Government of Western Australia
Department of Environment Regulation

Licence

Environmental Protection Act 1986, Part V

Licensee: City of Albany

Licence: L6925/1997/9

Registered office: 102 North Road
ALBANY WA 6330

Premises address: Albany Refuse Site
37 Maxwell Street
MOUNT MELVILLE WA 6330
Being Lot 1135 on Plan 208775 and Lot 202 on Plan 76615 as depicted in Schedule 1.

Issue date: Thursday, 23 May 2013

Commencement date: Monday, 3 June 2013

Expiry date: Saturday, 2 June 2018

Prescribed premises category
Schedule 1 of the *Environmental Protection Regulations 1987*

Category number	Category description	Category production or design capacity	Approved Premises production or design capacity
62	Solid waste depot: premises on which waste is stored, or sorted, pending final disposal or re-use.	500 tonnes or more per year	30 050 tonnes per annual period
64	Class II or III putrescible landfill site: premises on which waste (as determined by reference to the waste type set out in the document entitled "Landfill Waste Classification and Waste Definitions 1996" published by the Chief Executive Officer and as amended from time to time) is accepted for burial.	20 tonnes or more per year	100 000 tonnes per annual period

Note 1: Category 61A activities are limited to a one off project specific proposal.

Conditions
This Licence is subject to the conditions set out in the attached pages.

Date signed: 10 December 2015
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Ruth Dowd
Senior Manager – Industry Regulation (Waste Industries)
Officer delegated under section 20
of the *Environmental Protection Act 1986*

Contents

Introduction

This Introduction is not part of the Licence conditions.

DER's industry licensing role
The Department of Environment Regulation (the DER) is a government department for the state of Western Australia in the portfolio of the Minister for Environment. DER's purpose is to advise on and implement strategies for a healthy environment for the benefit of all current and future Western Australians.

The DER has responsibilities under Part V of the *Environmental Protection Act 1986* (the Act) for the licensing of prescribed premises. Through this process the DER regulates to prevent, control and abate pollution and environmental harm to conserve and protect the environment. The DER also monitors and audits compliance with works approvals and licence conditions, takes enforcement action as appropriate and develops and implements licensing and industry regulation policy.

Licence requirements
This Licence is issued under Part V of the Act. Conditions contained within the Licence relate to the prevention, reduction or control of emissions and discharges to the environment and to the monitoring and reporting of them.

Where other statutory instruments impose obligations on the Premises/Licensee the intention is not to replicate them in the licence conditions. You should therefore ensure that you are aware of all your statutory obligations under the Act and any other statutory instrument. Legislation can be accessed through the State Law Publisher website using the following link:
http://www.slp.wa.gov.au/legislation/statutes.nsf/default.html

For your Premises relevant statutory instruments include but are not limited to obligations under the:

- *Environmental Protection (Unauthorised Discharges) Regulations 2004* – these Regulations make it an offence to discharge certain materials such as contaminated stormwater into the environment other than in the circumstances set out in the Regulations.

- *Environmental Protection (Controlled Waste) Regulations 2004* - these Regulations place obligations on you if you produce, accept, transport or dispose of controlled waste.

- *Environmental Protection (Noise) Regulations 1997* – these Regulations require noise emissions from the Premises to comply with the assigned noise levels set out in the Regulations.

You must comply with your licence. Non-compliance with your licence is an offence and strict penalties exist for those who do not comply.

Licence holders are also reminded of the requirements of section 53 of the Act which places restrictions on making certain changes to prescribed premises unless the changes are in accordance with a works approval, licence, closure notice or environmental protection notice.

Licence fees
If you have a licence that is issued for more than one year, you are required to pay an annual licence fee prior to the anniversary date of issue of your licence. Non payment of annual licence fees will result in your licence ceasing to have effect meaning that it will no longer be valid and you will need to apply for a new licence for your Premises.

Ministerial conditions
If your Premises has been assessed under Part IV of the Act you may have had conditions imposed by the Minister for Environment. You are required to comply with any conditions imposed by the Minister.

Premises description and Licence summary
The Albany Refuse Site (ARS) is a Class II unlined landfill located adjacent Hanrahan Road about two kilometres from the Albany city centre and one kilometre from Princess Royal Harbour. The ARS has been operating for almost 40 years and approximately 70% of the 31 hectare site has been used for landfilling. Landfilling occurs through the centre of the site and a resource recovery area and reuse shop are located to the north at the entry to the site. Sustainable waste management activities carried out at the entry and located directly north of the ARS is the Materials Recycling Facility. In addition, ARS accepts household hazardous waste materials including waste oils and vehicle batteries prior to transfer off-site.

