

Transitional Environmental Program

Transitional Environmental Program (TEP) MAN19680 relates to this permit and is in force until 30 June 2018. A copy of the TEP MAN19680 can be obtained from the administering authority. It is an offence to contravene a requirement of the TEP or a condition of the TEP approval.

[Signature]

Delegate. 29-6-17



Department of
Environment and
Heritage Protection

To: Mareeba Shire Council
PO Box 154
MAREEBA QLD 4880

Email: info@msc.qld.gov.au

Your reference: EPPR01792213

Our reference: 242648

Amendment of an environmental authority to correct a clerical error

1. Environmental authority details

Environmental authority number EPPR01792213 dated 1 December 2016.

Land description: Almaden Tip Unnamed Road ALMADEN QLD 4871 Lot 2 Plan CP880994; Chillagoe Tip Burke Development Road Lot 130 Plan LD155; Irvinebank Waste Management Facility Herberton Petford Road Lot 15 Plan CP852249; Kuranda STP Arara Street KURANDA QLD 4881 Lot 811 Plan NR7753; Mareeba Sanitary Depot Hickling Avenue MAREEBA QLD 4880 Lot 533 Plan NR7032; Mareeba STP Hickling Avenue via Adil Road MAREEBA QLD 4880 Lot 888 Plan NR7943; Mount Molloy Waste Management Facility Bakers Road Lot 2 Plan DA36; Mareeba WTP 11-15 Kowa Street MAREEBA QLD 4880 Lot 388 Plan CP902751; Barang Street Road Reserve KURANDA QLD 4881 Lot 0 Plan RP0000; Mareeba Landfill 35 Vaughan Street MAREEBA QLD 4880 Lot 517 Plan SP171524; Myola Road (Road Reserve) KURANDA QLD 4881; Robins Street MAREEBA QLD 4880 Lot 1 Plan RP722730; Atherton Street MAREEBA QLD 4880 Lot 1 Plan RP722729; Eccles Street MAREEBA QLD 4880 Lot 441 Plan NR5150; Keneally Road Reserve MAREEBA QLD 4880; Palm Close Road Reserve MAREEBA QLD 4880; Ceola Drive Sunset Park MAREEBA QLD 4880 Lot 60 Plan SP101835.

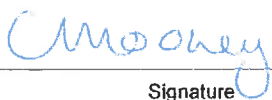
2. Amendment

The administering authority has become aware that there is a clerical error on the environmental authority that requires correction. Incorrect monitoring requirements have been placed in Part 8 – Table 2: Monitoring frequency for the Mareeba Water Treatment Plant. The minimum frequency should be quarterly for all quality characteristics.

The amended environmental authority is enclosed with this notice.

Should you have any further enquiries, please contact PALM on telephone (07) 1300 130 372

Yours sincerely

	
Signature	Date

Chris Mooney
Department of Environment and Heritage Protection
Delegate of the administering authority
Environmental Protection Act 1994

Enclosed

Permit - environmental authority (reference EPPR01792213)

Department of Environment and Heritage Protection

Transitional Environmental Program

Transitional Environmental Program (TEP) MAN19680 relates to this permit and is in force until 30 June 2018. A copy of the TEP MAN19680 can be obtained from the administering authority. It is an offence to contravene a requirement of the TEP or a condition of the TEP approval.

Permit¹

Environmental Protection Act 1994

Environmental authority EPPR01792213

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

Permit¹ number: EPPR01792213

Environmental authority takes effect upon signing by the delegate

The anniversary day of this environmental authority remains 1 January. An annual return and the payment of the annual fee will be due each year on this day.

Transitional Environmental Program

Transitional Environmental Program (TEP) MAN18760 relates to this permit and is in force until 17 November 2017. A copy of the TEP MAN18760 can be obtained from the administering authority. It is an offence to contravene a requirement of the TEP or a condition of the TEP approval.

Environmental authority holder(s)

Name	Registered address
Mareeba Shire Council	65 Rankin Street MAREEBA QLD 4880

Environmentally relevant activity and location details

Environmentally relevant activity(ies)	Location(s)
ERA 60-(2b) Waste disposal >2000t but <5000t yr (1)(b)	Chillagoe Tip - Lot 130 Plan LD155 Irvinebank Waste Management Facility - Lot 15 Plan CP852249 Mount Molloy Waste Management Facility - Lot 2 Plan DA36 Almaden Tip - Lot 2 on Plan CP880994
ERA 60-(1a) Waste disposal <50000t yr (1)(a)	Mareeba Sanitary Depot - Lot 533 Plan NR7032
ERA 60-(2f) Waste disposal >50000t but <100000t yr (1)(b) ERA 53-Composting&soil conditioner manufacturing >200t yr	Mareeba Landfill - Lot 517 Plan SP171524

¹ Permit includes licences, approvals, permits, authorisations, certificates, sanctions or equivalent/similar as required by legislation



Environmentally relevant activity(ies)	Location(s)
ERA 63-(1c) Sewage treatment >1500 to 4000EP	Kuranda Sewage Treatment Plant - Lot 811 Plan NR7753
63-(1e) Sewage treatment >10000 to 50000EP	Mareeba STP - Lot 888 Plan NR7943
64-(3) Water treatment >10ML raw water day	Mareeba Water Treatment Plant - Lot 388 Plan CP902751
ERA 63(2) Sewage Treatment – pump station (1)(b)	Atherton Street, Mareeba – Lot 1 on Plan RP722729 Robins Street, Mareeba – Lot 1 on Plan RP722730 Eccles Street, Mareeba – Lot 441 on NR5150 Keneally Road Road Reserve, Mareeba Palm Close Road Reserve, Mareeba Ceola Drive, Sunset Park Mareeba – Lot 60 on SP101835 Barang Street Road Reserve, Kuranda Myola Road (Road Reserve), Kuranda

Additional information for applicants

Environmentally relevant activities

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

An environmental authority authorises the carrying out of an ERA and does not authorise any environmental harm unless a condition stated by the authority 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 land give written notice to the chief executive if they become aware of the following:

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

Permit
Environmental authority EPPR01792213

For further information, including the form for giving written notice, refer to the Queensland Government website <http://www.qld.gov.au/> (using the search term 'managing contaminated land').



Signature

Chris Mooney
Department of Environment and Heritage Protection
Delegate of the administering authority
Environmental Protection Act 1994



Date

Enquiries:
Heritage, Utilities and Government
Organisations Assessment
Department of Environment and Heritage
Protection
GPO Box 2454
BRISBANE QLD 4001
Phone: 1300 130 372
Fax: 07 3330 6037
Email: palm@ehp.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 GENERAL CONDITIONS (ALL LOCATIONS)

Environmentally relevant activity(ies)	Location(s)
ERA 60-(2b) Waste disposal >2000t but <5000t yr (1)(b)	Chillagoe Tip - Lot 130 Plan LD155 Irvinebank Waste Management Facility - Lot 15 Plan CP852249 Mount Molloy Waste Management Facility - Lot 2 Plan DA36 Almaden Tip – Lot 2 on Plan CP880994
ERA 60-(1a) Waste disposal <50000t yr (1)(a)	Mareeba Sanitary Depot - Lot 533 Plan NR7032
ERA 60-(2f) Waste disposal >50000t but <100000t yr (1)(b) ERA 53-Composting&soil conditioner manufacturing >200t yr	Mareeba Landfill - Lot 517 Plan SP171524
ERA 63-(1c) Sewage treatment >1500 to 4000EP	Kuranda Sewage Treatment Plant - Lot 811 Plan NR7753
63-(1e) Sewage treatment >10000 to 50000EP	Mareeba STP - Lot 888 Plan NR7943
64-(3) Water treatment >10ML raw water day	Mareeba Water Treatment Plant - Lot 388 Plan CP902751
ERA 63(2) Sewage Treatment – pump station (1)(b)	Atherton Street, Mareeba – Lot 1 on Plan RP722729 Robins Street, Mareeba – Lot 1 on Plan RP722730 Eccles Street, Mareeba – Lot 441 on NR5150

	Keneally Road Road Reserve, Mareeba Palm Close Road Reserve, Mareeba Ceola Drive, Sunset Park Mareeba – Lot 60 on SP101835 Barang Street Road Reserve, Kuranda Myola Road (Road Reserve), Kuranda
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The environmentally relevant activity(ies) conducted at the location as described above must be conducted in accordance with the following site specific conditions of approval.

Agency interest: General	
Condition number	Condition
1-G1	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.
1-G2	All reasonable and practicable measures must be taken to prevent or minimise environmental harm caused by the activities.
1-G3	The activity must be undertaken in accordance with written procedures that: a) identify potential risks to the environment from the activity during routine operations and emergencies; and b) establish and maintain control measures that minimise the potential for environmental harm; and c) ensure plant, equipment and measures are maintained in a proper and effective condition; and d) ensure plant, equipment and measures are operated in a proper and effective manner; and e) ensure that staff are trained and aware of their obligations under the <i>Environmental Protection Act 1994</i>; and f) ensure that reviews of environmental performance are undertaken at least annually.
1-G4	All records must be kept for a period of at least five years and provided to the administering authority upon request.
1-G5	Chemicals and fuels in containers of greater than 15 litres must be stored within a secondary containment system .
1-G6	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:

	a) pH, dissolved oxygen and turbidity for all sites; and b) electrical conductivity / Specific conductance and suspended solids for weekly testing of landfill surface waters.
1-G7	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.
Agency interest: Air	
Condition number	Condition
1-A1	Other than as permitted within this environmental authority, odours or airborne contaminants which are noxious or offensive or otherwise unreasonably disruptive to public amenity or safety must not cause nuisance to any sensitive place or commercial place .
1-A2	Contaminants must not be released to air from any point source.
Agency interest: Water	
Condition number	Condition
1-W1	Other than as permitted within this environmental authority, contaminants must not be released to any waters .
Agency interest: Noise	
Condition number	Condition
1-N1	Other than as permitted within this environmental authority, noise generated by the activity must not cause environmental nuisance to any sensitive place or commercial place
Agency interest: Land	
Condition number	Condition
1-L1	Other than as permitted within this environmental authority, contaminants must not be released to land .

Agency interest: Waste	
Condition number	Condition
1-WA1	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 (MAREEBA SANITARY DEPOT)

Environmentally relevant activity(ies)	Location(s)
ERA 60-(1a) Waste disposal <50000t yr (1)(a)	Mareeba Sanitary Depot - Lot 533 Plan NR7032

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

Agency interest: General	
Condition number	Condition
2-G1	All reasonable and practicable measures must be taken to exclude vectors and pest species to the extent necessary to prevent: a) nuisance to occupiers of neighbouring premises; and b) any danger or risk to the health of any persons.
Agency interest: Air	
Condition number	Condition
2-A1	The following materials must not be used for dust suppression purposes: a) leachate or landfill gas condensate; or b) waste oil or other hydrocarbons.
Agency interest: Water	
Condition number	Condition
2-W1	The stormwater runoff from disturbed areas , generated by (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 release.

2-W2	A system of suitable diversion drains or embankments must be constructed and maintained to divert surface waters away from any area of the licensed place where contact with wastes or contaminants may occur. Particular attention must be paid to any: a) active sanitary disposal trench; b) trench or vessel used to treat wastes prior to disposal; and c) area previously used for waste disposal.
Agency interest: Noise	
Condition number	Condition
2-N1	Noise from the activity must not include substantial low frequency noise components and must not exceed the levels identified in Part 2 – Table 1: Noise limits and the associated requirements at any nuisance sensitive place or commercial place .

