Permit

Environmental Protection Act 1994

Environmental authority P-EA-100287544

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

Environmental authority number: P-EA-100287544

Environmental authority takes effect on the day it is granted.

The anniversary date of this environmental authority remains 12 June each year.

Environmental authority holder

Name	Registered address
STAPYLTON RESOURCE RECOVERY (QLD) PTY LTD	132 Commercial Road, TENNERIFFE QLD 4005

Environmentally relevant activity and location details

Environmentally relevant activities	Location
ERA 16 – Extraction and Screening – 2(c) – Extracting, other than by dredging, in a year, the following quantity of material – more than 1,000,000t ERA 16 – Extraction and Screening – 3(c) – Screening, in a year, the following quantity of material – more than 1,000,000t ERA 54 – Mechanical waste reprocessing – 1 – Operating a facility for receiving and mechanically reprocessing, in a year, more than 5,000t of inert, non-putrescible waste or green waste only ERA 54 – Mechanical waste reprocessing – 2(c) – Operating a facility for receiving and mechanically	144 Rossmans Road, STAPYLTON QLD 4207 – Lot 2 and 3 on Plan SP279441

Environmentally relevant activities	Location
reprocessing, in a year, more than 5,000t of general waste – more than 10,000t ERA 54 – Mechanical waste reprocessing – 3(c) – Operating a facility for receiving and mechanically reprocessing, in a year, the following quantity of category 2 regulated waste – more than 10,000t ERA 54 – Mechanical waste reprocessing – 4(c) – Operating a facility for receiving and mechanically reprocessing, in a year, the following quantity of category 1 regulated waste – more than 10,000t ERA 55 – Other waste reprocessing or treatment – 2(c) – Operating a facility for receiving and either reprocessing or treating, in a year, the following quantity of category 2 regulated waste – more than 10,000t ERA 55 – Other waste reprocessing or treatment – 3(c) – Operating a facility for receiving and either reprocessing or treating, in a year, the following quantity of category 1 regulated waste – more than 10,000t ERA 55 – Other waste reprocessing or treatment – 4 – Operating a facility for receiving and either reprocessing or treating clinical waste or biosecurity waste ERA 60 – Waste disposal 1: Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1)(a) (d) more than 200,000t ERA 62 – Resource recovery and transfer facility operation – 1(b) – Operating a facility for receiving and sorting, dismantling, baling or temporarily storing general waste ERA 62 – Resource recovery and transfer facility operation – 1(c) – Operating a facility for receiving and sorting, dismantling, baling or temporarily storing category 2 regulated waste ERA 62 – Resource recovery and transfer facility operation – 1(d) – Operating a facility for receiving and sorting, dismantling, baling or temporarily storing category 1 regulated waste	

Additional information for applicants

Environmentally relevant activities

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

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

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

Contaminated land

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

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

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

Take effect

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

a) if the authority is for a prescribed ERA and it states that it takes effect on the day nominated by the holder of the authority in a written notice given to the administering authority – on the nominated day; or

b) if the authority states a day or an event for it to take effect – on the stated day or when the stated event happens; or

c) otherwise – on the day the authority is issued.

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

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

The anniversary day of this environmental authority is the same day each year as the effective date. The payment of the annual fee will be due each year on this day.

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

information or operating without a valid environmental authority.

	**5 September 2024**
Signature	Date

Scott Blanchard
Department of Environment, Science and Innovation
Delegate of the administering authority
Environmental Protection Act 1994

Enquiries:
Waste Assessment
Department of Environment, Science and Innovation
Phone: 1300 130 372
Email: palm@des.qld.gov.au

Obligations under the *Environmental Protection Act 1994*

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

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

Other permits required

This permit only provides an approval under the *Environmental Protection Act 1994*. In order to lawfully operate you may also require permits / approvals from your local government authority, other business units within the department and other State Government agencies prior to commencing any activity at the site. For example, this may include permits / approvals with your local Council (for planning approval), the Department of Transport and Main Roads (to access State controlled roads), the Department of Resources (to clear vegetation), and the Department of Agriculture and Fisheries (to clear marine plants or to obtain a quarry material allocation).

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

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

Conditions of environmental authority

Agency interest: General	
Condition number	**Condition**
G1	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.
G2	The reporting and recording of breaches required in condition G1 must include the following details about the breach, as it becomes available: a) Date; and b) Time; and c) Duration; and d) Location; and e) What happened; and f) Why did it happen; and g) Conditions breached; and h) Actions taken to contain and rectify; and i) Continuous improvement actions to prevent a recurrence.
G3	Activities conducted under this environmental authority must not be conducted contrary to any of the following limitations: a) The only wastes that can be disposed at the landfill facility are: i. Construction and demolition waste; and ii. Commercial waste; and iii. Industrial waste; and iv. General waste; and v. Green waste; and vi. Contaminated soil; and vii. Limited regulated waste; and viii. Category 2 regulated waste limited to: 1. acidic solutions and acids in solid form; and 2. basic solution and bases in solid form; and 3. encapsulated, chemically-fixed solidified or polymerised wastes; and 4. mineral oils; and 5. waste from surface treatment of metals or plastics; and 6. waste from the manufacture, formulation or use of inks, dyes, pigments, lacquers or varnish; and ix. Category 1 regulated waste limited to: 1. arsenic and arsenic compounds; and 2. chromium compounds; and 3. copper compounds; and 4. filter cake; and 5. fire debris; and