The ARS:

- is orientated in a north-south direction along the western flanks of Mount Melville, covering about one kilometre in length;
- hydraulic gradient runs generally north-east to south-west;
- stormwater flows into the Munster Hill drain and from there into Princess Royal Harbour;
- sensitive receptors are identified as:
  - residences located approximately 300 metres north east;
  - surface water flows into the Munster Hill drainage system;
  - groundwater is estimated to be <15 metres below ground level; and
  - Princess Royal Harbour located approximately 800 metre south.

Works Approval W5797/2015/1 was issued on 27 February 2015 authorising the Licensee to construct a temporary storage, bioremediation and immobilisation facility for the subsequent disposal of contaminated material (waste) excavated from the former Albany Gasworks and Cannery (AGC). An amendment to Licence L6925/1997/9 for the operation of the works was issued on 16 March 2015.

This DER initiated amendment is to remove the authorisation to accept, bioremediate or immobilise waste from the AGC following the identification of unanticipated contaminates in the waste received from the AGC.

The licences and works approvals issued for the Premises since 25/05/2005 are:

Instrument log		
Instrument	**Issued**	**Description**
L6925/1997/7	25/05/2005	Licence reissue
L6925/1997/7	1/02/2006	Licence amendment
L6925/1997/8	29/05/2008	Licence reissue
L6925/1997/8	16/06/2010	Licence amendment (quarantine waste and leachate EIP)
L6925/1997/8	15/07/2011	Licence amendment (extension on EIP works compliance date)
L6925/1997/8	9/02/2012	Licence amendment (extension on EIP works compliance date)
W4922/2011/1	13/12/2012	Works Approval issue (leachate works stage 1)
W5293/2012/1	13/12/2012	Works Approval issue (leachate works stage 2)
L6925/1997/9	23/05/2013	Licence reissue and licence format conversion

W5543/2013/1	8/01/2014	Works Approval issue (leachate works stage 3)
L6925/1997/9	10/07/2014	Licence amendment (monitoring requirements)
W5759/2015/1	27/02/2015	Works Approval issue (bioremediation facility construction)
L6925/1997/9	16/03/2015	Licence amendment (bioremediation facility operation)
L6925/1997/9	10/12/2015	Licence amendment (contaminated waste management)

Severance

It is the intent of these Licence conditions that they shall operate so that, if a condition or a part of a condition is beyond the power of this Licence to impose, or is otherwise *ultra vires* or invalid, that condition or part of a condition shall be severed and the remainder of these conditions shall nevertheless be valid to the extent that they are within the power of this Licence to impose and are not otherwise *ultra vires* or invalid.

END OF INTRODUCTION

Licence conditions

1 General

1.1 Interpretation

1.1.1 In the Licence, definitions from the *Environmental Protection Act 1986* apply unless the contrary intention appears.

1.1.2 For the purposes of this Licence, unless the contrary intention appears:

'Act' means the *Environmental Protection Act 1986;*

'AHD' means the Australian height datum;

'Acceptance Criteria' has the meaning defined in Landfill Definitions**;**

'**active landfill area'** means the area on the premises approved for the burial of waste, as defined and labelled on the Premises Map in Schedule 1;

'annual period' means the inclusive period from 1 January until 31 December in the same year;

'applicable standards and/ or guidelines' means but is not limited to, all guidelines and standards referred to and defined within this licence, including the following documents:

- Department of Environment and Conservation, Contaminated Sites Management Series guideline '*Assessment Levels for Soil, Sediment and Water'* (February 2010), as amended from time to time. If relevant assessment levels are not included in this guideline, alternative assessment levels should be adopted from appropriate Australian and/or International guidance documents to enable an adequate assessment of the data; and
- Australian and New Zealand Environment and Conservation Council and the Agriculture and Resource Management Council of Australia and New Zealand '*Australian and New Zealand Guidelines for Fresh and Marine Water Quality' (October, 2000)*, as amended from time to time.

'AQIS' means Australian Quarantine and Inspection Service;

'AS/NZS 2031' means the Australian Standard AS/NZS 2031 *Selection of containers and preservation of water samples for microbiological analysis;*

'AS 4439.3' means the Australian Standard AS *Wastes, Sediments and Contaminated Soils – Preparation of Leachates, Bottle Leaching Procedure*;

'AS 4482.1' means the Australian Standard AS *Guide to the Sampling and Investigation of Potentially Contaminated Soil – Non-volatile and semi-volatile compounds*;

'AS 4482.2' means the Australian Standard AS *Guide to the sampling and investigation of potentially contaminated soil – Volatile substances*;

'AS/NZS 5667.1' means the Australian Standard AS/NZS 5667.1 *Water Quality – Sampling – Guidance of the Design of sampling programs, sampling techniques and the preservation and handling of samples;*