Part 2 – Table 1: Noise limits

Noise level measured in dB(A)	Monday to Sunday and Public Holidays		
	7am – 6pm	6pm – 10pm	10pm – 7am
L _A , max, adj, T	Noise measured at a nuisance sensitive place		
	Background + 5	Background + 5	Background + 3
L _A , max, adj, T	Noise measured at a commercial place		
	Background + 10	Background + 10	Background + 8

Associated requirements:

- a) All monitoring devices must be effectively calibrated and maintained in accordance with the manufacturer's instructions and relevant Australian Standard.
- b) Monitoring must be taken when emissions are expected to be representative of actual operating conditions for the sample frequency period.
- c) Noise monitoring must be in accordance with the most recent version of the administering authority's *Noise Measurement Manual*.

Agency interest: Land	
Condition number	Condition
2-L1	Soils or other materials used to construct the capping of trenches located in a completed waste disposal area (as designated in the Site development Plan) must achieve a maximum in situ hydraulic conductivity of no greater than 1×10^{-8} metres per second.
2-L2	Any completed and capped sanitary disposal area must be progressively covered to a depth of at least 250 millimetres with clean earth capable of supporting shallow rooted vegetation. A thicker top soil may be necessary to support deeper rooted vegetation and also to prevent root penetration of the cap.
2-L3	Land that has been disturbed for activities conducted under this environmental authority must be rehabilitated in a manner such that: a) suitable species of vegetation for the location are established and sustained for earthen surfaces; b) potential for erosion is minimised; and c) the quality of water, including seepage, released from the site does not cause environmental harm.
2-L4	Following cessation of deposition of waste in the landfill unit, post-closure care of the landfill unit must be conducted for a period of 30 years or until the administering authority determines, on the basis of correct information, that the landfill unit and surrounding site are stable and that no release of waste materials, leachate, landfill gas or other contaminants that may cause environmental harm is likely.
2-L5	The program of post-closure care implemented must be effective in preventing and/or minimising the likelihood of environmental harm being caused. The program must include measures to: a) maintain the structural integrity and effectiveness of the final capping system; b) maintain the integrity and effectiveness of any low permeability final cover material; c) maintain the groundwater monitoring system and monitor quality of groundwater at a frequency sufficient to detect any release of contaminants to groundwater; and d) maintain vegetation that has been planted as part of post closure activities.
2-L6	At least six (6) months before the cessation of waste disposal activities at the licensed place, the holder of this environmental authority must submit the Post Closure Care Plan to the administering authority for review and comment.

Agency interest: Waste	
Condition number	Condition
2-WA1	This environmental authority only permits the following waste to be received and disposed of at the licenced place: a) grease interceptor trap effluent and residues; b) nightsoil; c) lime treated dimethoate pesticide; and d) treated deltamethrine insecticide.
2-WA2	New sanitary disposal trenches are not authorised to be constructed at the Mareeba Sanitary Depot.
2-WA3	The holder of this environmental authority must ensure any sanitary disposal trenches and above ground embankments are: a) located in an unshaded area; b) constructed so as to promote evaporation of generated leachate and contaminated stormwater; and c) constructed and managed so that a freeboard capable of preventing overspill is maintained at all times.
2-WA4	Where any disposal trench or any part thereof is installed above ground, the embankments must be maintained to ensure their stability and integrity.

PART 3 SITE SPECIFIC CONDITIONS (MAREEBA LANDFILL – WASTE DISPOSAL)

Environmentally relevant activity(ies)	Location(s)
ERA 60-(2f) Waste disposal >50000t but <100000t yr (1)(b)	Mareeba Landfill - Lot 517 Plan SP171524

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

Agency interest: General	
Condition number	Condition
3-A1	All reasonable and practicable measures must be taken to exclude vectors and pest species to the extent necessary to prevent: a) nuisance to occupiers of neighbouring premises; and b) any danger or risk to the health of any persons.
Agency interest: Air	
Condition number	Condition
3-A1	Cells 4 and 6 are only to be used for non-putrescible waste until the time that the approval holder submits results of comprehensive odour modelling and evidence of the lack of previous odour complaints that demonstrates to the satisfaction of the administering authority that an odour nuisance is unlikely at nearby nuisance sensitive or commercial places.
3-A2	Dust and particulate matter must not exceed the following levels when measured at any nuisance sensitive place or commercial place: a) dust deposition of 120 milligrams per square metre per day, when monitored in accordance with Australian Standard AS 3580.10.1 of 2003 (or more recent editions); or b) a concentration of particulate matter with an aerodynamic diameter of less than 10 micrometre (pm) (PM₁₀) suspended in the atmosphere of 150 micrograms per cubic metre over a 24 hour averaging time, at a nuisance sensitive or commercial place downwind of the site, when monitored in accordance with: i) <i>Australian Standard AS 3580.9.6 of 2003 (or more recent editions) 'Ambient air – Particulate matter - Determination of suspended particulate PM10 high-volume sampler with size selective inlet -Gravimetric method'</i>; or ii) any alternative method of monitoring PM₁₀ which may be permitted by the administering authority.
3-A3	The following materials must not be used for dust suppression purposes: a) leachate or landfill gas condensate; or b) waste oil or other hydrocarbons.

3-A4	Landfill gas is not considered to cause environmental harm if: a) a landfill gas collection system is installed and maintained when the landfill unit is sufficiently elevated to allow adequate drainage of gas lines; and/or b) landfill gas monitoring shows that the release of methane does not exceed the following limits: i) 500 parts per million at a height of 50mm above the final and intermediate cover surface including the batter slopes of the landfill unit; ii) 25 percent of the lower explosive limit when measured in facility structures (but excluding facility structures used for landfill gas control and landfill gas recovery system components); and iii) the lower explosive limit at the landfill facility boundary.
3-A5	Where landfill gas monitoring shows the release of methane as being above 500 parts per million at a height of 50mm, an effective landfill gas collection system must be designed, installed, operated and maintained on all landfill areas. Any gas collected in this system should, if it all possible, be reused in an energy recovery system, otherwise it must be actively vented or flared using only enclosed flares.
3-A6	A landfill gas monitoring network must be installed for each landfill unit to measure methane levels in facility structures and at the landfill site boundary , as prescribed by condition 3-A4. The network must consist of gas monitoring devices, such as monitoring bores and be developed by an appropriately qualified person in the fields of hydrogeology and landfill gas monitoring program design to be able to competently make recommendations about these matters.
3-A7	Conduct and keep records of landfill gas monitoring which is performed at the following frequencies: a) at least every three months to assess compliance with the methane limit at a height of 50mm above the cover surface of the landfill unit prescribed by condition 3-A4; and b) at least every three months to assess compliance with methane limits for facility structures and at the boundary prescribed by condition 3-A4.
3-A8	Landfill gas monitoring referred to in the above conditions must be undertaken for at least the following parameters: a) methane; b) oxygen; c) carbon dioxide; d) hydrogen sulphide; and e) atmospheric pressure.
3-A9	If methane gas levels exceeding methane standards referred to in condition 3-A4 are detected, all necessary steps must immediately be taken to ensure protection of human health.
Agency interest: Water	
Condition number	Condition
3-W1	All batteries, liquid chemicals, fuels, and other liquid substances with potential to cause environmental harm must be stored within a secondary containment system that is impervious to the materials stored within it, and must be managed to prevent the release of contaminants to waters or land .

3-W2	The only contaminants to be released to surface waters are from the sedimentation ponds to waters described as the unnamed drain at the northwest corner of the site in accordance with Part 3 – Table 1: Surface water release limits and the associated monitoring requirements.
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Part 3 – Table 1: Surface water release limits

Release point (GDA94)		Quality characteristics (units)	Limit	Limit type	Minimum monitoring frequency (surface waters)
Latitude	Longitude				
-16.98440538	145.4054714	Total suspended solids* (mg/L)	50	Maximum	Upon commencement of release, and weekly thereafter
-16.98440538	145.4054714	pH (pH units)	4.0 – 9.0	Range	Upon commencement of release, and weekly thereafter
-16.98440538	145.4054714	Electrical conductivity (µS/cm)	1,000	Maximum	Upon commencement of release, and weekly thereafter

Associated monitoring requirements:

- a) Releases must be undertaken from the authorised release point is as shown in **Attachment 1** of this environmental authority
- b) Sampling must be in accordance with the administering authority's *Monitoring and Sampling Manual* and all monitoring devices must be effectively calibrated and maintained.
- c) Samples must be representative of the release.
- d) *Testing for turbidity (NTU) may be derived from the suspended solids limit once a demonstrated correlation between turbidity to suspended solids historical monitoring data has been achieved.

3-W3	If discharge waters from the sediment pond exceed any of the contaminant trigger levels stated in Part 3 – Table 2: Discharge water trigger levels (Surface waters), the environmental authority holder must: a) complete an investigation in accordance with the ANZECC (2000) methodology, or any updated ANZECC guidelines, into the potential for environmental harm; and b) provide a written report to the administering authority within 3 months of the date of the original exceedence, outlining: i) details of the investigations carried out; and ii) actions taken to prevent environmental harm.
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Part 3 – Table 2: Discharge water trigger levels (Surface waters)

Quality characteristics (units)	Trigger level	Trigger level type	Minimum monitoring frequency (surface waters)
Turbidity (NTU)	80 th percentile* of reference site [^] or 6 NTU, whichever is higher.	Median	Upon commencement of release, and weekly thereafter
pH (pH units)	Minimum: 6.0[#] or 20th percentile* of reference site[^], whichever is lower. Maximum: 7.5[#] or 80th percentile of reference site[^], whichever is higher.	Median	Upon commencement of release, and weekly thereafter

Quality characteristics (units)	Trigger level	Trigger level type	Minimum monitoring frequency (surface waters)
Dissolved oxygen (percentage saturation)	80 th percentile* of reference site [^] or 90%# of saturation, whichever is lower.	Median	Upon commencement of release, and weekly thereafter
Electrical conductivity (µS/cm)	80 th percentile* of reference site [^] or 250 µS/cm ⁺ , whichever is higher.	Median	Upon commencement of release, and weekly thereafter
Total dissolved solids	TBA ^x	TBA ^x	Quarterly in accordance with condition 3-W9
Bicarbonate (HCO ₃)	TBA ^x	TBA ^x	Quarterly in accordance with condition 3-W9
Oxidised Nitrogen	TBA ^x	TBA ^x	Quarterly in accordance with condition 3-W9
Ammonia	TBA ^x	TBA ^x	Quarterly in accordance with condition 3-W9
Calcium	TBA ^x	TBA ^x	Quarterly in accordance with condition 3-W9
Sulphate	TBA ^x	TBA ^x	Quarterly in accordance with condition 3-W9
Chloride	TBA ^x	TBA ^x	Quarterly in accordance with condition 3-W9
Hexavalent chromium	TBA ^x	TBA ^x	Quarterly in accordance with condition 3-W9
Cadmium	TBA ^x	TBA ^x	Quarterly in accordance with condition 3-W8
Manganese	TBA ^x	TBA ^x	Quarterly in accordance with condition 3-W9
Total iron	TBA ^x	TBA ^x	Quarterly in accordance with condition 3-W9
Copper	TBA ^x	TBA ^x	Quarterly in accordance with condition 3-W9
Lead	TBA ^x	TBA ^x	Quarterly in accordance with condition 3-W9
Zinc	TBA ^x	TBA ^x	Quarterly in accordance with condition 3-W9
Pesticides (organochlorines and organophosphates)	TBA ^x	TBA ^x	Quarterly in accordance with condition 3-W9
Total Petroleum Hydrocarbons	TBA ^x	TBA ^x	Quarterly in accordance with condition 3-W9
BTEX (Benzene, Toluene, Ethyl Benzene and Xylene)	TBA ^x	TBA ^x	Quarterly in accordance with condition 3-W9