	6. fly ash; and 7. lead and lead compounds; and 8. nickel compounds; and 9. organic phosphorus compounds; and 10. per- and poly-fluoroalkyl substances; and 11. pesticides including organochlorine; and 12. residues from industrial waste treatment or disposal operations; and 13. waste from the manufacture, formulation or use of organic solvents; and 14. waste from the manufacture, formulation or use of resin, latex, plasticisers, glues or other adhesives; and 15. zinc compounds. b) Other than incidental wastes, the only wastes that can be accepted at the waste transfer station include: i. Construction and demolition waste; and ii. Commercial waste; and iii. Green Waste; and iv. Industrial waste. c) The only regulated waste that can be accepted for recycling or reprocessing is concrete washout. d) The activity must be carried out in accordance with *Figure 1 – Site plan*.
G4	All reasonable and practicable measures must be taken to prevent or minimise environmental harm.
G5	Other than as permitted by this environmental authority, the release of a contaminant into the environment must not occur.
G6	All information and records that are required by the conditions of this environmental authority must be kept for a minimum of five (5) years. Environmental monitoring results must be kept until surrender of this environmental authority. All information and records required by the conditions of this environmental authority must be provided to the administering authority upon request.
G7	All analyses required under this environmental authority must be carried out by a laboratory that has NATA certification, or an equivalent certification, for such analyses.
G8	An appropriately qualified person(s) must monitor, record and interpret all parameters that are required to be monitored by this environmental authority and in the manner specified by this environmental authority.
G9	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.
G10	The following details of all environmental complaints received must be recorded: a) date and time the complaint was received; b) name and contact details of the complainant when provided and authorised by the complainant;

	c) nature of the complaint; d) investigation undertaken; e) conclusions formed; and f) actions taken.
G11	Written procedures must be developed and documented within 3 months of the environmental authority taking effect that: a) identify all potential risks to the environment from the activity, including during and outside routine operations, during closure and in an emergency; and b) identify measures to prevent or minimise the potential for environmental harm for each of the potential risks identified; and c) establish an inspection and maintenance program for plant and equipment including calibration and servicing that is in accordance with manufacturer's instructions; and d) establish a staff training program on obligations under this environmental authority and the *Environmental Protection Act 1994* to be conducted as part of staff inductions and at least annually; and e) establish processes to review environmental risks, incidents, performance and complaints.
G12	Written procedures required by condition G11 must be: a) implemented; and b) reviewed at least annually; and c) provided to the administering authority upon request at the time and in the format requested.
G13	For plant and equipment, all measures necessary to comply with the conditions of this environmental authority must be: a) installed, operated and maintained in a proper and effective manner; and b) in accordance with condition G11.
G14	All reasonable and practicable measures must be taken to contain litter within the waste operations area, and retrieve litter released.
G15	All reasonable and practicable measures must be taken to exclude vectors and pest species to the extent necessary to prevent: a) environmental nuisance to occupiers of neighbouring premises; and b) any danger or risk to the health of any persons.
G16	Chemicals, fuels and liquid wastes in containers of greater than 15 litres must be stored within a secondary containment system.
G17	A leachate collection system must be designed, installed and maintained by an appropriately qualified person and installed and maintained to: a) collect leachate generated in the landfill unit; b) convey the collected leachate out of the landfill unit to an appropriate leachate storage facility; and

	c) restrict the height of the leachate above the liner system to a maximum levels of 300mm.
G18	Any landfill design must be developed by an appropriately qualified person in the field of waste management including hydrogeology and geotechnical engineering.
G19	The construction of the landfill must be certified by an engineer registered with the Registered Professional Engineer Queensland (RPEQ) in accordance with a construction quality assurance plan.
G20	Leachate and stormwater runoff which has been in contact with waste materials in the landfill unit, must be collected in the leachate storage facility and be: a) treated in the leachate treatment plant and discharged to sewer in accordance with the requirements of the relevant water utility; or b) recirculated through waste disposed in the landfill unit; or c) treated by alternative technologies agreed by the administrating authority for offsite disposal, discharge, or on-site reuse; or d) disposed of at a facility that is approved to receive such waste.
G21	The activity must not be carried out until you have given financial assurance to the administering authority.
G22	If the administering authority increases the amount of financial assurance you must give the additional financial assurance to the administering authority within 28 days of receiving written notice of the increase.
Agency interest: Air	
Condition number	**Condition**
A1	Odours or airborne contaminants must not cause environmental nuisance to any sensitive place or commercial place.
A2	Dust and particulate matter emissions must not exceed the following concentrations at any sensitive place or commercial place:
A3	A landfill gas collection system must be designed, installed, operated and maintained by appropriately qualified person(s).
A4	A landfill gas monitoring program must be designed, carried out and periodically reviewed and updated by appropriately qualified person(s) to monitor relevant components of landfill gas on the surface of the landfill, in facility structures, in subsurface geological formations and at the landfill site boundary.
A5	Landfill gas measured as methane must not exceed: a) 25% of the lower explosive limit at any location at the landfill (but excluding facility structures used for the management of landfill gas or leachate); and b) 25% of the lower explosive limit within service pits, service trenches, stormwater drains or other structures beyond the landfill site boundary; and c) the lower explosive limit in subsurface geology at or beyond the landfill site boundary.