'AS/NZS 5667.4' means the Australian Standard AS/NZS 5667.4 *Water Quality – Sampling – Guidance on sampling from lakes, natural and man-made;*

'AS/NZS 5667.6' means the Australian Standard AS/NZS 5667.6 *Water Quality – Sampling – Guidance on sampling of rivers and streams;*

'AS/NZS 5667.9' means the Australian Standard AS/NZS 5667.9 *Water Quality – Sampling – Guidance on sampling from marine waters;*

'AS/NZS 5667.10' means the Australian Standard AS/NZS 5667.10 *Water Quality – Sampling – Guidance on sampling of waste waters;*

'AS/NZS 5667.11' means the Australian Standard AS/NZS 5667.11 *Water Quality – Sampling – Guidance on sampling of groundwaters;*

'averaging period' means the time over which a limit or target is measured or a monitoring result is obtained;

'BGL' means below ground level;

'bioremediation facility' means the area defined in the Premises Map and Bioremediation facility map in Schedule 1;

'Clean Fill' has the meaning defined in Landfill Definitions;

'CEO' means Chief Executive Officer of the Department of Environment Regulation;

'CEO' for the purpose of correspondence means;

Chief Executive Officer
Department Administering the Environmental Protection Act 1986
Locked Bag 33
CLOISTERS SQUARE WA 6850
Email: info@der.wa.gov.au

'Contaminated Solid Waste' has the meaning defined in Landfill Definitions;

'contaminated waste' means contaminated material sourced from the former Albany gasworks and cannery as defined in the document *LandCorp bioremediation of contaminated soil supporting information for works approval*;

'controlled waste' has the definition in *Environmental Protection (Controlled Waste) Regulations 2004*;

'freeboard' means the distance between the maximum water surface elevations and the top of retaining banks or structures at their lowest point;

'fugitive emissions' means all emissions not arising from point sources identified in sections 2.2, 2.3, 2.4 and 2.5;

'hardstand' means a surface with a permeability of 10^{-9} metres/second or less;

'Hazardous waste' has the meaning defined in Landfill Definitions;

'HDPE' means high density polyethylene being the liner used for the bioremediation windrows and meeting the specifications defined in the letter '*Works approval for bioremediation facility: Lot 1125 Maxwell Street Albany*' dated 8 January 2015;

'Inert Waste Type 1' has the meaning defined in Landfill Definitions;

'Inert Waste Type 2' has the meaning defined in Landfill Definitions;

'LandCorp bioremediation of contaminated soil supporting information for works approval' means the document GHD 2014, *LandCorp bioremediation of contaminated soil supporting information for works approval*, Perth, Western Australia;

'Landfill Definitions' means the document titled "Landfill Waste Classification and Waste Definitions 1996" published by the Chief Executive Officer of the Department of Environment as amended from time to time.

'leachate' means a liquid containing contaminants leached from the waste mass produced as water percolates through a landfill;

'**leachate pond**' means the pond on the Premises dedicated to hold leachate as defined and labelled "Leachate Pond (LP2)" on the Map of monitoring locations in Schedule 1;

'Licence' means this Licence numbered L6925/1997/9 and issued under the Act;

'Licensee' means the person or organisation named as Licensee on page 1 of the Licence;

'lined' means a liner that meets the guidelines set out in at least one of the following documents published by the Department of Water: *Liners for containing pollutants using engineered soils (February 2006) WQPN 27* and *Liners for containing pollutants using synthetic membranes (February 2009) WQPN 26*;

'NATA' means the National Association of Testing Authorities, Australia;

'NATA accredited' means in relation to the analysis of a sample that the laboratory is NATA accredited for the specified analysis at the time of the analysis;

'practicable' is as defined in the Environmental Protection Act 1986.

'Premises' means the area defined in the Premises Map in Schedule 1 and listed as the Premises address on page 1 of the Licence;

'Putrescible Waste' has the meaning defined in Landfill Definitions;

'quarantine waste' means material from a foreign region or country that is capable of being host to insects, helminths or other parasites, disease, weeds or any other organisms that are not existent or prevalent in that country and pose a potential threat to local ecosystems, people or local plant or animal industries;

'quarantined storage area or container' means a hardstand storage area or sealed-bottom container that is separate and isolated from authorised waste disposal areas and is capable of containing all non-conforming waste and its constituents, these areas must be clearly marked and their access restricted to authorised personnel;

'quarterly' means the 4 inclusive periods from 1 January to 31 March, 1 April to 30 June, 1 July to 30 September and 1 October to 31 December in the same year;

'rehabilitation' means the completion of the engineering of a landfill cell and includes capping and final cover;

'Schedule 1' means Schedule 1 of this Licence unless otherwise stated;