Quality characteristics (units)	Trigger level	Trigger level type	Minimum monitoring frequency (surface waters)
Chemical oxygen demand (COD)	TBA*	TBA*	Quarterly in accordance with condition 3-W9
5-day Biological oxygen demand (BOD ₅)	TBA*	TBA*	Quarterly in accordance with condition 3-W9
Total organic carbon (TOC)	TBA*	TBA*	Quarterly in accordance with condition 3-W9

Associated monitoring requirements:

- a) *Trigger levels based on 80th or 20th percentile are derived using ANZECC (2000) and the *Queensland Water Quality Guidelines* methodology and are based on the reference sites listed in b) below.
- b) ^Reference sites must:
 - i) be from the same biogeographic and climatic region;
 - ii) have similar geology, soil types and topography;
 - iii) contain a range of habitats similar to those at the test sites;
 - iv) have a similar flow regime to those at the test sites;
 - v) not be so close to the test sites that any disturbance at the test site also results in a change at the reference site; and
 - vi) refer to the *Queensland Water Quality Guidelines* for further guidance.
- c) #Limits are based on values contained in the *Queensland Water Quality Guidelines* Table 2.5.3.1 Regional guideline values for physio-chemical indicators – Wet Tropics Region.
- d) +Limits are based on ANZECC Table 3.3.5 – upper salinity limits for upland rivers of slightly disturbed ecosystems in tropical Australia.
- e) *Proposed interim trigger levels must be submitted to the administering authority by 30 November 2018 and are to be derived using ANZECC (2000) and the *Queensland Water Quality Guidelines* methodology and are based on the reference sites listed in b) above.
- f) The median must be determined based on a maximum of ten (10) consecutive samples.
- g) Sampling must be in accordance with the administering authority's *Monitoring and Sampling Manual* and all monitoring devices must be effectively calibrated and maintained.
- h) Samples must be representative of the release.

3-W5	The controlled release of treated/settled stormwater must be conducted in a way and at a rate that does not cause: a) re-suspension of particles; or b) erosion of bed or banks of receiving waters; or c) landscape damage; or d) ponding of the water; or e) vegetation damage.
3-W6	You must develop and implement a leachate quality management and monitoring program for the leachate generated at the site. The monitoring program is to include an annual analysis of leachate samples for the quality characteristics identified in Part 3 – Table 4: Leachate monitoring requirements.

Part 3 – Table 4: Leachate monitoring requirements

Quality Characteristic	Leachate	Surface water	Groundwater
pH	✓	✓	✓
Electrical conductivity	✓	✓	✓
Total dissolved solids	✓	✓	✓
Dissolved oxygen	✓	✓	
Bicarbonate (HCO ₃)	✓		✓
Oxidised Nitrogen	✓	✓	✓
Ammonia	✓	✓	✓
Calcium	✓	✓	✓
Sulphate	✓	✓	✓
Chloride	✓		✓
Hexavalent chromium	✓	✓	
Cadmium	✓	✓	
Manganese	✓	✓	✓
Total iron	✓	✓	✓
Copper	✓	✓	✓
Lead	✓	✓	✓
Zinc	✓	✓	✓
Pesticides (organochlorines and organophosphates)	✓	✓	✓
Total Petroleum Hydrocarbons	✓	✓	✓
BTEX (Benzene, Toluene, Ethyl Benzene and Xylene)	✓	✓	✓
Chemical oxygen demand (COD)	✓	✓	✓
5-day Biological oxygen demand (BOD ₅)	✓	✓	
Total organic carbon (TOC)	✓		

3-W7	An effective surface water monitoring program must be developed and implemented for the site. The program must include, but not be limited to, a sufficient number of monitoring locations to: a) establish the reference quality of surface waters; and b) detect any impact on surface waters as a consequence of landfill operation.
3-W8	The surface water monitoring program specified in condition 3-W7 must monitor and record the quality of surface water for at least the quality characteristics identified in Part 3 – Table 4: Leachate monitoring requirements.
3-W9	Surface water quality samples must be collected from sample points in accordance with the surface monitoring program at least in January, April, July and October of each year, or, in the event of no sample being obtainable in ephemeral systems at this time, during the next period of flow of the watercourse.
3-W10	An effective groundwater monitoring program must be developed and implemented for the site. The program must include: a) installation of a groundwater monitoring network which: i) establishes the background quality of groundwater up-gradient and down-gradient of the landfill site; ii) are installed and maintained by a person possessing appropriate qualifications and experience in the fields of hydrogeology and groundwater monitoring program design to be able to competently make recommendations about these matters; iii) include a sufficient number of bore(s) of compliance to detect any impact on groundwater as a consequence of landfill operation, constructed in accordance with the latest edition of the <i>Minimum Construction Requirements for Water Bores in Australia</i> (Agricultural and Resource Management Council of Australia and New Zealand 1997), that are located not more than 150 metres from the landfill area or at the boundary of the landfill facility whichever is the closer; and iv) provides representative groundwater samples for the aquifers being sampled; v) includes monitoring of water from the perched groundwater found in the sand lens in the north-west corner of the site identified during cell construction and situated beneath the landfill liner; b) analysis of groundwater samples for at least the quality characteristics identified in Part 3 – Table 4: Leachate monitoring requirements; c) collection of groundwater quality samples from groundwater at least in January, April, July and October of each year; and d) assessment of monitoring results to determine whether or not there has been any adverse change for each groundwater quality characteristic at locations hydraulically down-gradient of the landfill unit above when compared to background values.

3-W11	If groundwater monitored under condition 3-W10 for parameters specified in Part 3 – Table 4: Leachate monitoring requirements, exceed any of the contaminant trigger levels stated in <i>Part 3 – Table 5: Groundwater contaminant trigger levels – unfiltered</i>, the environmental authority holder must: a) complete an investigation in accordance with the ANZECC (2000) methodology, into the potential for environmental harm; b) provide a written report to the administering authority within three (3) months of the date of the original exceedence, outlining: i) details of the investigations carried out; and ii) actions taken to prevent environmental harm.
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Part 3 – Table 5: Groundwater contaminant trigger levels – unfiltered

Quality Characteristic	Unit	Limit	Limit Type
Electrical conductivity	µS/cm	80 th percentile of reference site or 250*, whichever is higher.	Median [^]
pH	pH units	Minimum: 6.0# or 20 th percentile of reference site, whichever is lower. Maximum: 7.5# or 80 th percentile of reference site, whichever is higher.	Median [^]
Ammonia as Nitrogen	µg/L	80 th percentile of reference site or 6#, whichever is higher.	Median [^]
Total Nitrogen	µg/L	80 th percentile of reference site or 250#, whichever is higher.	Median [^]
Copper	µg/L	1.4 ⁺	95 th percentile [^]
Lead	µg/L	3.4 ⁺	95 th percentile [^]
Zinc	µg/L	8 ⁺	95 th percentile [^]
Manganese	µg/L	1,900 ⁺	95 th percentile [^]
Benzene	µg/L	950 ⁺	95 th percentile [^]
Polycyclic Aromatic Hydrocarbons (PAHs)		Above limit of detection	95 th percentile [^]
Pesticides (organochlorines and organophosphates)		Above limit of detection	95 th percentile [^]
Total Petroleum Hydrocarbons		Above limit of detection	95 th percentile [^]

Associated notes:

- a) *Trigger levels are based on ANZECC Table 3.3.5 – upper EC limit for upland rivers of slightly disturbed ecosystems in tropical Australia.
- b) *Trigger levels are based on values contained in the *Queensland Water Quality Guidelines* Table 2.5.3.1 Regional guideline values for physio-chemical indicators – Wet Tropics Region.
- c) [^]The median must be determined based on a maximum of ten (10) consecutive samples.

- d) +ANZECC (2000) trigger levels for aquatic ecosystems of slightly – moderately disturbed systems – Table 3.4.1
Level of protection 95% - tropical Australian upland rivers.

3-W12	The groundwater monitored under condition 3-W10 for parameters specified in <i>Part 3 – Table 5: Groundwater contaminant trigger levels – unfiltered</i> must not exceed any of the contaminant limits defined in Part 3 – Table 6: Groundwater contaminant limits – unfiltered .
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Part 3 – Table 6: Groundwater contaminant limits – unfiltered

Quality Characteristic	Unit	Limit	Limit Type
Electrical conductivity	µS/cm	1,000	Maximum
pH	pH units	4.0 – 9.0	Range
Total Nitrogen (TN)	mg/L	5	Maximum
Sulphate	mg/L	1,000	Maximum
Copper	mg/L	0.2	Maximum
Lead	mg/L	0.1	Maximum
Zinc	mg/L	2	Maximum

3-W13	Notwithstanding the above conditions, should groundwater monitoring show a statistically significant adverse change of levels of contaminants over background values at locations hydraulically down-gradient of the landfill unit then the administering authority must be notified within 14 days of the environmental authority holder receiving the results.
3-W14	A liner system for landfill cells constructed after 21 March 2007 must be installed and maintained to: a) prevent release of contaminants, including leachate, to land and waters; and b) prevent subsurface migration of landfill gas from the landfill unit.
3-W15	A leachate collection system must be designed by an appropriately qualified person and installed and maintained to: a) collect leachate generated in the landfill unit; b) convey the collected leachate to Mareeba Shire Council's sewage treatment plant or recirculate it within the landfill at the working face; and c) control the leachate head so that it does not exceed 1.5 metres on any leachate collection sump liner serving the landfill, except during a pump failure, when it may exceed 1.5 metres for a period not exceeding 48 hours.
3-W16	Leachate or contaminated stormwater intercepted by the leachate collection system may only be disposed of: a) by recirculation back into the landfilled waste; or b) by irrigation over exposed wastes on the site that have not received their final cover; or c) to a sewage treatment plant.
3-W17	Any landfill gas condensate collected must be treated as leachate .
Agency interest: Noise	
Condition number	Condition
3-N1	Noise from the activity must not include substantial low frequency noise components and must not exceed the levels identified in Part 3 – Table 2: Noise limits and the associated requirements at any nuisance sensitive place or commercial place .

Part 3 – Table 1: Noise limits

Noise level measured in dB(A)	Monday to Saturday			Sundays and public holidays		
	7am – 6pm	6pm – 10pm	10pm – 7am	9am – 6pm	6pm – 10pm	10pm – 9am
Noise measured at a nuisance sensitive place						
LA10, adj, 10 mins	65	55	50	65	65	50
LA1, adj, 10 mins	70	60	55	70	60	55
Noise measured at a commercial place						
LA10, adj, 10 mins	70	65	55	70	65	55
LA1, adj, 10 mins	75	65	60	75	65	60

Associated requirements:

- a) All monitoring devices must be effectively calibrated and maintained in accordance with the manufacturer's instructions and relevant Australian Standard.
- b) Monitoring must be taken when emissions are expected to be representative of actual operating conditions for the sample frequency period.
- c) Noise monitoring must be in accordance with the most recent version of the administering authority's *Noise Measurement Manual*.