A6	Additional measures to manage landfill gas must be taken if landfill gas levels measured as methane exceed 500 parts per million at a height of 50mm above the final and intermediate cover surface including the batter slopes of the landfill unit.
A7	The following materials must not be used for dust suppression purposes: a) leachate or landfill gas condensate; and b) waste oil or other hydrocarbons.
Agency interest: Noise	
Condition number	**Condition**
N1	Noise generated by the activity must not cause environmental nuisance to any sensitive or commercial place.
N2	All blasting must be carried out by a person or company possessing appropriate experience and qualifications to perform the blasting, in accordance with best practice environmental management, to minimise the likelihood of adverse effects being caused by the impact of airblast overpressure and ground borne vibrations on premises and people living in or using the surrounding area.
N3	Noise from blasting operations must not exceed an airblast overpressure level of 115 dB (linear peak) when measured outside the most exposed part of an affected noise sensitive place or at the location specified in condition N9 for four (4) out of any five (5) consecutive blasts initiated.
N4	Noise from blasting operations must not exceed an airblast over-pressure level of 120 dB (linear peak) at any time when measured outside the most exposed part of an affected noise sensitive place or commercial place.
N5	Ground vibration for vibrations of more than 35 Hz, caused by blasting operations must not exceed a peak particle velocity of 25 millimetres per second ground vibration, peak particle velocity when measured outside the most exposed part of an affected noise sensitive place.
N6	Ground vibration for vibrations of not more than 35 Hz, caused by blasting operations must not exceed a peak particle velocity of 10 millimetres per second ground vibration, peak particle velocity when measured outside the most exposed part of an affected noise sensitive place.
N7	The instrument used to measure the ground borne vibration (e.g. ground vibration transducer [or array]) must be effectively and securely coupled to the ground to ensure that it effectively measures the ground vibration from blasting at the licensed place(s) in accordance with Australian Standard AS2187.2-1993 "Part 2: Explosives - Storage, transport and use. Use of explosives."
N8	Blasting must only be conducted between the hours of 9 am to 5 pm, Monday to Saturday, unless otherwise directed or allowed in the interests of health or safety, by an inspector, under the provisions of the *Mines Regulation Act 1964*.

N9	For the purpose of checking compliance with condition N3 and N4 – Noise, monitoring and recording of airblast overpressure level dB (linear peak) from blasting must be undertaken: a) at least at one monitoring point located within the boundary of the licensed place for each blast; or b) at least at one monitoring point located outside of the most exposed part of an affected noise sensitive place for each blast; and c) in the event of a complaint, that the administering authority considers is not frivolous or vexatious, and upon written request from the administering authority, to carry out monitoring at a suitable location, negotiated, with the administering authority eg: the premises of a noise sensitive place, for at least five consecutive blasts.
N10	For the purpose of checking compliance with condition N5 and N6 – Noise, monitoring and recording of ground vibration from blasting must be undertaken: a) at least at one monitoring point located within the boundary of the licensed place for each blast; or b) at least one monitoring point located outside of the most exposed part of an affected noise sensitive place for each blast; and c) in the event of a complaint, that the administering authority considers is not frivolous or vexatious and upon written request from the administering authority, to carry out monitoring at a suitable location, negotiated, with the administering authority e.g. the premises of a noise sensitive place, for at least five consecutive blasts.
Agency interest: Water	
Condition number	**Condition**
WT1	A liner system 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.
WT2	The stormwater runoff from disturbed areas, generated by (up to and including) a 24 hour storm event with an average recurrence interval of one-in-ten years must be retained on site and can only be released after the event where: a) beneficial reuse on site is not viable; and b) a release is required to maintain the required stormwater retention capacity; and c) there are no contaminants present or at concentrations which may cause environmental harm.
WT3	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 and banks or receiving waters; or c) landscape damage; or d) ponding of the water; or e) vegetation damage.

