Permit

Environmental Protection Act 1994

Environmental authority EA0001675

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

Environmental authority number: EA0001675

Environmental authority takes effect on a date to be decided later.

Environmental authority holder(s)

Name(s)	Registered address
Gainsdale Pty Ltd	168 Knapp St FORTITUDE VALLEY QLD 4006

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Prescribed ERA, ERA 63 - Sewage Treatment, 1: Operating sewage treatment works, other than no-release works, with a total daily peak design capacity of, (a-i) 21 to 100EP if treated effluent is discharged from the works to an infiltration trench or through an irrigation scheme	38-68 Balmoral Rd MONTVILLE QLD 4560

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

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- 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.

Christine Mooney
Department of Environment and Science
Delegate of the administering authority
Environmental Protection Act 1994

Date issued: 22 February 2019

Enquiries:
Heritage, Utilities and Government 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)

Legislative requirements and conditions of environmental authority

Other permits required

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

Obligations under the *Mining and Quarrying Safety and Health Act 1999*

If you are operating a quarry, other than a sand and gravel quarry where there is no crushing capability, you will be required to comply with the *Mining and Quarrying Safety and Health Act 1999*. For more information on your obligations under this legislation contact Mine Safety and Health at www.dnrme.qld.gov.au, or phone 13 QGOV (13 74 68) or your local Mines Inspectorate Office.

Conditions of environmental authority

Agency interest: General	
Condition number	**Condition**
G1	**Activities** conducted under this environmental authority must not be conducted contrary to any of the following limitations: 1. **Daily average** volume of inflows treated must not exceed 8.1kL/day. 2. The daily maximum inflow volume must not exceed 12 kL/day.
G2	All reasonable and practicable **measures** must be taken to prevent or minimise environmental harm caused by the **activities**.
G3	Any breach of a condition of this environmental authority must be reported to the **administering authority** as soon as practicable within 24 hours of becoming aware of the breach. Records must be kept including full details of the breach and any subsequent actions taken.
G4	Other than as permitted by this environmental authority, the **release of a contaminant into the environment** must not occur.
G5	All information and records required by the conditions of this environmental authority must be kept for a minimum of five years with the exception of environmental monitoring results which must be kept until surrender of this environmental authority. All information and records required by the conditions of this environmental authority must be provided to the **administering authority** upon request and in the format requested.
G6	An **appropriately qualified person(s)** must monitor, record and interpret all parameters that are required to be monitored by this environmental authority and in the manner specified by this environmental authority.
G7	All analyses required under this environmental authority must be carried out by a laboratory that has National Association of Testing Authorities **(NATA)** certification, or an equivalent certification, for such analyses. The only exception to this condition is for *in situ* monitoring of pH, Total Chlorine and electrical conductivity.
G8	An annual monitoring report must be prepared and submitted to the **administering authority** by 30 November each year, for the preceding financial year.

G9	**You** must record the following details for all environmental complaints received: 1. date and time complaint was received 2. name and contact details of the complainant when provided and authorised by the complainant 3. nature of the complaint 4. investigations undertaken 5. conclusions formed 6. actions taken.
G10	When required by the **administering authority**, monitoring must be undertaken in the manner prescribed by the **administering authority** to investigate a complaint of **environmental nuisance** arising from the **activity**. The monitoring results must be provided within 10 business days to the **administering authority** upon its request.
G11	The **activity** must be undertaken in accordance with written procedures that: 1. identify potential risks to the environment from the **activity** during routine operations, closure and an emergency 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 in and aware of their obligations under the *Environmental Protection Act 1994* ensure that reviews of environmental performance are undertaken at least annually.
G12	A **receiving** Irrigation Monitoring Program (RIMP) must be designed and implemented by an **appropriately qualified person(s)** for the **release** of contaminants to **land**(s), groundwater and vegetation.
G13	The **Receiving Irrigation Monitoring Program (RIMP)** for release of contaminants to land required by condition G12, must include at least the following: 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. determination of the quantity and quality of contaminants applied to the soils from the recycled water irrigation; and 3. periodic re-assessment including modelling of the water, nutrient and salt balances and irrigation rate and return period to ensure sustainable use of the irrigation area; and 4. reporting of monitoring results and an assessment of the impact of the releases on the irrigation areas; and 5. interpretation of the RIMP data by a suitably-qualified person as to whether environmental harm is being caused as a result of the activity; and 6. a report is prepared summarising all RIMP monitoring data and the interpretation of such data.