3-N2	When required by the administering authority, noise monitoring must be undertaken, in accordance with the associated monitoring requirements of Part 3 – Table 1: Noise limits, and the results notified within 14 days to the administering authority. Monitoring must include: a) $L_{Aeq, adj, T}$; b) Background noise (Background) as $L_{A90, adj, T}$; c) $Max_{LpA, T}$; d) the level and frequency of occurrence of any impulsive or tonal noise; e) atmospheric conditions including wind speed and direction; f) effects due to extraneous factors such as traffic noise; and g) location, date and time of recording.
Agency interest: Land	
Condition number	Condition
3-L1	When the deposition of waste to the landfill unit ceases, a final capping system to the landfill unit must be designed by an appropriately qualified person and installed to minimise: a) infiltration of water into the landfill unit and water ponding on the surface; b) the likelihood of any erosion occurring to either the final capping system or the landfilled materials; and c) uncontrolled release of landfill gas. A final capping system is not required where the deposition of waste to a landfill unit ceases temporarily for the purpose of using an alternative working face.
3-L2	Land that has been disturbed for activities conducted under this environmental authority must be rehabilitated in a manner such that: a) suitable species of vegetation for the location are established and sustained for earthen surfaces; b) potential for erosion is minimised; c) the quality of water, including seepage, released from the site does not cause environmental harm; d) potential for environmental nuisance caused by dust is minimised; e) the water quality of any residual water body does not have potential to cause environmental harm; and f) the final landform is stable and protects public safety.
3-L3	Rehabilitation of disturbed areas must take place progressively as waste disposal cells are completed, areas of borrow pits are worked out and new areas for waste disposal or borrow pits are developed.

3-L4	Following cessation of deposition of waste in the landfill unit , post-closure care of the landfill unit must be conducted for a period of 30 years or until the administering authority determines, on the basis of correct information, that the landfill unit and surrounding site are stable and that no release of waste materials, leachate , landfill gas or other contaminants that may cause environmental harm is likely.
3-L5	The program of post-closure care implemented must be effective in preventing and/or minimising the likelihood of environmental harm being caused. The program must include measures to: a) maintain the structural integrity and effectiveness of the final capping system; b) maintain and operate the leachate collection system; c) maintain the groundwater monitoring system and monitor quality of groundwater at a frequency sufficient to detect any release of contaminants to groundwater; and d) maintain and operate the landfill gas monitoring system.
3-L6	A site management plan pursuant to Chapter 7, Part 8, Division 5 of the <i>Environmental Protection Act 1994</i> must be developed and provided to the administering authority at least 12 months before the expected final receipt of waste in the landfill unit . The site management plan must include, but is not to be limited to, the future land use and actions intended to taken for compliance with the closure and post-closure care requirements of this approval.
3-L7	You must implement an interim cover and rehabilitation program for waste disposal cells not forming part of the final surface level of the site and not likely to receive their next layer of waste within 12 months. This program must include at least the following: a) the installation of an interim cover system: i) of at least an additional 300 mm of compacted clayey material; ii) with a maximum permeability of 4×10^{-6} metres per second; iii) designed with effective surface water management systems to prevent water ponding; and b) a stabilisation program including measures such as revegetation and or mulching to prevent erosion.

Agency interest: Waste	
Condition number	Condition
3-WA1	Only the following waste streams can be received at the site: a) domestic waste; b) commercial waste; c) industrial waste; d) construction and demolition waste; e) solid inert waste; f) waste from the pre-existing (prior to 21 March, 2007) landfill at a rate of 10,000 tonne per annum; and g) limited regulated waste.

3-WA2	In addition to condition 3-WA1, the following waste streams must not be permitted to be placed at the landfill facility at any time: a) regulated waste (other than limited regulated waste); b) liquid or semi-liquid waste, other than: i) a liquid or semi-liquid waste which has been produced in the carrying out of the activity; ii) liquid or semi-liquid waste that is incidental to, and commingled with, the permitted waste streams (except for sub-sections <i>r</i>) and <i>s</i>) of this condition below); c) hot ash; d) material that is smouldering or aflame; e) material containing a substance which is ignitable, corrosive, reactive or toxic material (other than materials containing a toxic substance from domestic premises) unless this material is to be deposited into a dedicated monocell with a written approval of the administering authority; f) all radioactive wastes, unless otherwise approved under the <i>Radiation Safety Act 1999</i>; g) an explosive; h) soils contaminated with regulated waste; i) ammunition, other than ammunition that no longer contains explosives, pyrotechnics or propellants apart from trace residues that are no longer capable of supporting combustion or an explosive reaction; j) fish processing waste; k) food processing waste; l) poultry processing waste; m) tallow; n) vegetable oils; o) putrescible kitchen wastes from commercial operations; p) drugs and poisons as cited in the <i>Standards for Uniform Scheduling of Drugs and Poisons</i> (Schedules 8 and 9 drugs as per the <i>Poisons (Health and Drugs) Regulation 1996</i>); q) tyres; r) filled or partly filled drums containing liquid wastes; s) car bodies; t) waste paints and solvents; u) gas bottles; v) green waste; w) biosolids; and x) asbestos.
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3-WA3	Deposited waste must be covered as often as is necessary, but at least daily for cells 4 and 6, and every 48 hours for other cells to limit stormwater infiltration, prevent exposure of waste and prevent issues arising from vectors and pest species.
3-WA3	Excepting combustion of landfill gas, waste must not be burnt.
3-WA4	All reasonable and practicable measures must be taken to contain litter within the waste operations area , and retrieve litter released.

PART 4 SITE SPECIFIC CONDITIONS (MAREEBA LANDFILL – SOIL COMPOSTING)

Environmentally relevant activity(ies)	Location(s)
ERA 53-Composting&soil conditioner manufacturing >200t yr	Mareeba Landfill - Lot 517 Plan SP171524

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

Agency interest: General	
Condition number	Condition
4-G1	Activities conducted under this environmental authority must not be conducted contrary to any of the following limitations: a) the manufacturing of compost from organic material or waste must not exceed a rate of 13,000 tonnes a year; and b) the only area approved for the composting activity is the area shown in Attachment 1 of this environmental authority.
4-G2	All reasonable and practicable measures must be taken to exclude vectors and pest species to the extent necessary to prevent: a) nuisance to occupiers of neighbouring premises b) any danger or risk to the health of any persons.
Agency interest: Water	
Condition number	Condition
4-W1	Windrow composting, composting remixing, blending and screening operations must be carried out on a hardstand pad, constructed of compacted clay or other low permeable material to minimise soils infiltration, graded and bunded to avoid rainwater ponding and facilitate collection of leachate and contaminated stormwater runoff in the leachate storage pond(s).
4-W2	Leachate and contaminated stormwater must be separated from uncontaminated rainfall and stormwater and conveyed to a leachate storage pond(s).
4-W3	Leachate and contaminated stormwater intercepted by the leachate collection system may only be disposed of by reuse in the composting operations and/or to a sewage treatment plant.
Agency interest: Noise	
Condition number	Condition
4-N1	Noise from the activity must not include substantial low frequency noise components and must not exceed the levels identified in Part 4 – Table 1: Noise limits and the associated requirements at any nuisance sensitive place or commercial place .

Part 4 – Table 1: Noise limits

Noise level measured in dB(A)	Monday to Saturday			Sundays and public holidays		
	7am – 6pm	6pm – 10pm	10pm – 7am	9am – 6pm	6pm – 10pm	10pm – 9am
Noise measured at a nuisance sensitive place						
L _{A10} , adj, 10 mins	Background + 5	Background + 5	Background + 0	Background + 5	Background + 5	Background + 0
L _{A1} , adj, 10 mins	Background + 10	Background + 10	Background + 5	Background + 10	Background + 10	Background + 5
Noise measured at a commercial place						
L _{A10} , adj, 10 mins	Background + 10	Background + 10	Background + 5	Background + 10	Background + 10	Background + 5
L _{A1} , adj, 10 mins	Background + 15	Background + 15	Background + 10	Background + 15	Background + 15	Background + 10

Associated requirements:

- a) All monitoring devices must be effectively calibrated and maintained in accordance with the manufacturer's instructions and relevant Australian Standard.
- b) Monitoring must be taken when emissions are expected to be representative of actual operating conditions for the sample frequency period.
- c) Noise monitoring must be in accordance with the most recent version of the administering authority's *Noise Measurement Manual*.

4-N2	When required by the administering authority, noise monitoring must be undertaken, in accordance with the associated monitoring requirements of Part 4 – Table 1: Noise limits, and the results notified within 14 days to the administering authority. Monitoring must include: a) $L_{Aeq, adj, T}$; b) Background noise (Background) as $L_{A90, adj, T}$; c) $MaxL_{pA, T}$; d) the level and frequency of occurrence of any impulsive or tonal noise; e) atmospheric conditions including wind speed and direction; f) effects due to extraneous factors such as traffic noise; and g) location, date and time of recording.
Agency interest: Waste	
Condition number	Condition
4-WA1	The only wastes authorised to be accepted at the site for use in the composting activity are: a) green waste mulch; b) cardboard; c) sewage sludge and residue; d) sugar cane bagasse; e) seed husks; f) cow manure; g) poultry manure; h) pig manure slurry; i) mill mud; j) food scraps; k) chicken and other animal mortality; l) grease trap sludge; and m) other agricultural organic wastes.
4-WA2	The holder of this environmental authority must ensure that raw material which has a high odour potential (i.e. biodegrading organics) is formed into composting windrows or static composting piles on the same day that the raw material is received.
4-WA3	Ensure that windrows (open or static) are managed to: a) prevent anaerobic conditions occurring; and b) ensure the destruction of pathogens.
4-WA4	All material being composted must have undergone a period of not less than six weeks of composting plus curing.

4-WA5	Static and open windrow temperature must be monitored regularly throughout the composting period and documentation must be recorded to demonstrate that the product has undergone the processes defined in conditions 4-WA3.
4-WA7	The production and supply of composting/ soil conditioner at the site must comply with the latest edition of the <i>Australian Standard AS4454-2003: Compost, Soil Conditioners and Mulches</i> or any subsequent guideline adopted for use in Queensland.
4-WA7	The end use of compost produced at the composting facility must be determined by applying the classification system contained in the latest edition of the <i>Environmental Management Guidelines for the Use and Disposal of Biosolids Products</i> , 2000, produced by the Environmental Protection Authority (NSW).
4-WA8	The burning of waste is not permitted.
4-WA9	Soils or other materials used in the construction of the base of the composting area and associated above ground perimeter embankment on the site must achieve a maximum in situ hydraulic conductivity of no greater than 1×10^{-9} metres per second so as to effectively prevent or minimise the release of leachate through the base or embankments.

PART 5 SITE SPECIFIC CONDITIONS (CHILLAGOE TIP, IRVINEBANK WASTE MANAGEMENT FACILITY, MOUNT MOLLOY WASTE MANAGEMENT FACILITY AND ALMADEN TIP)

Environmentally relevant activity(ies)	Location(s)
ERA 60-(2b) Waste disposal >2000t but <5000t yr (1)(b)	Chillagoe Tip - Lot 130 Plan LD155 Irvinebank Waste Management Facility - Lot 15 Plan CP852249 Mount Molloy Waste Management Facility - Lot 2 Plan DA36 Almaden Tip – Lot 2 on Plan CP880994

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

Agency interest: General	
Condition number	Condition
5-G1	All reasonable and practicable measures must be taken to exclude vectors and pest species to the extent necessary to prevent: a) nuisance to occupiers of neighbouring premises b) any danger or risk to the health of any persons.
5-G1	All reasonable and practicable measures must be taken to contain litter within the waste operations area, and retrieve litter released.