WT4	Before commencing deposition of waste at the landfill facility, a receiving environment monitoring program must be designed and implemented by appropriately qualified person(s) to monitor the effects of the activity on waters.
WT5	The receiving environmental monitoring program must include: a) a groundwater monitoring system; and b) surface water monitoring program.
WT6	The groundwater monitoring program required by condition WT5 must include but not necessarily be limited to: (a) identification of the aquifers for which groundwater will be monitored; (b) identification of trigger parameters that are associated with the potential or actual contaminants affecting the groundwater; (c) identification of trigger concentration levels that are suitable for early detection of contaminant releases from the landfill facility; (d) installation of background groundwater monitoring bores where groundwater quality will not have been affected by the landfilling activities to use as reference sites for determining impacts; (e) installation of groundwater monitoring bores that: i. are within formations potentially affected by the landfill facility (i.e. within the potential area of impact); ii. provide for the early detection of negative impacts prior to reaching groundwater dependent ecosystems; iii. provide for the early detection of negative impacts prior to reaching migration pathways to other formations (i.e. faults, areas of unconformities known to connect two or more formations); (f) monitoring of groundwater at each background and groundwater monitoring bore at least quarterly for the trigger parameters identified in condition WT8; (g) groundwater trigger action response procedures for when trigger parameters and trigger levels identified in points b) and c) above trigger the early detection of groundwater impact, or upon becoming aware of any monitoring results that indicate potential groundwater contamination; (h) a rationale detailing the program conceptualisation including assumptions, determinations, monitoring equipment, sampling methods and data analysis; and (i) provides for annual updates to the program for new containment facilities constructed in each annual return period.
WT7	All surface water monitoring programs must include: a) determination if releases from release points R1 and R2 adversely impact upon locally derived trigger values (where applicable) or EPP (Water and Wetland Biodiversity) 2019 water quality objectives (where applicable); b) establish monitoring locations for upstream of the discharge points and downstream of the discharge points; and c) monitoring frequency to identify potential impacts by the landfill facility on surface waters including Sandy Creek; and d) include monitoring of at least the following parameters: i. pH (pH units); ii. Electrical Conductivity (µs/cm);

<table>
<tr><td></td><td>iii. Dissolved Oxygen (mg/L);
iv. Suspended Solids (mg/L);
v. Total Organic Carbon (mg/L);
vi. Ammonia (mg/L);
vii. Nitrate (mg/L);
viii. Bicarbonate (mg/L);
ix. Calcium (mg/L);
x. Chloride (mg/L);
xi. Sodium (mg/L);
xii. Potassium (mg/L); and
xiii. Heavy metals (total and dissolved).</td></tr>
<tr><td>WT8</td><td>The groundwater monitoring must be undertaken for, at least, the water quality characteristics listed in Table 1 – Groundwater monitoring characteristics and frequency.
Table 1 – Groundwater monitoring characteristics and frequency
<table>
<tr><th>Quality Characteristic</th><th>Unit of Measure</th><th>Frequency</th></tr>
<tr><td>pH, dissolved oxygen, electrical conductivity, redox potential and temperature</td><td>pH, µS/cm, mV °C</td><td rowspan="14">Quarterly</td></tr>
<tr><td>Standing Water Level</td><td>m AHD</td></tr>
<tr><td>Total Organic Carbon</td><td>mg/L</td></tr>
<tr><td>Total Dissolved Solids</td><td>mg/L</td></tr>
<tr><td>Calcium</td><td>mg/L</td></tr>
<tr><td>Magnesium</td><td>mg/L</td></tr>
<tr><td>Potassium</td><td>mg/L</td></tr>
<tr><td>Sodium</td><td>mg/L</td></tr>
<tr><td>Chloride</td><td>mg/L</td></tr>
<tr><td>Sulphate</td><td>mg/L</td></tr>
<tr><td>Fluoride</td><td>mg/L</td></tr>
<tr><td>Carbonate and Bicarbonate</td><td>mg/L</td></tr>
<tr><td>Ammonia</td><td>mg/L</td></tr>
<tr><td>Nutrients (nitrate, nitrite and phosphorus)</td><td>mg/L</td></tr>
<tr><td>Aluminium</td><td>mg/L</td><td rowspan="7">Annually</td></tr>
<tr><td>Arsenic</td><td>mg/L</td></tr>
<tr><td>Barium</td><td>mg/L</td></tr>
<tr><td>Cadmium</td><td>mg/L</td></tr>
<tr><td>Chromium</td><td>mg/L</td></tr>
<tr><td>Cobalt</td><td>mg/L</td></tr>
<tr><td>Lead</td><td>mg/L</td></tr>
</table></td></tr>
</table>