'Schedule 2' means Schedule 2 of this Licence unless otherwise stated;

'sedimentation basin' means either of the basins on the Premises which are dedicated to store uncontaminated stormwater and settle out any solids prior to off-site discharge, as defined and labelled "Sedimentation Basin (SB1)" and "Sedimentation Basin (SB2)" on the Map of monitoring locations in Schedule 1;

'shut-down' means the period when plant or equipment is brought from normal operating conditions to inactivity;

'six monthly' means the 2 inclusive periods from 1 April to 30 September and 1 October to 31 March in the following year;

'solid waste' has the meaning defined in Landfill Waste Classification and Waste Definitions 1996 published by DEC and as amended from time to time

'Special Waste Type 1' has the meaning defined in Landfill Definitions;

'Special Waste Type 2' has the meaning defined in Landfill Definitions;

'spot sample' means a discrete sample representative at the time and place at which the sample is taken;

'start-up' means the period when plant or equipment is brought from inactivity to normal operating conditions;

'stormwater drains' means the drains on the Premises which are dedicated to divert uncontaminated stormwater around and away from the active landfill area and to a sedimentation basin, including (but not limited to) the "Northern Stormwater Drain", "Top Drain (Bund)" and "Toe Drain" as defined and labelled in the Map of monitoring locations in Schedule 1;

'Tipping Area' means the area of the Premises where waste is currently brought for burial;

'usual working day' means 0800 – 1700 hours, Monday to Friday excluding public holidays in Western Australia;

'µS/cm' means microsiemens per centimetre;

'W5797/2015/1' means the Works Approval numbered W5797/2015/1 and issued under the Act; and

'waste' has the meaning defined in the *Environmental Protection Act 1986*.

1.1.3 Any reference to an Australian or other standard in the Licence means the relevant parts of the standard in force from time to time during the term of this Licence.

1.1.4 Any reference to a guideline or code of practice in the Licence means the version of that guideline or code of practice in force from time to time, and shall include any amendments or replacements to that guideline or code of practice made during the term of this Licence.

1.2 Premises operation

1.2.1 The Licensee shall record and investigate the exceedance of any descriptive or numerical limit or target specified in any part of section 1.2 of this Licence.

1.2.2 The Licensee shall only accept waste on to the Premises if:
(a) it is of a type listed in Table 1.2.1; and
(b) the quantity accepted is below any quantity limit listed in Table 1.2.1; and
(c) it meets any specification listed in Table 1.2.1.

Table 1.2.1: Waste acceptance		
Waste type	**Quantity limit tonnes/ year**	**Specification**[1]
Inert Waste Type 1	100,000 tonnes per year for burial	None Specified
Inert Waste Type 2		None Specified
Special Waste Type 1 (Asbestos)		Must be wrapped in heavy duty plastic prior to acceptance.
Special Waste Type 2 (Biomedical waste)		The Licensee or their representative must note in writing any discrepancies between waste declared and waste received.
Putrescible Waste		None Specified
Clean Fill		None Specified
Quarantine Waste		The landfill must be approved by AQIS as a Class 8.2 Quarantine Approved Premises (unless otherwise agreed by AQIS). Quarantine Waste must be despatched to the landfill by an AQIS officer or a party that has been accredited by AQIS to carry out the transport of quarantine wastes to the site.
Contaminated Solid Waste		Must be supported by documentation that demonstrates compliance with Class II Landfill Definitions acceptance criteria
Inert Waste Type 1	2,000 tonnes per year for storage prior to transfer	None specified.
Hazardous waste	50 tonnes per year for storage prior to transfer	Limited to waste oil, vehicle batteries and DrumMuster products.

Note 1: Additional requirements for the acceptance of controlled waste (including asbestos and tyres) are set out in the *Environmental Protection (Controlled Waste) Regulations 2004*.

1.2.3 The Licensee shall ensure that where waste does not meet the waste acceptance criteria set out in condition 1.2.1 it is removed from the Premises by the delivery vehicle or, where that is not possible, stored in a quarantined storage area or container and removed to an appropriately authorised facility as soon as practicable.

1.2.4 The Licensee shall ensure that wastes accepted onto the Premises are only subjected to the processes set out in Table 1.2.2 and in accordance with any process limits described in those tables.

Table 1.2.2: Waste processing		
Waste type	**Process(es)**	**Process limits**[1, 2]
All Waste	Receipt, handling and disposal of waste by landfilling	(i) Disposal of waste by landfilling shall only take place within the Active Landfill Area shown on the Premises Map in Schedule 1; and (ii) The separation distance between the base of the landfill and the highest groundwater level shall not be less than 3m.
Inert Waste Type 1		None specified.
Inert Waste Type 2		To be stored in piles of up to 100 units with a 6m separation distance between piles. Tyres shall only be landfilled: (i) in batches separated from each other by at least 100mm of soil and each consisting of not more than 40 cubic metres of tyres reduced to pieces; or (ii) in batches separated from each other by at least 100mm of soil and each consisting of not more than 1000 whole tyres.