Agency interest: Air	
Condition number	Condition
5-A1	The following materials must not be used for dust suppression purposes: a) leachate or landfill gas condensate; or b) waste oil or other hydrocarbons.
Agency interest: Water	
Condition number	Condition
5-W1	A system of suitable diversion drains or embankments must be constructed and maintained to divert surface waters away from any area of the licensed places where contact with wastes or contaminants may occur. Particular attention must be paid to any: a) active waste disposal trench; b) area used for storage of wastes; and c) area previously used for waste disposal.
5-W2	The holder of this environmental authority must ensure that effective and practical measures are taken to ensure any waste disposal trench is operated and managed so as to minimise the generation of leachate .
5-W3	All batteries, liquid chemicals, fuels, and other liquid substances with potential to cause environmental harm must be stored within a secondary containment system that is impervious to the materials stored within it, and must be managed to prevent the release of contaminants to waters or land .
Agency Interest: Noise	
Condition number	Condition
5-N1	Noise from the activity must not include substantial low frequency noise components and must not exceed the levels identified in Part 5 – Table 1: Noise limits and the associated requirements at any nuisance sensitive place or commercial place .

Part 5 – Table 1: Noise limits

Noise level measured in dB(A)	Monday to Sunday and Public Holidays		
	7am – 6pm	6pm – 10pm	10pm – 7am
L _A , max, adj, T	Noise measured at a nuisance sensitive place		
	Background + 5	Background + 5	Background + 3
L _A , max, adj, T	Noise measured at a commercial place		
	Background + 10	Background + 10	Background + 8

Associated requirements:

- a) All monitoring devices must be effectively calibrated and maintained in accordance with the manufacturer's instructions and relevant Australian Standard.
- b) Monitoring must be taken when emissions are expected to be representative of actual operating conditions for the sample frequency period.
- c) Noise monitoring must be in accordance with the most recent version of the administering authority's *Noise Measurement Manual*.

5-N2	When required by the administering authority, noise monitoring must be undertaken, in accordance with the associated monitoring requirements of Part 4 – Table 1: Noise limits, and the results notified within 14 days to the administering authority. Monitoring must include: a) $L_{Aeq, adj, T}$; b) Background noise (Background) as $L_{A90, adj, T}$; c) $Max_{LpA, T}$; d) the level and frequency of occurrence of any impulsive or tonal noise; e) atmospheric conditions including wind speed and direction; f) effects due to extraneous factors such as traffic noise; and g) location, date and time of recording.
Agency interest: Waste	
Condition number	Condition
5-WA1	This environmental authority permits only the following wastes to be received for disposal at the licensed places: a) solid inert waste; b) construction wastes and demolition waste (other than asbestos sheeting or asbestos products); c) minor quantities of regulated wastes incidental to and commingled with domestic refuse; d) tyres; e) putrescible wastes and domestic garbage; f) commercial and industrial wastes (other than regulated wastes except where permitted under this condition); and g) green wastes. <i>Note:</i> a) <i>paper covered plasterboard must only be received at the licensed places if it is generated by construction and demolition activities and delivered to the licensed places as part of a mixed load of materials;</i> b) <i>car bodies and other recyclable large metal objects may be temporarily stored at the licensed places; and</i> c) <i>drums containing any residual regulated wastes are themselves a regulated waste and must not be accepted for disposal at the licensed place unless they have been triple rinsed or thoroughly cleaned.</i>

5-WA2	Notwithstanding condition 5-WA1 , the following wastes must not be received for disposal at the licensed places: a) pyrophoric wastes (where co-disposed with other potentially combustible material); b) untreated infectious wastes, pharmaceutical wastes, human body parts, pathogenic wastes and cytotoxic wastes; c) explosives and ammunition, pyrotechnics or propellants, apart from trace residues no longer capable of supporting combustion or an explosive reaction; and d) regulated wastes, other than those permitted under condition 5-WA1.
5-WA3	Excepting combustion of landfill gas, waste must not be burnt.
5-WA4	Soils or geosynthetic membrane liner(s) or other material(s) used in the construction of any future waste disposal trench and above ground embankment(s) on the licensed places must effectively prevent or minimise the release of leachate through the base and embankments.
5-WA5	Where an active waste disposal trench or any part thereof is installed above ground, the embankments must be maintained to ensure their stability and integrity of construction.
Agency interest: Land	
Condition number	Condition
5-L1	When the deposition of waste to the landfill unit ceases, a final capping system to the landfill unit must be designed by an appropriately qualified person and installed to minimise: a) infiltration of water into the landfill unit and water ponding on the surface; and b) the likelihood of any erosion occurring to either the final capping system or the landfilled materials. A final capping system is not required where the deposition of waste to a landfill unit ceases temporarily for the purpose of using an alternative working face.
5-L2	Land that has been disturbed for activities conducted under this environmental authority must be rehabilitated in a manner such that: a) suitable species of vegetation for the location are established and sustained for earthen surfaces; b) potential for erosion is minimised; and c) the quality of water, including seepage, released from the site does not cause environmental harm.
5-L3	Following cessation of deposition of waste in the landfill unit , post-closure care of the landfill unit must be conducted for a period of 30 years or until the administering authority determines, on the basis of correct information, that the landfill unit and surrounding site are stable and that no release of waste materials, leachate , landfill gas or other contaminants that may cause environmental harm is likely.

5-L4	The program of post-closure care implemented must be effective in preventing and/or minimising the likelihood of environmental harm being caused. The program must include measures to: a) maintain the structural integrity and effectiveness of the final capping system; b) maintain any post closure monitoring programs; c) maintain vegetation that has been planted as part of post closure activities.
5-L5	At least six (6) months before the cessation of waste disposal activities at the licensed place, the holder of this environmental authority must submit the Post Closure Care Plan to the administering authority for review and comment.

PART 6 SITE SPECIFIC CONDITIONS (KURANDA SEWAGE TREATMENT PLANT)

Environmentally relevant activity(ies)	Location(s)
ERA 63-(1c) Sewage treatment >1500 to 4000EP	Kuranda Sewage Treatment Plant - Lot 811 Plan NR7753

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

Agency interest: General	
Condition number	Condition
6-G1	An annual monitoring report must be prepared and submitted to the administering authority by 30 November each year, for the preceding financial year.
6-G2	You must record the following details for all environmental complaints received: a) date and time complaint was received b) name and contact details of the complainant c) nature of the complaint d) investigations undertaken e) conclusions formed f) actions taken.
Agency interest: Water	
Condition number	Condition
6-W1	The only contaminants to be released to surface waters is: a) treated sewage effluent from the sewage treatment plant to waters described as Jum Rum Creek in accordance with Part 6 – Table 1: Surface water release limits and the associated requirements; and b) overflows from the sewage pump stations listed in Part 6 – Table 2: Sewage pump stations in accordance with the conditions of this environmental authority.

Part 6 – Table 1: Surface water release limits

Release point (GDA 94)			Quality characteristic (units)	Long-term 50 th percentile	Short-term 50 th percentile	Maximum
Name	Latitude	Longitude				
W1	-16.823817704	145.640449827	Daily volume (dry weather day) (m ³)	-	-	690
W1	-16.823817704	145.640449827	Daily volume (wet weather day) (m ³)	-	-	2,000
W1	-16.823817704	145.640449827	5-day Biological oxygen demand (BOD ₅) (mg/L)	5	10	25
W1	-16.823817704	145.640449827	Total suspended solids (mg/L)	10	20	30
W1	-16.823817704	145.640449827	Free residual chlorine (mg/L)	-	-	0.6
W1	-16.823817704	145.640449827	Ammonia as Nitrogen ((mg/L)	-	-	1.0
W1	-16.823817704	145.640449827	Total Nitrogen (mg/L)	5.0	-	10
W1	-16.823817704	145.640449827	Total Phosphorous (mg/L)	1.0	-	2.0
W1	-16.823817704	145.640449827	Faecal Coliforms (Organisms / 100 mL)	500	-	1,000

Associated requirements

- a) Release point W1 must be submerged at all times and the authorised release point is as shown in **Attachment 2** of this environmental authority.
- b) Sampling must be in accordance with the latest version of the administering authority's *Monitoring and Sampling Manual* and all monitoring devices must be effectively calibrated and maintained.
- c) Samples must be representative of the release.

Part 6 – Table 2: Sewage pump stations

Sewage pump station description	Overflow location
Therwine Street, Kuranda	Barron River
Barang Street, Kuranda	Jum Rum Creek
Caroona Street, Kuranda	Jum Rum Creek
Kennedy Highway	Open drain flowing to Barron River
Kuranda Railway Station	Open drain flowing to Barron River
Kullaroo Close, Kuranda	Barron River
Thooree Street, Kuranda	Barron River

Associated requirements

- a) Sampling must be in accordance with the latest version of the administering authority's *Monitoring and Sampling Manual* and all monitoring devices must be effectively calibrated and maintained.
- b) Samples must be representative of the release.

6-W2	Monitoring of contaminant releases to waters from release point W1 must be undertaken in accordance with Part 6 – Table 3: Monitoring frequency and the associated monitoring requirements.
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Part 6 – Table 3: Monitoring frequency

Quality characteristic	Measurement units	Minimum frequency	Monitoring location (GDA 94)	
			Latitude	Longitude
BOD ₅	mg/L	Monthly	-16.8230441707	145.640100921
Total suspended solids	mg/L	Monthly	-16.8230441707	145.640100921
Free residual chlorine (mg/L)	mg/L	Monthly	-16.8230441707	145.640100921
pH	pH units	Weekly	-16.8230441707	145.640100921
Specific conductance	µS/cm	Weekly	-16.8230441707	145.640100921
Dissolved oxygen	mg/L	Weekly	-16.8230441707	145.640100921
Ammonia as Nitrogen	mg/L	Monthly	-16.8230441707	145.640100921
Oil and grease	mg/L	Monthly	-16.8230441707	145.640100921
Faecal Coliforms	Organisms / 100 mL	Monthly	-16.8230441707	145.640100921

Associated monitoring requirements

- a) Sampling must be in accordance with the latest version of the administering authority's *Monitoring and Sampling Manual* and all monitoring devices must be effectively calibrated and maintained.
- b) Samples must be representative of the release.

6-W3	Sewage pump stations whose failure would or would be likely to result in a direct or indirect release of contaminants to waters must be fitted with stand-by pumps and pump-failure alarms as well as high level alarms to warn of imminent pump station overflow. All alarms must be able to operate without mains power if such power failure occurs and, when in operation, must notify the appropriate person to respond to the alarm.
6-W4	Any sewage pump station overflows must be screened to prevent the release of gross solids.
6-W5	Any new sewage pump station installed by the holder of this environmental authority at any licensed place covered by this part of this environmental authority must comply with the following design criteria: a) overflows resulting from infiltration should not occur for less than five (5) times design average dry weather flow (DADWF); b) all overflows and overflow control structures must, where practicable, be located away from environmentally sensitive locations including waterways and natural wetlands; c) where practicable, basins must be installed to isolate and contain sewage pump station overflows; and d) where a retention basin is provided, the contained overflow must be able to be pumped back to the sewage treatment system or removed for offsite disposal.
Agency interest: Noise	
Condition number	Condition
6-N1	Noise from the activity must not include substantial low frequency noise components and must not exceed the levels identified in Part 6 – Table 3: Noise limits and the associated requirements at any nuisance sensitive place or commercial place .