	Copper	mg/L	
	Iron	mg/L	
	Manganese	mg/L	
	Mercury	mg/L	
	Nickel	mg/L	
	Zinc	mg/L	
	Phenols	mg/L	Annually
	Petroleum Hydrocarbons	mg/L	
	Monoaromatic Hydrocarbons (Benzene, Toluene, Ethylbenzene and xylene)	mg/L	
	Organochlorine and Organophosphate Pesticides	mg/L	
	Chlorinated Compounds		
	Polycyclic Aromatic Hydrocarbons	mg/L	
	Tributyltin Oxide	mg/L	

Associated monitoring requirements:

1. Monitoring must be in accordance with the methods prescribed in the current edition of the administering authority's *Water Quality Sampling Manual.*
2. Samples must be taken using representative samples.
3. All determinations must employ analytical practical quantification limits sufficiently low enough to enable comparisons to be made against water quality objectives / limits relevant to the water quality characteristic.
4. Monitoring must be undertaken as per the frequency stated.
5. All monitoring devices must be correctly calibrated and maintained.

WT9

Surface Water

The only contaminants to be released to surface water are settled treated stormwater runoff waters from areas of the site not likely to be contaminated with waste materials to waters described as Sandy Creek Tributary and Rossmans Road table drain in accordance with *Table 2 – Surface water release limits* and the associated monitoring requirements.

Surface water collected within the sediment ponds must be sampled prior to discharge to determine the water meets the limits listed in Table 2 below.

Table 2 – Surface water release limits

Release Point (s) Description (GDA94 decimal degrees)		***Quality Characteristic (unit)***	***Limit***	***Limit Type***	***Minimum Monitoring Frequency***
Latitude	***Longitude***				
Northern Sediment Pond (R1)		pH (pH units)	6.5 - 9	Range	Quarterly or when a release occurs
27°44'14.05" S	153°15'33.00" E	Electrical Conductivity (µs/cm)	1500	Maximum	

Southern Sediment Pond (R2)		Dissolved Oxygen (mg/L)	6	Minimum	
27°44'34.32" S	153°15'26.50" E	Suspended Solids (mg/L)	50	Maximum	
		Total organic carbon (TOC) (mg/L)	30	Maximum	

Associated monitoring requirements:

1. Monitoring must be in accordance with the methods prescribed in the current edition of the administering authority's *Water Quality Sampling Manual*.
2. Samples must be taken using representative samples.
3. All determinations must employ analytical practical quantification limits sufficiently low enough to enable comparisons to be made against water quality objectives / limits relevant to the particular water quality characteristic.
4. Monitoring must be undertaken during a release as per the frequency stated.
5. All monitoring devices must be correctly calibrated and maintained.
6. Records of volumes of water released from sediment ponds must be maintained.

Agency interest: Land

Condition number	Condition
L1	Contaminants must not be released to land.
L2	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.
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; and b) potential for erosion is minimised; and c) the quality of water, including seepage, released from the site does not cause environmental harm; and d) potential for environmental nuisance caused by dust is minimised; and 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; and

	g) the contaminant concentrations within the final capping layer are appropriate for the final land use and in accordance with the latest edition of the 'National Environment Protection (Assessment of Soil Contamination) Measure.'
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, 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.
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; d) maintain and operate the landfill gas monitoring system; and e) maintain and operate the landfill gas collection system.
Agency interest: Waste	
Condition number	**Condition**
W1	All waste generated in carrying out the activity must be lawfully reused, recycled or removed to a facility that can lawfully accept the waste.
W2	In addition to condition W1, the following waste streams must not be disposed at the landfill facility at any time: a) liquid or semiliquid waste, other than: i. 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. b) hot ash; c) material that is smouldering or aflame; d) 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; e) all radioactive wastes, unless otherwise approved under the *Radiation Safety Act 1999* or approved contaminated soil; f) an explosive; g) 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.
W3	Waste containing asbestos must be disposed at least 2000mm from the final waste surface of the landfill cell.