G14	Prior to commencement of the activity, a groundwater monitoring network must be installed to monitor potential impacts of the irrigation of treated effluent on groundwater quality and elevation. The network must include sufficient numbers of wells installed and screened at appropriate locations and depths which: 1. yield representative groundwater samples from the same aquifer (or aquifers if more than one) utilised for supplying drinking water locally so as to establish background water quality in hydraulically up-gradient well(s) (bores) that have not been affected by any potential direct or indirect release of contaminants to groundwater; 2. yield representative groundwater samples from the aquifer(s) which may be impacted by the activity so as to establish groundwater quality down-gradient of the effluent irrigation area (termed the "sentinel bore") to detect any potential leakage of contaminants to groundwater; 3. include provision for obtaining representative groundwater samples from the bore used for drinking water supply; and 4. allow triangulated inference of groundwater flow direction to be made, noting that at least three monitoring bores must be installed and maintained in each aquifer to infer groundwater flow direction.
G15	The receiving environmental monitoring program for release of contaminants to groundwater required by condition G14 must include but not be limited to the following: 1. identification of sampling point locations; and 2. identification of a suite of contaminants of concern that are associated with potential or actual contaminants associated with the treated effluent that is irrigated; and 3. identification of trigger levels for contaminants of concern that are suitable for early detection of seepage of the above contaminants of concern to groundwater. The trigger levels must be derived using the latest version of the administering authority's guideline *Using Monitoring Data to Assess Groundwater Quality and Potential Environmental Impacts*; and 4. Procedures which include: i. Requirements to measure and record standing levels in bores, accurate to 0.01 metre, on each occasion that samples are obtained for groundwater monitoring; and ii. Provision for security of the sampling sites; and iii. A nominated frequency for sampling of groundwater from each bore, which is determined to be as frequently as necessary to ensure compliance with environmental authority conditions but not limited to, six monthly monitoring of the quality of groundwater to detect any possible release(s) of contaminants; and iv. Monitoring of contaminants of concern in **groundwater** at the **background bore** and test bores, undertaken in accordance with the current edition of the **administering authority's** guideline *Monitoring and Sampling Manual,* including, but not limited to, monitoring of at least the following parameters: a. pH b. total nitrogen as mg/L Nitrogen (sum of organic N, ammonia N, nitrite N and nitrate N) c. ammonia nitrogen as mg/L Nitrogen

	d. total phosphorus as mg/L Phosphorus e. anions mg/L (Sulphate (SO_{2-}), Chloride (Cl^-), Carbonate (CO_3^{2-}), Bicarbonate (HCO_3^-) f. cations mg/L (Sodium (Na^+), Magnesium (Mg^{2+}), Potassium (K^+), Calcium (Ca^{2+}) g. electrical conductivity (Ec) µS/cm h. Escherichia coli as colony forming units /100 mL (cfu/100 mL) v. taking and recording of quality assurance measurements and samples; and vi. groundwater trigger action response procedures must be developed and undertaken when monitoring conducted under this monitoring program indicates that trigger levels identified in section 3 of this condition have been exceeded, or upon becoming aware of any monitoring results that indicate potential groundwater contamination from the activity; and vii. a justification for the monitoring program's design, including assumptions, determinations, monitoring equipment, sampling methods, data analysis and reporting regime.
G16	A Groundwater Monitoring Report must be complied by an appropriately qualified person annually, and provided to the administering authority with the annual return. This report must: 1. interpret the results obtained from the receiving environmental monitoring program for release of contaminants to groundwater required by condition G15; and 2. determine whether treated effluent has impacted **groundwater** based on the results obtained compared to the adopted trigger limits and any historical monitoring results, and if relevant, the extent to which any environmental values have been impacted; and 3. determine whether further investigation is required to determine the extent of impacts on environmental values and whether any changes to the **groundwater** monitoring program are required for future investigations; and 4. recommend the implementation of any changes to the irrigation of treated effluent required to prevent or minimise impacts on environmental values.
G17	The receiving environmental monitoring program for release of contaminants to vegetation required by condition G12 must include at least the following: A periodic vegetation survey to determine whether vegetation has changed or become adversely affected since the irrigation of treated effluent commenced. This must include before and after photos of key species, plant tissue analysis or dry matter production.