Part 6 – Table 3: Noise limits

Noise level measured in dB(A)	Monday to Sunday and Public Holidays		
	7am – 6pm	6pm – 10pm	10pm – 7am
L _A , max, adj, T	Noise measured at a nuisance sensitive place		
	Background + 5	Background + 5	Background + 3
L _A , max, adj, T	Noise measured at a commercial place		
	Background + 10	Background + 10	Background + 8

Associated requirements:

- a) All monitoring devices must be effectively calibrated and maintained in accordance with the manufacturer's instructions and relevant Australian Standard.
- b) Monitoring must be taken when emissions are expected to be representative of actual operating conditions for the sample frequency period.
- c) Noise monitoring must be in accordance with the most recent version of the administering authority's *Noise Measurement Manual*.

Agency interest: Waste	
Condition number	Condition
6-WA1	A composite sample, of the sludge generated from the licensed place since the previous sample was taken, must be taken at least once in every three (3) year period and analysed for the concentrations of the following parameters: a) total zinc; b) total copper; c) total aluminium; d) total cadmium; and e) total organochlorine pesticides.

PART 7 SITE SPECIFIC CONDITIONS (MAREEBA SEWAGE TREATMENT PLANT)

Environmentally relevant activity(ies)	Location(s)
63-(1e) Sewage treatment >10000 to 50000EP	Mareeba Sewage Treatment Plant - Lot 888 Plan NR7943

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

Agency interest: General	
Condition number	Condition
7-G1	Activities conducted under this environmental authority must not be conducted contrary to any of the following limitations: a) Inflows must not exceed the peak design capacity of 3 times the DADWF of 132L/s on any day unless the standard treatment processes of the plant are bypassed.
7-G2	A receiving environment monitoring program must be designed and implemented by appropriately qualified person(s) to monitor the effects of the activity on receiving waters.
7-G3	The receiving environment monitoring program required by condition 6-G2, must include at least the following: a) description of potentially affected receiving waters including key communities and background water and sediment 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 sediment and water quality objectives to be achieved and c) any relevant reports prepared by other governmental or professional research organisations that relate to the receiving environment within which the receiving environment monitoring program is proposed; and

	d) water and sediment quality targets within the receiving environment to be achieved; and e) clarification of contaminant concentrations or levels indicating adverse environmental impacts during the monitoring program ¹ .
7-G4	An annual monitoring report must be prepared and submitted to the administering authority by 30 November each year, for the preceding financial year.
7-G5	You must record the following details for all environmental complaints received: a) date and time complaint was received b) name and contact details of the complainant c) nature of the complaint d) investigations undertaken e) conclusions formed f) actions taken.
Agency interest: Water	
Condition number	Condition
7-W1	The only contaminants to be released to surface waters , excluding bypass releases covered by conditions 7-W6 to 7-W6 , are from the Mareeba Sewage Treatment Plant to waters described as Two Mile Creek from release point W3 in accordance with <i>Part 7 – Table 1: Surface water release limits</i> and the associated requirements.

Part 7 – Table 1: Surface water release limits

Release Point (GDA 94)			Quality characteristic (units)	Minimum	Long-term median	Short-term 50 th percentile	Short-term Median	Maximum
Name	Latitude	Longitude						
W3	-16.96802976	145.4078442	pH (pH units)	6.0	-	-	-	8.5
W3	-16.96802976	145.4078442	Dissolved oxygen (mg/L)	2.0	-	-	-	-
W3	-16.96802976	145.4078442	5-day Biological oxygen demand (BOD ₅) (mg/L)	-	-	5.0	-	15
W3	-16.96802976	145.4078442	Total suspended solids (mg/L)	-	-	10	-	30
W3	-16.96802976	145.4078442	Total chlorine (mg/L)	-	-	-	-	Monitor only

Release Point (GDA 94)			Quality characteristic (units)	Minimum	Long-term median	Short-term 50 th percentile	Short-term Median	Maximum
Name	Latitude	Longitude						
W3	-16.96802976	145.4078442	Ammonia as Nitrogen (mg/L)	-	1.0	3.0	-	4.0
W3	-16.96802976	145.4078442	Total Nitrogen (mg/L)	-	5.0	-	-	15
W3	-16.96802976	145.4078442	Total Phosphorous (mg/L)	-	2.0	-	-	5.0
W3	-16.96802976	145.4078442	Enterococci (mg/L)	-	230	-	-	700

Associated requirements

- Releases must be undertaken from the authorised release point is as shown in **Attachment 3** of this environmental authority
- COD may be monitored as an alternative to BOD₅ once a reliable correlation has been determined through analysis of a minimum number of 24 wastewater samples over a minimum period of 12 months and with the agreement of the administering authority.
- Sampling must be in accordance with the administering authority's *Monitoring and Sampling Manual* and all monitoring devices must be effectively calibrated and maintained.
- Indicators for TN and TP must be done as 24 hour composite samples
- Enterococci counts are the recommended pathogen indicator for assessing potential risks to recreational water.
- Limits for total chlorine concentrations are set considering potential toxicity to the receiving environment, mixing zones and practical methods for treatment and measurement.
- Sampling must be in accordance with the most recent edition of the administering authority's *Monitoring and Sampling Manual* and all monitoring devices must be effectively calibrated and maintained.
- Monitor only (limit to be confirmed upon completion of TEP MAN18760 or by December 2017).
- Samples must be representative of the release.

7-W2	Monitoring of contaminant releases to waters, excluding bypass releases covered by water conditions 7-W6 to 7-W6, must be undertaken in accordance with Part 7 – Table 2: Monitoring frequency and the associated monitoring requirements.
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Part 7 – Table 2: Monitoring frequency

Quality characteristic	Measurement units	Minimum frequency	Monitoring location (GDA 94)	
			Latitude	Longitude
BOD ₅	mg/L	Fortnightly	-16.96767	145.40865
Total suspended solids	mg/L	Fortnightly	-16.96767	145.40865
Volume (inflow)	ML	Daily	-16.96767	145.40865
Volume (outflow)	ML	Daily	-16.96767	145.40865
pH	pH units	Fortnightly	-16.96767	145.40865
Dissolved oxygen	mg/L	Fortnightly	-16.96767	145.40865
Ammonia	mg/L as N	Fortnightly	-16.96767	145.40865

Quality characteristic	Measurement units	Minimum frequency	Monitoring location (GDA 94)	
			Latitude	Longitude
Total Nitrogen	mg/L as N	Fortnightly	-16.96767	145.40865
Total Phosphorus	mg/L as P	Fortnightly	-16.96767	145.40865
Enterococci	Organisms / 100 mL	Monthly	-16.96767	145.40865
Total chlorine	mg/L	Fortnightly	-16.96767	145.40865

Associated monitoring requirements

- a) Monitoring must be in accordance with the most recent edition of the administering authority's *Monitoring and Sampling Manual* and all monitoring devices must be effectively calibrated and maintained.
- b) Monitoring must be undertaken when the activity is in operation and samples must be taken during a release.
- c) Total inflow before bypass release point.
- d) Total outflow is treated discharges and excludes flows those that are bypassed.
- e) Enterococci counts are the recommended pathogen indicator for assessing potential risks to recreational water.

7-W3	In addition to condition 7-W3 , the release 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 visually objectionable matter, excluding bypass releases covered by conditions 7-W4 and 7-W5 .
7-W4	Bypass releases must be screened prior to being released from release point W3.
7-W5	The administering authority must be notified within 24 hours of any bypass release ceasing.
7-W6	The following details must be recorded in relation to each bypass release: a) the start time, date and duration of the release; b) the estimated volume of the bypass release; c) the level of treatment at the sewage treatment plant prior to discharge; d) the cause of the release; and e) any monitoring of the water quality released.

PART 8 SITE SPECIFIC CONDITIONS (MAREEBA WATER TREATMENT PLANT)

Environmentally relevant activity(ies)	Location(s)
64-(3) Water treatment >10ML raw water day	Mareeba Water Treatment Plant - Lot 388 Plan CP902751

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

Agency interest: Water	
Condition number	Condition
8-W1	The only contaminants to be released to surface waters are supernatant effluent from the sludge settling lagoons from the Mareeba Water Treatment Plant to waters described as an unnamed gully leading to the Barron River from release point W4 in accordance with <i>Part 8 – Table 1: Surface water trigger levels and release limits</i> and the associated requirements.

Part 8 – Table 1: Surface water trigger levels and release limits

Release Point (GDA 94)			Quality characteristic (units)	Trigger level* median [#]	Release Limits	
Name	Latitude	Longitude			Minimum	Maximum
W4	-16.96802976	145.4078442	Total suspended solids (mg/L)	80 th percentile of reference site ⁺	-	40
W4	-16.96802976	145.4078442	pH (pH units)	Between 6.0 and 7.5	5.0	9.0
W4	-16.96802976	145.4078442	Dissolved oxygen (% saturation)	Between 90 and 100	80	-
W4	-16.96802976	145.4078442	Aluminium (total) (µg/L)	55 or 80 th percentile [^] of reference site ⁺ , whichever is higher	0	200

Associated requirements

- Releases must be undertaken from the authorised release point as shown in **Attachment 4** of this environmental authority.
- *ANZECC (2000) trigger levels for aquatic ecosystems of slightly - moderately disturbed systems – Table 3.4.1 level of protection 95% / Table 3.3.4 / 3.3.5 - tropical Australian upland rivers or the *Queensland Water Quality Guidelines 2009*.
- [#]Trigger levels based on the 80th percentile is derived using ANZECC (2000) and *Queensland Water Quality Guidelines 2009* methodology and are based on the reference sites.
- [^]Based on a minimum of five consecutive samples.
- ⁺A Reference Site is described in *Queensland Water Quality Guidelines 2009*. A reference site is a site whose condition is considered to be a suitable baseline or benchmark for assessment and management of the water treatment plant sites. The reference site must be selected with reference to the criteria for a reference sites for physio-chemical indicators outlined in Table C.1 of the *Queensland Water Quality Guidelines 2009*.

8-W2	Monitoring of contaminant releases to waters must be undertaken in accordance with Part 8 – Table 2: Monitoring frequency and the associated monitoring requirements.
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Part 8 – Table 2: Monitoring frequency

Quality characteristic	Measurement units	Minimum frequency	Monitoring location (GDA 94)		
			Name	Latitude	Longitude
Total suspended solids (mg/L)	mg/L	Quarterly	Reference site W3	TBA	TBA
			Release point W4	-16.96802976	145.4078442
pH (pH units)	pH units	Quarterly	Reference site W3	TBA	TBA
			Release point W4	-16.96802976	145.4078442
Dissolved oxygen	% saturation	Quarterly	Reference site W3	TBA	TBA
			Release point W4	-16.96802976	145.4078442
Aluminium (total)	µg/L	Quarterly	Reference site W3	TBA	TBA
			Release point W4	-16.96802976	145.4078442

Associated monitoring requirements

- a) Monitoring must be in accordance with the most recent edition of the administering authority's *Monitoring and Sampling Manual* and all monitoring devices must be effectively calibrated and maintained.
- b) Monitoring must be undertaken when the activity is in operation and samples must be taken during a release.