<table>
<tr><td>W4</td><td>Asbestos disposal must be managed at all times to avoid any potential release of particulate matter to the atmosphere.</td></tr>
<tr><td>W5</td><td>Prior to compaction, asbestos or waste containing asbestos must be covered with:
a) at least 150mm of soil; or
b) 1000mm of waste (not including asbestos or waste containing asbestos).</td></tr>
<tr><td>W6</td><td>Incompatible wastes must not be mixed in the same container or waste storage area.</td></tr>
<tr><td>W7</td><td>Deposited waste must be covered as soon as practicable to limit stormwater infiltration, prevent exposure of waste and prevent issues arising from vectors and pest species.</td></tr>
<tr><td>W8</td><td>With the exception of landfill gas, waste must not be burnt.</td></tr>
<tr><td>W9</td><td>Notwithstanding condition G3, waste and any contaminated soil disposed of at the premises to which this environmental authority relates:
a) must be accepted subject to effectively implementing risk assessment practices and procedures for contaminant testing that ensure that the material accepted complies with the maximum contaminant levels and the allowable leaching contaminant levels prescribed in Table 3—Maximum contaminant levels in waste and soils and Table 4—Allowable leaching contaminant levels in waste and soil respectively; and
b) if the contaminated soil is used as coverage material, contaminant levels must not exceed the maximum concentration limits in Table 5—Maximum total contaminant levels in soils used as cover material, must not cause contaminated stormwater release, and must not include any soil that is contaminated due to the concentration of monocyclic aromatic hydrocarbons, polycyclic aromatic hydrocarbons, chlorinated hydrocarbons, pesticides, or petroleum hydrocarbons.
Table 3 – Maximum contaminant levels in waste and soils
<table>
<tr><th>Contaminant</th><th>Maximum contaminant level for double-lined landfills (mg/kg)</th></tr>
<tr><td colspan="2">Monocyclic aromatic hydrocarbons (MAH)</td></tr>
<tr><td>Benzene</td><td>20</td></tr>
<tr><td>Ethyl Benzene</td><td>1,000</td></tr>
<tr><td>Toluene</td><td>600</td></tr>
<tr><td>Xylene</td><td>500</td></tr>
<tr><td>Total MAH</td><td>1,000</td></tr>
<tr><td colspan="2">Polycyclic aromatic hydrocarbons (PAH)</td></tr>
<tr><td>Total PAH</td><td>1,000</td></tr>
<tr><td colspan="2">Phenolic contaminants – Non halogenated phenol</td></tr>
<tr><td>Chlorophenol</td><td>5</td></tr>
<tr><td>Pentachlorophenol</td><td>20</td></tr>
</table></td></tr>
</table>

Trichlorophenol	20
Total halogenated phenol	20
Chlorinated Hydrocarbons - Chlorinated aliphatic compounds	
Carbon tetrachloride	10
1,2 Dichloroethane	20
1,1 Dichloroethene	1
Tetrachloroethene	20
Trichloroethene	25
Total chlorinated aliphatic compounds	50
Chlorobenzene	200
Hexachlorobenzene	1
Total chlorinated aromatic compounds	200
Non-scheduled solid polychlorinated biphenyls (PCBs)	50
Pesticides (screening)	
Total organochlorine	50
Total herbicides	50
Total carbamates	50
Total organophosphorus	50
Petroleum hydrocarbons	
Total petroleum hydrocarbons (C_6-C_9)	1,000
Total petroleum hydrocarbons (C_{10}-C_{14})	10,000
Total petroleum hydrocarbons (C_{15}-C_{28})	50,000
Total petroleum hydrocarbons (C_{29}-C_{36})	50,000
Organotins	
Tributyltin oxide	10

Table 4 – Allowable leaching contaminant levels in waste and soil

Contaminant	**Allowable leaching contaminant levels (TCLP) for double-lined landfills (mg/L)**
Non-specific contaminants	
Biochemical oxygen demand	20,000
Total organic carbon	10,000

Petroleum hydrocarbons	50
Metals/metalloids	
Antimony	5
Arsenic	5
Barium	100
Cadmium	0.5
Chromium	5
Cobalt	5
Copper	100
Lead	5
Mercury	0.1
Molybdenum	5
Nickel	5
Selenium	1
Silver	5
Thallium	1
Tin	3
Vanadium	5
Zinc	500
Inorganic anions	
Bromide	50
Chloride	6,000
Cyanide (total)	5
Fluoride	150
Nitrate	1,000
Sulphate	4,000
Bromide	50
Monocyclic aromatic hydrocarbon (MAH)	
Benzene	1
Ethyl benzene	50
Toluene	30
Xylene	20

Total MAH	50
Polycyclic aromatic hydrocarbons (PAH)	
Anthracene	0.7
Benz (a) anthracene	0.05
Benz (c) phenanthrene	0.05
Benzo (a) pyrene	0.02
Benzo (b) fluoranthene	0.05
Benzo (k) fluoranthene	0.05
Chrysene	0.1
Dibenz (a,h) anthracene	0.02
Dibenz (a,h) pyrene	0.1
Dimethylbenz (a) anthracene	0.05
Fluoranthene	0.2
Indeno (1,2,3-cd) pyrene	0.1
Naphthalene	0.7
Phenanthrene	0.1
Pyrene	0.7
Total PAH	1
Phenolic contaminants – Non-halogenated compounds	
Phenol	10
m-cresol	20
o-cresol	20
p-cresol	20
Phenolic contaminants – Halogenated phenols	
Chlorophenol	0.1
Pentachlorophenol	1
Trichlorophenol	1
Chlorinated hydrocarbons - Chlorinated aliphatic compounds	
Carbon tetrachloride	0.3
1,2 Dichloroethane	1
1,1 Dichloroethene	0.03
Tetrachloroethene	1