Agency interest: Air	
Condition number	**Condition**
A1	Other than as permitted within this environmental authority, odours or airborne contaminants must not cause **environmental nuisance** at a **sensitive place** or **commercial place**.

Agency interest: Land	
Condition number	**Condition**

L1

The only contaminant permitted to be **released** to **land** is treated effluent to the Spray Irrigation Areas, Sub-surface Irrigation Area and Native Vegetation Irrigation Area shown in *Attachment 1 — Wastewater Irrigation Area* in compliance with the release limits stated in *Table 1 - Contaminant Release Limits to* ***Land*** and the conditions of this **approval**.

Table 1— Contaminant Release Limits to Land

Release Point Name	Quality Characteristic (units)	Minimum	Median	Maximum	Minimum frequency
Post-Disinfection Chamber	Irrigation Rate (mm/day)	-	1.1	2.0	Daily
	Total Nitrogen (mg/L as N)	-	15	30	Quarterly
	Total Phosphorus (mg/L as P)	-	7.5	10	Quarterly
	pH (pH units)	5	-	9	Weekly
	E.coli (cfu/100mL)	-	<1000	1500	Monthly
	Electrical Conductivity (µS/cm)	-	800	2000	Quarterly
	Total Chlorine (mg/L)			5.0	Every second day

Associated requirements

1. The allocated land area for treated sewage irrigation is not to be less than 0.75 ha in accordance with Appendix 1.
2. Monitoring must be in accordance with the **administering authority**'s latest Water Quality Sampling Manual and all monitoring devices must be effectively calibrated and maintained.
3. Releases of treated effluent must not occur outside of the designated irrigation area indicated on Appendix 1.
4. Monitoring must be undertaken when treated sewage is being irrigated, unless irrigation has ceased for longer than the relevant parameters specified minimum frequency (e.g. if TSS was only required to be monitored once a week, then a TSS sample would not be required after the first week following cessation of the release).
5. Indicators for TN and TP are recommended to be done as grab samples.

L2

Monitoring must be undertaken and **records** kept of a monitoring program of contaminant **releases** to the irrigation area in accordance with *Table 1- Contaminant release limits to* ***land****.*

L3

Treated effluent is permitted to be **released** to **land** provided that it is done in accordance with a written procedure that ensures:

1. deep drainage to **groundwater** and subsurface flows of contaminants to surface **waters** are minimised;
2. surface pondage and run-off of treated effluent is prevented;
3. degradation of soil structure is minimised**;**
4. soil sodicity and the build-up of nutrients and heavy metals in the soil and subsoil are minimised;
5. spray drift or overspray do not carry beyond treated effluent irrigation areas;

	6. treated effluent irrigation areas are maintained with an appropriate crop in a viable state for transpiration and nutrient uptake; and 7. the crop on the treated effluent irrigation area is harvested and removed from the treated effluent irrigation area.
Agency interest: Acoustic	
Condition number	**Condition**
N1	Noise generated by the activity must not cause **environmental nuisance** to any sensitive place or **commercial place**.
Agency interest: Waste	
Condition number	**Condition**
W1	All waste generated in carrying out the activity must be lawfully reused, recycled or removed to a facility that can lawfully accept the waste.
Agency interest: Water	
Condition number	**Condition**
WT1	Stormwater contaminated by the activity must be managed to **minimise** or prevent any adverse effect on the environmental values of the receiving environment