Special Waste Type 1 (Asbestos)	Receipt, handling and disposal of waste by landfilling	(i) Only to be disposed of (by burial) into a designated asbestos waste disposal area within the landfill; (ii) Only to be temporarily stored on the premises prior to burial if completely wrapped such that asbestos fibres are not able to be released, and stored in a location and manner which prevents reasonable risk of damage to the waste; (iii) Not to be deposited within 2m of the final tipping surface of the landfill; (iv) Access to the area where the waste is buried should be restricted to the Licensee, or a representative authorised by the Licensee only; (v) The Licensee, or a representative of the Licensee must witnesses the burial and sign the register referred to in condition 5.1.5 within two hours of the burial to attest the waste has been buried in accordance with the conditions of this Licence; and (vi) No works shall be carried out on the landfill that could lead to a release of asbestos fibres.
Special Waste Type 2 (Biomedical waste)		(i) Only to be disposed of into a designated biomedical waste disposal area within the landfill; (ii) Not to be deposited within 2m of the final tipping surface of the landfill; (iii) Access to the area where the waste is buried should be restricted to authorised persons only; (iv) The Licensee, or a representative of the Licensee must witnesses the burial and sign the register referred to in condition 5.1.5 within two hours of the burial to attest the waste has been buried in accordance with the conditions of this Licence; and (v) No works shall be carried out on the landfill that could lead to biomedical wastes being exposed or uncovered.
Putrescible Waste		None specified.
Clean Fill		None specified.
Quarantine Waste		Quarantine waste is not to be deposited within 2 metres of the final tipping surface of the landfill
Contaminated Solid Waste		None specified.
Hazardous waste	Receipt, handling and storage prior to transfer or reprocessing	Waste oil shall be unloaded and/or stored in a lined, bunded facility which is regularly pumped out to ensure overtopping cannot occur; and Vehicle batteries must be stored in a location and manner in which they are protected from physical damage and rainfall, they cannot discharge to the environment and they can be visibly checked at any time for leakage and/or damage.

Note 1: Requirements for landfilling tyres are set out in Part 6 of the *Environmental Protection Regulations 1987*.
Note 2: Additional requirements for the acceptance and landfilling of controlled waste (including asbestos and tyres) are set out in the *Environmental Protection (Controlled Waste) Regulations 2004*.

1.2.5 The Licensee shall manage the landfilling activities to ensure:
- (a) waste is levelled and compacted as soon as practicable after it is discharged;
- (b) waste is placed and compacted to ensure all faces are stable and capable of retaining rehabilitation material;
- (c) rehabilitation of a cell or phase takes place within two years after disposal in that cell or phase has been completed;

(d) the tipping area is restricted to a maximum linear length of 30 metres; and
(e) at no time does landfilling result in an exposed face exceeding two metres in vertical height.

1.2.6 The Licensee shall ensure that cover is applied and maintained on landfilled wastes in accordance with Table 1.3.3 and that sufficient stockpiles of cover are maintained on site at all times.

Table 1.3.3: Cover requirements [1]

Waste Type	Material	Depth	Timescales
Special Waste Type 1 (Asbestos)	Inert Waste Type 1 or clean fill	300mm	As soon as practicable after deposit and prior to compaction, but by no later than the end of the working day
Special Waste Type 2 (Biomedical waste)			Immediately
Inert Waste Type 2 (Tyres)	Inert Waste Type 1 or clean fill	100mm	To be covered by the end of the working day in which the waste was deposited
All other wastes	Inert Waste Type 1 or clean fill	150mm	Continuous cover techniques, or a minimum of daily

Note 1: Additional requirements for the covering of tyres are set out in Part 6 of the *Environmental Protection Act 1987*.

1.2.7 The Licensee shall implement the following security measures at the site:
(a) maintain suitable fencing to prevent unauthorised access to the site;
(b) ensure that any entrance gates to the premises are securely locked when the premises are unattended; and
(c) undertake regular inspections of all security measures and repair damage as soon as practicable.

1.2.8 The Licensee shall not burn or allow the burning of any waste on the Premises.

1.2.9 The Licensee shall ensure that any unauthorised fire on site is extinguished as soon as possible.

1.2.10 The Licensee shall take all reasonable and practical measures to ensure that no wind-blown waste escapes from the Premises and that wind-blown waste is collected on at least a weekly basis and returned to the tipping area.