Trichloroethene	3
Chlorinated hydrocarbons - *Chlorinated aromatic compounds*	
Chlorobenzene (total)	10
Hexachlorobenzene	0.02
Pesticides – Organochlorine	
Aldrin	0.01
Chlordane	0.06
Chlorpyrifos	0.03
Dieldrin	0.01
DDT	0.03
Endrin	0.01
Heptachlor	0.03
Lindane	1
Methoxychlor	1
Toxaphene	0.05
Pesticides - Herbicides	
2,4-D	1
2,4-DB	2
2,4,5 -T	0.02
MCPA	2
Pesticides - Carbamates	
Carbaryl	0.6
Carbofuran	0.3
Pesticides – Organophosphorus	
Diazinon	0.1
Methyl Parathion	0.06
Parathion	0.3
Pesticides - Triazines:	
Atrazine	0.03
Simazine	0.03
Fluorinated organic compounds	
Total fluorinated organic compounds (if leachate reused on or off-site)	0.0003

Total fluorinated organic compounds (if leachate not reused on or off-site)	0.05
Organotins	
Tributyltin oxide	0.4
For any waste or soil contaminated by radioactive material, the gross alpha and gross beta activity concentration in the Toxicity Characteristic Leaching Procedure (TCLP) extracts from the material are no more than 100 times the concentrations for the screening of gross alpha and gross beta activity concentrations specified in the National Health and Medical Research Council (NHMRC) Australian Drinking Water Guidelines, 2011.	

*Allowable leaching levels to be determined using the TCLP procedure mentioned in United States Environmental Protection Agency (USEPA), Washington DC (2008) 'Test methods for evaluating solid waste, physical/chemical methods' Document number SW 846. 3rd Edition or more recent editions or supplement to that procedure as they become available.

Table 5 – Maximum total contaminant levels in soils used as cover material (note: this material is not suitable for final capping)

Contaminant	**Maximum total contaminant levels in soils used as cover material (mg/kg)**
Metals and metalloids	
Arsenic (total)	200
Beryllium	40
Cadmium	40
Chromium (III)	240,000
Chromium (VI)	200
Copper	2,000
Lead	600
Manganese	3,000
Mercury (inorganic)	30
Methyl Mercury	20
Nickel	600
Zinc	14,000
Others	
PFOS (Perfluoro-octane sulfonate)	6
PFOA (Perfluoro-octanoic acid)	16
Total fluorinated organic compounds	10 (not including PFOS & PFOA)

Definitions

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

24 hour storm event with an average recurrence interval (ARI) of one-in-ten 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, at location XX 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.

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, Science and Innovation 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.

Blasting means the use of explosive materials 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 reuse.

Boundary means within one metre of the cadastral boundary of the site.

Clay lined means a landfill lined with compacted clay at least 600 mm thick achieving a maximum permeability of 1 X 10-9 metres per second or alternate such as an engineered geosynthetic agreed in writing as equivalent in performance by the administering authority.

Commercial waste as defined in the Environmental Protection Regulation 2019.

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.

Construction and demolition waste as defined in the Waste Reduction and Recycling Regulation 2011.

Construction quality assurance plan means a framework with defined procedures and practices to ensure that the completed product meets or exceeds the specified quality requirements

Double lined means a landfill lined with compacted clay at least 600mm thick achieving a maximum permeability of 1x10-9 metres per second overlain with 1.5mm HDPE synthetic liner or alternate double liner system agreed in writing as equivalent in performance by the administering authority.

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

Financial assurance as defined in Chapter 5 of the *Environmental Protection Act 1994*.

General waste as defined in the Environmental Protection Regulation 2019.

Green waste as defined in the Environmental Protection Regulation 2019.

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).

HDPE means high density polyethylene.

Incidental wastes means minor amounts of wastes occasionally found in defined waste loads and can be removed during sorting.

Incompatible waste means waste that may chemically react when:

a) placed in proximity to other wastes; and/or
b) mixed with other wastes.

Industrial waste as defined in the Environmental Protection Regulation 2019.

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.

Limited regulated waste as defined in the Environmental Protection Regulation 2019.

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.

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

NATA means National Association of Testing Authorities.

Noise sensitive place means any of the following places:

a) a dwelling;
b) a library, childcare centre, kindergarten, school, college, university or other educational institution; c) a hospital, surgery or other medical institution;
c) a protected area, or an area identified under a conservation plan as a critical habitat or an areas of major interest, under the Nature Conservation Act 1992;
d) a marine park under the Marine Parks Act 2004;
e) a park or garden that is open to the public (whether or not on payment of money) for use other than for sport or organised entertainment.

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 10 of the Environmental Protection Regulation 2019.

Receiving environment monitoring program means a monitoring program designed to monitor and assess the potential impacts of controlled 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 an environmental authority.

Release of a contaminant into the environment means to:

a) deposit, discharge, emit or disturb the contaminant; and
b) cause or allow the contaminant to be deposited, discharged, emitted or disturbed; and
c) fail to prevent the contaminant from being deposited, discharged, emitted or disturbed; and
d) allow the contaminant to escape; and
e) fail to prevent the contaminant from escaping.