Appendix 1

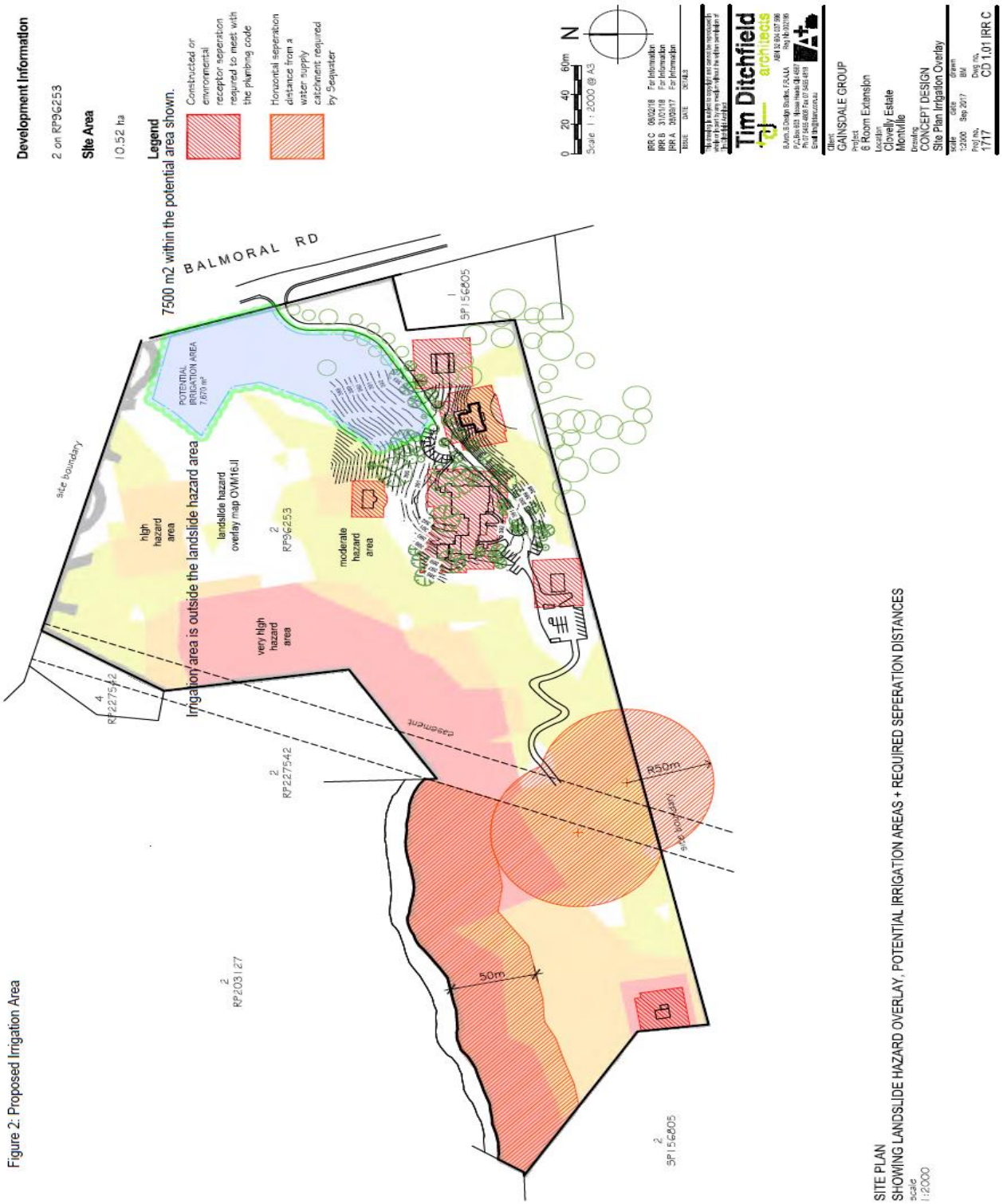


Figure 2: Proposed Irrigation Area

Definitions

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

Administering authority means the Department of Environment and Science or its successor or predecessors.