8-W3	If receiving waters at the impacted site W4, described in <i>Part 8 – Table 1: Surface water trigger levels and release limits</i>, exceed any of the contaminant trigger levels stated in <i>Part 8 – Table 1: Surface water trigger levels and release limits</i>, the environmental authority holder must: a) complete an investigation in accordance with the ANZECC (2000) methodology, into the potential for environmental harm; b) provide a written report to the administering authority within 3 months of the date of the original exceedence, outlining: i) details of the investigations carried out; and ii) actions taken to prevent environmental harm.
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PART 9 VARIATION CONDITIONS (SEWAGE PUMP STATIONS)

Environmentally relevant activity(ies)	Location(s)
ERA 63(2) Sewage Treatment – pump station (1)(b)	Atherton Street, Mareeba – Lot 1 on Plan RP722729 Robins Street, Mareeba – Lot 1 on Plan RP722730 Eccles Street, Mareeba – Lot 441 on NR5150 Keneally Road Road Reserve, Mareeba Palm Close Road Reserve, Mareeba Ceola Drive, Sunset Park Mareeba – Lot 60 on SP101835 Barang Street Road Reserve, Kuranda Myola Road (Road Reserve), Kuranda

With the exception of any variations, the environmentally relevant activity(ies) conducted at the location as described above must be conducted in accordance with the following standard conditions:

- *Code of environmental compliance for certain aspects of sewage treatment activities (ERA 63) (ESR/2015/1669)*

Variations to the standard conditions include:

Condition number	Condition
10	The operator must ensure that contaminants are not released to land or waters (including the bed and banks of any waters) as a result of the activity unless all reasonable and practicable measures have been taken to prevent the release.

Definitions

Key terms and/or phrases used in this document are defined in this section and **bolded** throughout this document. 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 or predecessors.

Appropriately qualified person(s) means a person or persons who has professional qualifications, training, skills or experience relevant to the nominated subject matter and can give authoritative assessment, advice and analysis to performance relative to the subject matter using the relevant protocols, standards, methods or literature.

Background means noise, measured in the absence of the noise under investigation, as $L_{A90,T}$ being the A-weighted sound pressure level exceeded for 90 per cent of the time period of not less than 15 minutes, using Fast response.

Background bore means **groundwater** monitoring bore, constructed in accordance with the most recent edition of the *Minimum construction requirements for water bores in Australia* (National Uniform Drillers Licensing Committee), and used to sample **groundwater** from an aquifer the water quality of which may be potentially affected by the **activity**. This may be an **up-gradient bore**, **down-gradient bore** or bore in the same aquifer in a nearby location unaffected by the **activity**.

Blasting is the use of explosives to fracture:

- a) rock, coal and other minerals for later recovery; or
- b) structural components or other items to facilitate removal from a site or for reuse.

BOD₅ means the 5 day biochemical oxygen demand determined using standard tests (e.g. those used by **NATA** laboratories). This test is not inhibited for nitrification, otherwise would be referred to as "carbonaceous" BOD.

Boundary means within 1m of the cadastral **boundary** of the approved place.

Bypass means when the standard treatment processes of the plant do not occur as a result of wet weather and inflows that are in excess of the peak design capacity for inflow resulting in the release of untreated or partially treated effluent from the sewage treatment plant to the environment.

COD means chemical oxygen demand determined using standard tests (e.g. those used by **NATA** laboratories).

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

Compliance bore means a bore, constructed in accordance with the *Minimum construction requirements for water bores in Australia* (National Uniform Drillers Licensing Committee), and used to monitor compliance with the groundwater quality limits.

Disturbed areas includes areas:

- a) that are susceptible to erosion;
- b) that are contaminated by the activity; and/or
- c) upon which stockpiles of soil or other materials are located.

Day means any 24 hour period.

Design Average Dry Weather Flow (DADWF) means the average dry weather flow of the treatment plant at the design horizon.

Down-gradient bore means a **background bore** in a location hydraulically down gradient of those aspects of the **activity** that may affect groundwater quality.

Early warning bore means a down-gradient bore located between the landfilled waste or other contamination risk and compliance bore(s) to provide early warning of contaminant release.

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

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

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

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).

$L_{Aeq\ adj, T}$ means the adjusted A weighted equivalent continuous sound pressure level measures on fast response, adjusted for tonality and impulsiveness, during the time period T, where T is measured for a period no less than 15 minutes when the activity is causing a steady state noise, and no shorter than one hour when the approved activity is causing an intermittent noise.

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

Land does not include waters.

Landfill unit means a discrete area of land or an excavation that receives solid waste.

Landfill facility means land and structures at the site approved used for the disposal of solid waste.

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.

Liquid means any substance that:

- a) has an angle of repose of less than five degrees; or
- b) becomes free flowing at or below 60 degrees Celsius or when it is transported; or
- c) is not generally capable of being picked up by a spade or shovel.

Long-term 50th percentile means not more than any six (6) of the measured values of the quality characteristics are to exceed the stated release limit for any twelve (12) consecutive samples for a release / monitoring point at any time where:

- a) the consecutive samples are taken over a twelve (12) month period;
- b) the consecutive samples are taken at approximately equal periods; and
- c) the time interval between the taking of each consecutive sample is not less than thirty (30) days or greater than thirty four (34) days.

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

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

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

NATA means National Association of Testing Authorities.

Noxious means harmful or injurious to health or physical well-being.

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

Prescribed water contaminants means contaminants listed within Schedule 9 of the *Environmental Protection Regulation 2008*.

Receiving environment monitoring program means a monitoring program designed to monitor and assess the potential impacts of controlled and/or uncontrolled releases of contaminants to the environment from the activity.

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

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.

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 1992* or a World Heritage Area; or
- f) a public thoroughfare, park or gardens; or
- g) for noise, a place defined as a sensitive receptor for the purposes of the *Environmental Protection (Noise) Policy 2008*.

Short-term 50th percentile means not more than any three (3) of the measured values of the quality characteristics are to exceed the stated release limit for any six (6) consecutive samples for a release / monitoring point at any time where:

- d) consecutive samples are taken over a six (6) month period;
- e) the consecutive samples are taken at approximately equal periods; and
- f) the time interval between the taking of each consecutive sample is not less than thirty (30) days or greater than thirty four (34) days.

Substantial low frequency noise means a noise emission that has an unbalanced frequency spectrum shown in a one-third octave band measurements, with a predominant component within the frequency range 10 to 200 Hz. It includes any noise emission likely to cause an overall sound pressure level at a noise sensitive place exceeding 55 dB(Z).

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.

Toxic material means:

- a) cytotoxic wastes; or
- b) drugs and poisons as cited in the *Standards for Uniform Scheduling of Drugs and Poisons* (Schedules 8 and 9 drugs as per the *Poisons (Health and Drugs) Regulation 1996*).

Up-gradient bore means a **background bore**, in a location hydraulically up gradient of all potential influences of the **activity** that may affect groundwater quality.

Waste operations area means the following areas:

- a) waste receiving
- b) sorting
- c) treating
- d) recycling

e) disposal.

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.

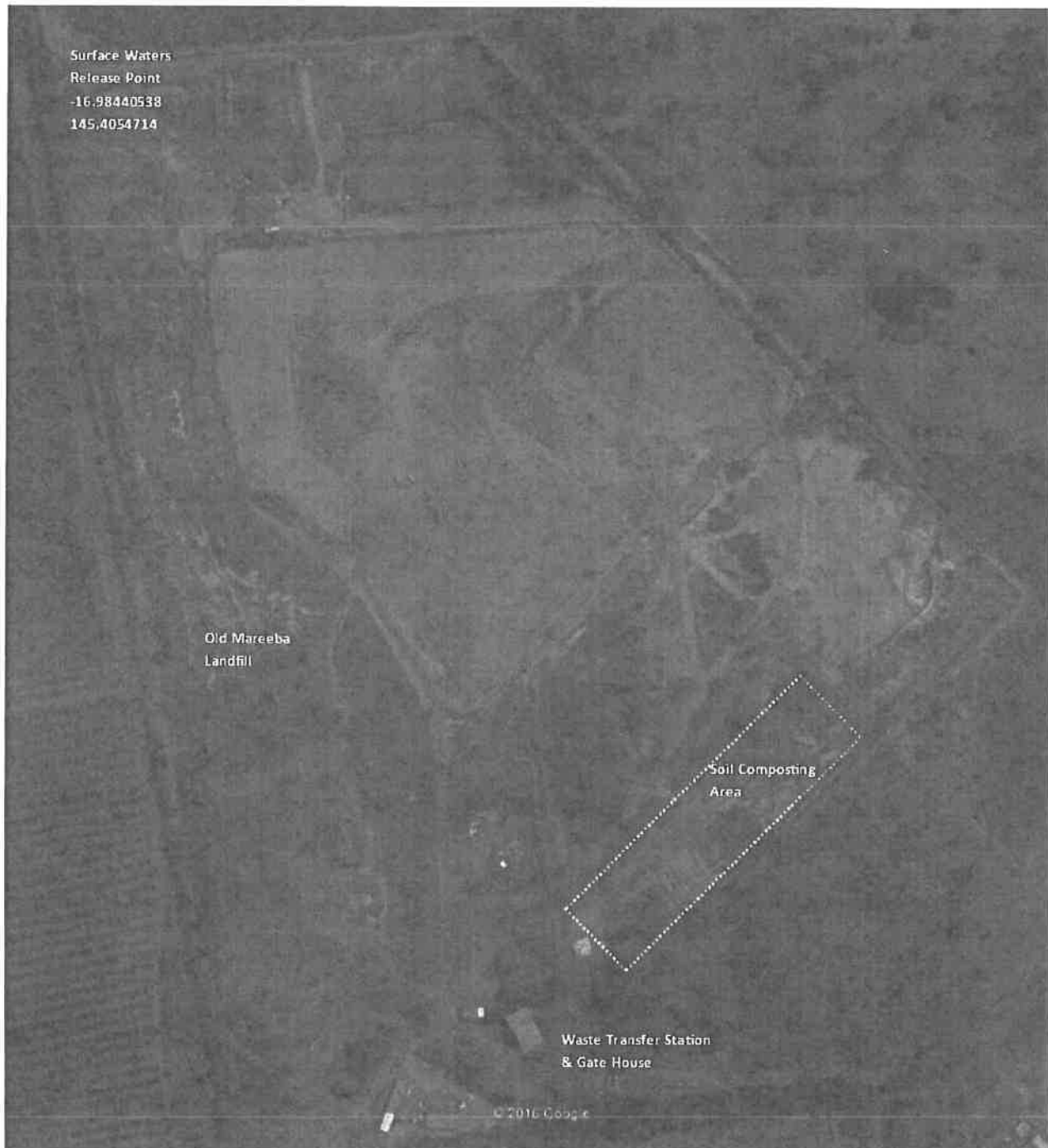
You means the holder of the environmental authority.