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 2014 or a World Heritage Area; or
f) a park or gardens; or
g) for noise, a place defined as a sensitive receptor for the purposes of the Environmental Protection (Noise) Policy 2019.

TCLP means a toxicity characteristic leaching procedure.

Toxic material means:

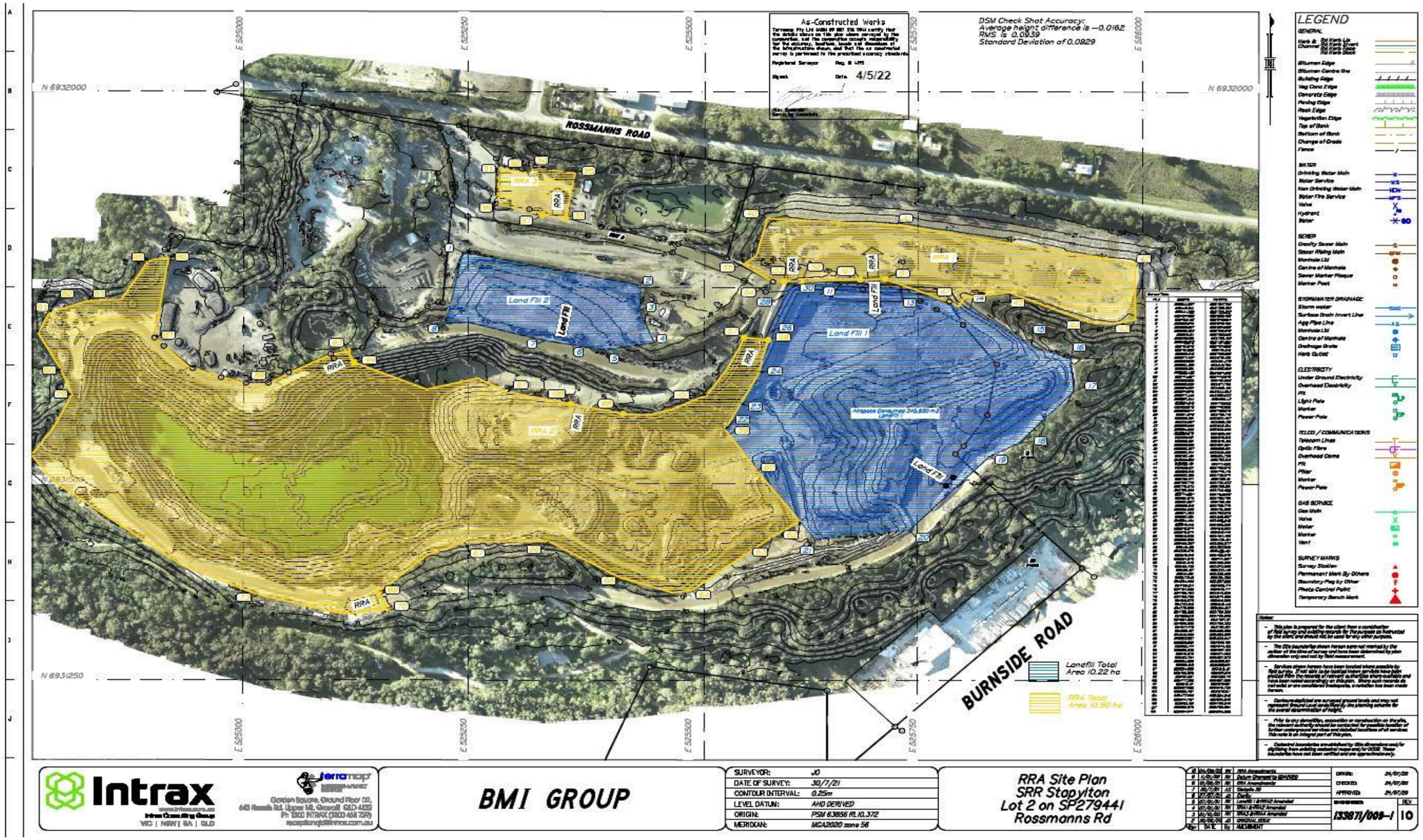
a) cytotoxic wastes;
b) drugs and poisons as cited in the Poisons Standard June 2022 (Cmwlth) (Schedules 2, 3, 5, 6, 7, 8, 9 and 10 substances); and
c) any other material that:
    i. has contaminant concentrations in the waste exceeding the allowable levels in Table 3; or
    ii. has leaching contaminant levels in the waste when measured in accordance with toxicity characteristic leaching procedure (TCLP), exceeding the concentrations prescribed in Table 4.

Waste operations area means the following areas:

a) waste receiving;
b) sorting;
c) treating;
d) recycling; and
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.

Figure 1 – Site Plan



END OF ENVIRONMENTAL AUTHORITY