Approval means environmental authority.

Appropriately qualified person(s) means a person or persons who has professional qualifications, training, skills and experience relevant to the environmental authority (EA) requirements and can give authoritative assessment, advice and analysis in relation to the EA requirements using the relevant protocols, standards, methods or literature.

Commercial place means a place used as a workplace, an office or for business or commercial purposes and includes a place within the curtilage of such a place reasonably used by persons at that place.

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

Day means any 24 hour period.

Daily average in relation to inflows to the sewage treatment plant, is to be calculated using results from the past 365 days, on a rolling basis, where consecutive samples are taken on a daily basis.

Groundwater means water that occurs naturally in, or is introduced artificially into, an aquifer.

Land in the land schedule of this document means land excluding **waters** and the atmosphere.

Measures has the broadest interpretation and includes plant, equipment, physical objects, monitoring, procedures, actions, directions and competency.

Median means the middle value, where half the data are smaller and half the data are larger. If the number of samples is even, the **median** is the arithmetic average of the two middle values.

mg/L means milligrams per litre.

Minimise by taking all reasonable and practical measures to minimise the adverse effect having regard to the

following matters:
(a) the nature of the harm or potential harm
(b) the sensitivity of the receiving environment
(c) the current state of technical knowledge for the activity
(d) the likelihood of successful application of different measures that might be taken to **minimise** the adverse effects
(e) the financial implications of the different measures as they would relate to the type of activity
(f) if the adverse effect is caused by the location of the activity being carrying out, whether it is feasible to carry out the activity at another location.

N.A.T.A means National Association of Testing Authorities.

Records include breach notifications, written procedures, analysis results, monitoring reports and monitoring programs required under a condition of this authority

Release of a contaminant into the environment means to:
(a) deposit, discharge, emit or disturb the contaminant

(b) cause or allow the contaminant to be deposited, discharged, emitted or disturbed
(c) fail to prevent the contaminant from being deposited, discharged emitted or disturbed
(d) allow the contaminant to escape
(e) fail to prevent the contaminant from escaping.

Protected area means —
(a) a protected area under the *Nature Conservation Act 1992;* or
(b) a marine park under the *Marine Parks Act 2004;* or
(c) a World Heritage Area.

Sensitive place includes the following and includes a place within the curtilage of such a place reasonably used by persons at that place:
(a) a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises; or
(b) a motel, hotel or hostel; or
(c) a kindergarten, school, university or other educational institution; or
(d) a medical centre or hospital; or
(e) a **protected area** under the *Nature Conservation Act 1992,* the *Marine Parks Act 2004* or a World Heritage Area; or
(f) a public thoroughfare, park or garden
(g) for noise, a place defined as a sensitive receptor for the purposes of the *Environmental Protection (Noise) Policy 2008.*

Total Nitrogen (TN) means the sum of Organic Nitrogen, Ammonia Nitrogen, Nitrite plus Nitrate Nitrogen, expressed as **mg/L** as Nitrogen. This includes both the inorganic and organic fraction of nitrogen.

Total Phosphorus (TP) means the sum of the reactive phosphorus, acid-hydrolysable phosphorus and organic phosphorus, as **mg/L** of Phosphorus. This includes both the inorganic and organic fraction of phosphorus.

Watercourse means a river, creek or stream in which water flows permanently or intermittently-
(a) in a natural channel, whether artificially improved or not; or
(b) in an artificial channel that has changed the course of the **watercourse.**

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.

Works or **operation** means the activity approved under environmental authority.

You means the holder of the environmental authority.

95th percentile means not more than one (1) of the measured values of the quality characteristic is to exceed the stated release limit for any twenty (20) consecutive samples for a sampling point at any time during the environmental activity(ies) **works.**

END OF ENVIRONMENTAL AUTHORITY