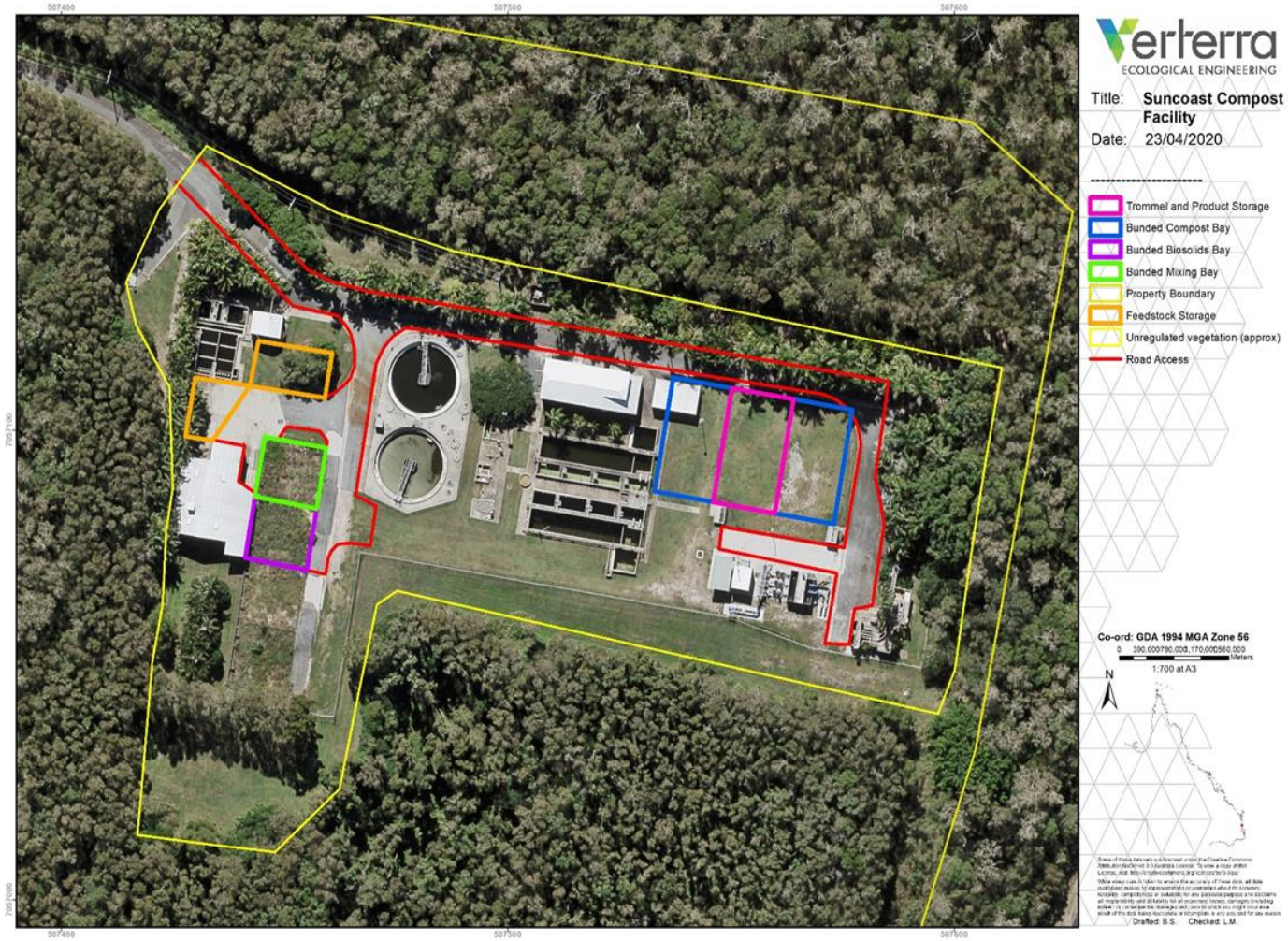
Appendix 1: Document entitled, *Unitywater Burpengary East Sewage Treatment Plant – Lower Caboolture River Nutrient Offset Project Delivery Proposal Caboolture River Planning and Design, prepared by SEQC Services Pty Ltd, prepared for Unitywater, dated 6 April 2018.*

Attachment 1: Plan entitled Water Monitoring Locations (revision 0), prepared by GHD, dated FEB 2012.



Attachment 2 – Kenilworth STP Site Plan – November 2018.

Attachment 3 – Suncoast STP – location of bays relating to composting activity



END OF PERMIT