1.2.11 The Licensee shall maintain stormwater drains around the perimeter of the active landfill area which effectively direct uncontaminated stormwater away from the active landfill area and to sedimentation basin/s prior to its release off the premises.

1.2.12 The Licensee shall divert Leachate and contaminated surface water from the filled and peripheral areas of the active landfill area, by dedicated drains, to a lined detention pond.

1.2.13 The Licensee shall manage all leachate ponds such that:
(a) overtopping of the ponds, causing a discharge from the Premises or to the environment, does not occur;
(b) a freeboard equal to, or greater than, 1000mm is maintained on “Leachate Pond (LP1)” as defined and labelled on the Map of monitoring locations in Schedule 1;
(c) the integrity of the ponds to contain all leachate is maintained;
(d) vegetation (emergent or otherwise) is prevented from encroaching onto pond surfaces or inner pond embankments.

2 Emissions

2.1 General

2.1.1 The Licensee shall record and investigate the exceedance of any descriptive or numerical limit specified in any part of section 2 of this Licence.

2.2 Point source emissions to surface water

2.2.1 The Licensee shall ensure that where waste is emitted to surface water from the emission points in Table 2.2.1 and identified on the map of emission points in Schedule 1 it is done so in accordance with the conditions of this Licence.

Table 2.2.1: Emission points to surface water

Emission point reference and location on Map of monitoring locations	Description	Source including abatement
Weir; and Sedimentation basin (SB2)	V-notch weir discharging to stormwater drain	Uncontaminated stormwater, travelling to V-notch weir via sedimentation basin

2.2.2 The Licensee shall not cause or allow emissions to surface waters greater than the limits listed in Table 2.2.2.

Table 2.2.2: Point source emission limits to surface water

Emission point Reference and location on Map of monitoring locations	Parameter	Limit (including units)	Averaging Period
Weir; and Sedimentation basin (SB2)	Total Nitrogen	10 mg/L	Spot sample

3 Monitoring

3.1 General monitoring

3.1.1 The Licensee shall ensure that:

(a) all water samples are collected and preserved in accordance with AS/NZS 5667.1;
(b) all wastewater sampling is conducted in accordance with AS/NZS 5667.10;
(c) all surface water sampling is conducted in accordance with AS/NZS 5667.4, AS/NZS 5667.6 or AS/NZS 5667.9 as relevant;
(d) all groundwater sampling is conducted in accordance with AS/NZS 5667.11;
(e) all microbiological samples are collected and preserved in accordance with AS/NZS 2031;
(f) all soil sampling is conducted in accordance with AS 4482.1 and AS 4482.2;
(g) all leachable concentration sampling is conducted in accordance with AS 4439.3; and
(h) all laboratory samples are submitted to and tested by a laboratory with current NATA accreditation for the parameters being measured unless indicated otherwise in the relevant table.

3.1.2 The Licensee shall ensure that :

(a) monthly monitoring is undertaken at least 15 days apart;
(b) quarterly monitoring is undertaken at least 45 days apart;
(c) six monthly monitoring is undertaken at least 5 months apart; and
(d) annual monitoring is undertaken at least 9 months apart.

3.1.3 The Licensee shall ensure that all monitoring equipment used on the Premises to comply with the conditions of this Licence is calibrated in accordance with the manufacturer's specifications.

3.1.4 The Licensee shall, where the requirements for calibration cannot be practicably met, or a discrepancy exists in the interpretation of the requirements, bring these issues to the attention of the CEO accompanied with a report comprising details of any modifications to the methods.

3.2 Monitoring of point source emissions to surface water

3.2.1 The Licensee shall undertake the monitoring in Table 3.2.1 according to the specifications in Table 3.2.1.

Table 3.2.1: Monitoring of point source emissions to surface water

Emission point reference and location on Map of monitoring locations	Parameter	Units	Frequency
Weir (when flowing); OR Sedimentation Basin (SB2) when Weir is not flowing.	Volumetric flow	m^3	Monthly
	pH[1]		
	Dissolved Oxygen[1]	mg/L	
	Oxidation / Reduction Potential[1]	mV	
	Electrical Conductivity[1]	µS/cm	
	Total Nitrogen; Total Phosphorus; Nitrate-Nitrogen; Nitrite-Nitrogen; Ammonia-Nitrogen; 5-Day Biochemical Oxygen Demand; Total Suspended Solids; Phosphate Total Dissolved Solids; Potassium; Fluoride; Chloride; Sulfate Lead; Manganese; Copper; Chromium; Nickel; Zinc; Cadmium; Aluminium; Arsenic; Total Iron; Mercury	mg/L	
	Cyanide (amendable and total) Polycyclic aromatic hydrocarbons (total) Total recoverable hydrocarbons (petroleum hydrocarbons)	mg/L	
	Total Nitrogen; Total Phosphorus	kg/day	
	Escherichia coli	cfu/100 mL	
Weir (when flowing); OR Sedimentation Basin (SB2) if Weir has not been flowing during any of the months specified[2].	Surfactants; Pesticides; Oil and Grease; Total Residual Chlorine;	mg/L	Annual (in February, March or April)

Note 1: In-field non-NATA accredited analysis permitted.
Note 2: Preference is to be given to sampling the Weir instead of the Sedimentation Basin (SB2) whenever possible.