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.*

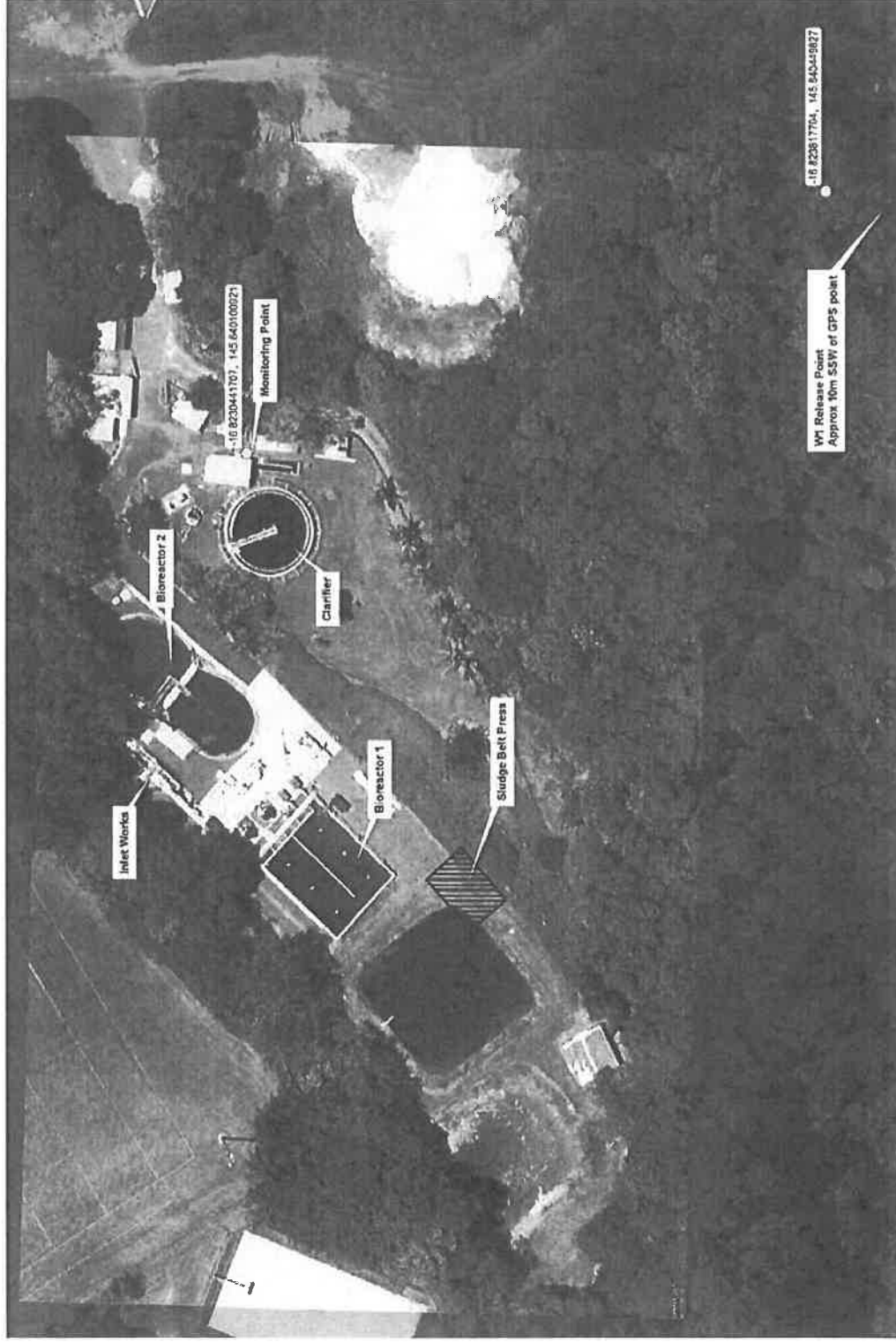
80th percentile means not more than one fifth, of the measured values are to exceed the stated release limit for the limit period, for example, no more than ten (10) for any fifty (50) consecutive samples for the long term period.

Environmental authority figures

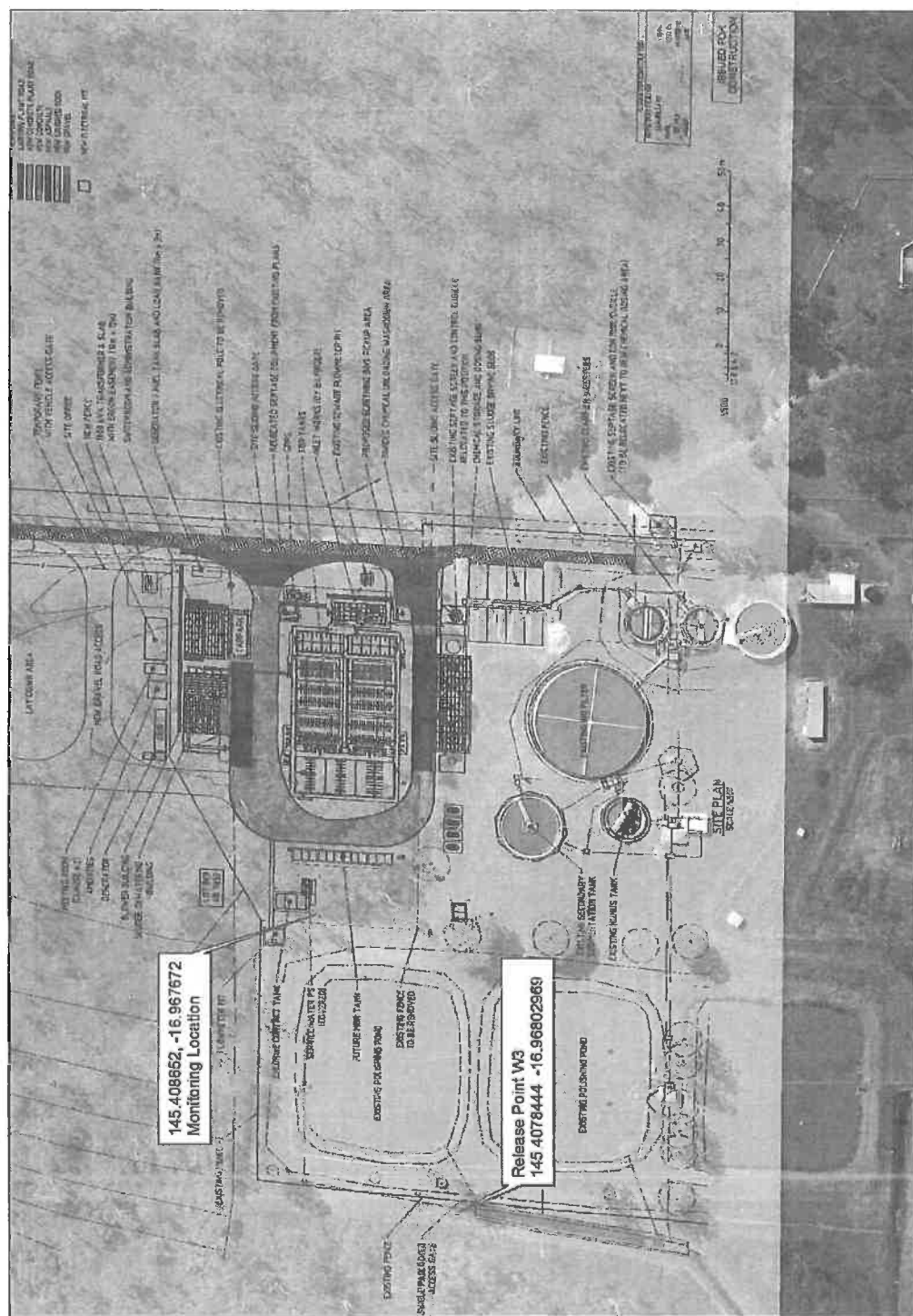
Attachment 1 – Mareeba Landfill Authorised Release Point and Soil Composting Area



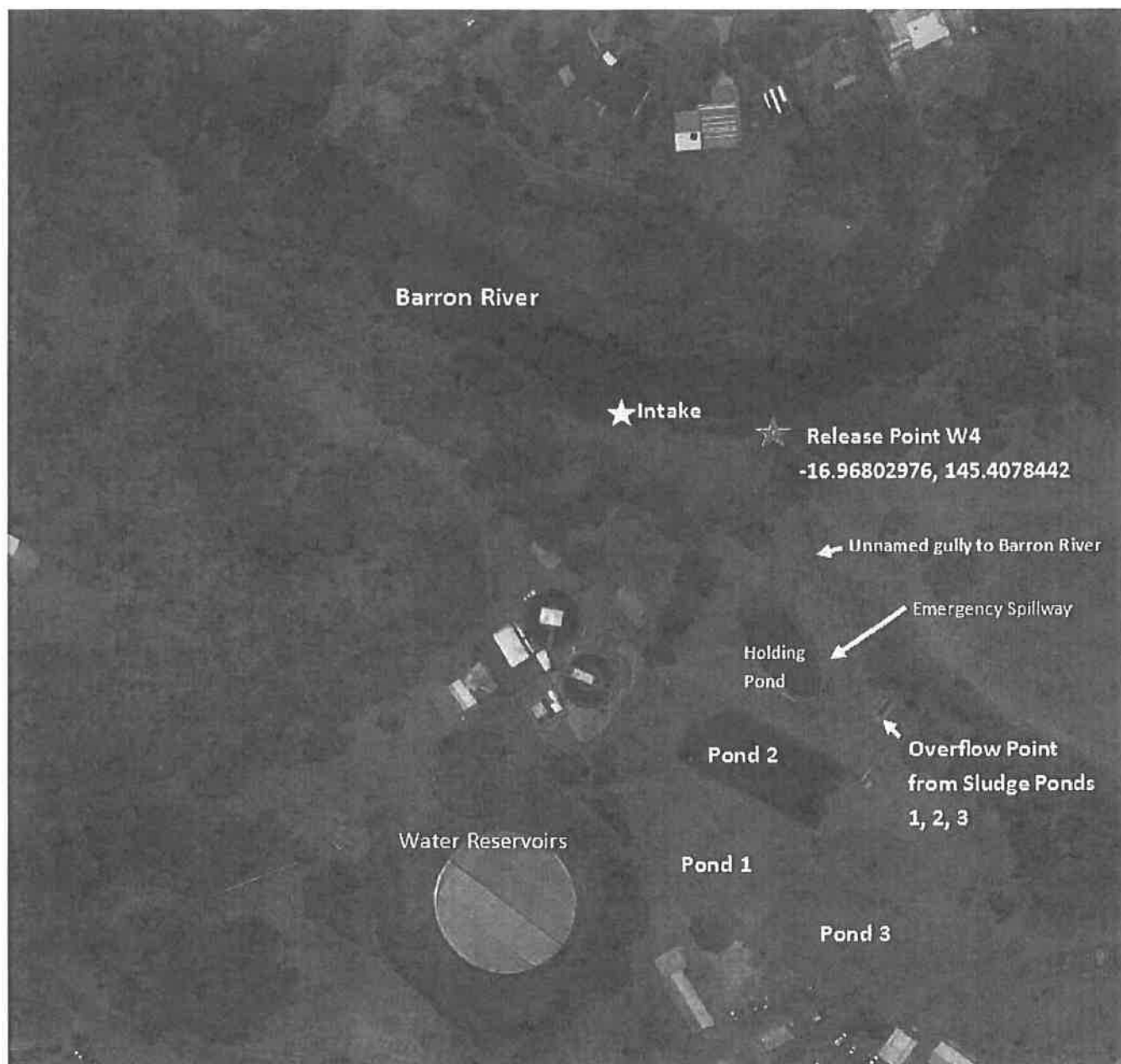
Attachment 2 – Kuranda Sewage Treatment Plant Authorised Release Point and Monitoring Point



Attachment 3 – Mareeba Sewage Treatment Plant Authorised Release Point and Monitoring Point



Attachment 4 – Mareeba Water Treatment Plant Authorised Release Point



END OF PERMIT

Attachments

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