3.3 Monitoring of inputs and outputs

3.3.1 The Licensee shall undertake the monitoring in Table 3.3.1 according to the specifications in Table 3.3.1.

Table 3.3.1 Monitoring of inputs and outputs				
Input/ Output	**Parameter**	**Units**	**Averaging Period**	**Frequency**
Waste Inputs	Clean Fill; Inert Waste Type 1; Inert Waste Type 2; Putrescible Waste; Type 1 Special Waste; Type 2 Special Waste; Quarantine Waste; Hazardous Materials and other wastes	tonnes (where a weighbridge is present on the site) m^3 where no weighbridge is present	N/A	Each load arriving at the Premises
Waste Outputs	Waste type as defined in the Landfill Waste Classification and Waste Definitions 1996			Each load leaving or rejected from the Premises
Contaminated waste	Contaminated waste	Tonnes (with weighbridge)	N/A	Each load arriving at the Premises

3.4 Process monitoring

3.4.1 The Licensee shall undertake the monitoring in Table 3.4.1 according to the specifications in Table 3.4.1.

Table 3.4.1: Process monitoring				
Monitoring point reference and location on Map of monitoring locations	**Process description**	**Parameter**	**Units**	**Frequency**
Leachate Pond (LP2)	Irrigation of leachate within active landfill area from the Leachate Pond	Volume of leachate irrigated	m^3	Whenever irrigating
		pH[1]		Annually (in February, March or April)
		Electrical Conductivity[1]	µS/cm	
		Total Nitrogen; Total Phosphorus; Nitrate-Nitrogen; Nitrite-Nitrogen; Ammonia-Nitrogen; 5-Day Biochemical Oxygen Demand; Total Suspended Solids; Phosphate Total Dissolved Solids; Potassium; Fluoride; Chloride; Sulfate Lead; Manganese; Copper; Chromium; Nickel; Zinc; Cadmium; Aluminium; Arsenic; Total Iron; Mercury	mg/L	
		Escherichia coli	cfu/100 mL	

Note 1: In-field non-NATA accredited analysis permitted.

3.5 Ambient environmental quality monitoring

3.5.1 The Licensee shall undertake the monitoring in Table 3.5.1 according to the specifications in Table 3.5.1.

Table 3.5.1: Monitoring of ambient groundwater quality				
Monitoring point reference and location on Map of monitoring locations	**Parameter**	**Units**	**Averaging period**	**Frequency**
Monitoring bores 1A, 2A, 3A, 4A, 5A, 5B, BH6A, BH7A, BH8A, BH9A, BH10A, BH11A, BH12A, BH13A, BH6B, BH7B, BH8B, BH10B, BH10B, BH12B and BH13B.	pH[1]		Spot sample	Quarterly
	Dissolved Oxygen[1]	mg/L		
	Oxidation / Reduction Potential[1]	mV		
	Electrical Conductivity[1]	µS/cm		
	Standing water level	mAHD & mBGL		
	Cyanide (amendable and total)	mg/L		
	Polycyclic Aromatic Hydrocarbons; BTEX	mg/L	Spot sample	Annually
Monitoring bores 1A, 2A, 3A, 4A, 5A, 5B, BH6A, BH7A, BH8A, BH9A, BH10A, BH11A, BH12A, and BH13A	Total Nitrogen; Total Phosphorus; Nitrate-Nitrogen; Nitrite-Nitrogen; Ammonia-Nitrogen; 5-Day Biochemical Oxygen Demand; Phosphate. Total Dissolved Solids; Potassium; Fluoride; Chloride; Sulfate Lead; Manganese; Copper; Chromium; Nickel; Zinc; Cadmium; Aluminium; Arsenic; Total Iron; Mercury	mg/L	Spot sample	Quarterly
	Cyanide (amendable and total)			
	Escherichia coli	cfu/100 mL		
Monitoring bores BH6B, BH7B, BH8B, BH10B, BH11B, BH12B and BH13B.	Total Nitrogen; Total Phosphorus; Nitrate-Nitrogen; Nitrite-Nitrogen; Ammonia-Nitrogen; 5-Day Biochemical Oxygen Demand; Phosphate Total Dissolved Solids; Potassium; Fluoride; Chloride; Sulfate Lead; Manganese; Copper; Chromium; Nickel; Zinc; Cadmium; Aluminium; Arsenic; Total Iron; Mercury	mg/L	Spot sample	Six monthly
	Cyanide (amendable and total)			
	Escherichia coli	cfu/100 mL		

Note 1: In-field non-NATA accredited analysis permitted.

4 Improvements

4.1 Improvement program

4.1.1 The Licensee shall complete the improvements in Table 4.1.1 by the date of completion in Table 4.1.1.

4.1.2 The Licensee, for improvements not specifically requiring a written submission, shall write to the CEO stating whether and how the Licensee is compliant with the improvement within one week of the completion date specified in Table 4.1.1.

Table 4.1.1: Improvement program		
Improvement reference	**Improvement**	**Date of completion**
IR1	The Licensee shall, following completion of stage 3 upgrade works, prepare and submit a report that assesses the effectiveness of the stormwater and leachate management system on site. The report shall be prepared by a qualified and experienced professional and shall include, but not be limited to, the following: (a) evidence of the qualifications and experience of the person(s) who prepared the report; (b) a review and discussion of environmental monitoring prior to and post upgrades in terms of the effectiveness of the implementation of all stages to achieve their objectives; (c) an assessment of the size and design of the leachate pond in terms of its ability to retain leachate expression on site without the need for ongoing irrigation; (d) an assessment of the design of the stormwater basin/s in terms of ability to remove sediment prior to discharge; and (e) the identification of any measures required to further prevent contaminated drainage and leachate discharging into the environment, with proposals and timescales for implementing them.	31 January 2017
IR2	The Licensee shall, once all contaminated waste has been removed from the bioremediation facility undertake an assessment to determine the extent of any contamination of the bioremediation facility and material beneath and adjacent to the bioremediation facility.	Within 2 months of all contaminated waste being removed from the bioremediation facility.
IR3	The Licensee shall, following the completion of IR2, submit a report to the CEO that includes: (a) the sampling and testing undertaken to assess the extent of contamination of the bioremediation facility and material beneath and adjacent to the bioremediation facility; (b) all sampling and testing locations and results; (c) an assessment of the risk to the environment and public health from any contamination of the bioremediation facility and material beneath and adjacent to the bioremediation facility; and (d) the actions, that will be implemented to manage any contamination of the bioremediation facility and material beneath and adjacent to the bioremediation facility, including timescales for implementation of the actions.	Within 2 months following the completion of IR2.

5 Information

5.1 Records

5.1.1 All information and records required by the Licence shall:
(a) be legible;
(b) if amended, be amended in such a way that the original and subsequent amendments remain legible or are capable of retrieval;
(c) except for records listed in 5.1.1(d) be retained for at least 6 years from the date the records were made or until the expiry of the Licence or any subsequent licence; and

(d) for those following records, be retained until the expiry of the Licence and any subsequent licence:
(i) off-site environmental effects; or
(ii) matters which affect the condition of the land or waters.

5.1.2 The Licensee shall complete an Annual Audit Compliance Report indicating the extent to which the Licensee has complied with the conditions of the Licence, and any previous licence issued under Part V of the Act for the Premises for the previous annual period.

5.1.3 The Licensee shall implement a complaints management system that as a minimum records the number and details of complaints received concerning the environmental impact of the activities undertaken at the Premises and any action taken in response to the complaint.

5.1.4 The Licensee shall maintain a register of Special Waste Type 1 and Special Waste Type 2 disposed of at the Premises which shall include a plan showing the position of Special Waste Type 1 and Special Waste Type 2 disposed of at the Premises.

5.2 Reporting

5.2.1 The Licensee shall submit to the CEO an Annual Environmental Report within 31 calendar days after the end of the annual period. The report shall contain the information listed in Table 5.2.1 in the format or form specified in that table.

Table 5.2.1: Annual environmental report

Condition or table (if relevant)	Parameter	Format or form[1]
-	Summary of any failure or malfunction of any pollution control equipment or any incidents that have occurred during the annual period and any action taken	None specified
Table 3.3.1	Summary of all monitoring data for point source emissions to surface water which shall include: a) data in a table format for the annual period; b) data in graphical format for trend analysis to include at least the last four years data where available; and c) an assessment of point source emission to surface water monitoring data for the risk of emissions.	None specified
Table 3.6.1	Summary of all inputs and outputs monitoring data which shall include: a) data in a table format for the annual period; and b) comment on annual input and output volumetric trends.	None specified
Table 3.7.1	Summary of all monitoring data for process monitoring (leachate pond) which shall include: a) data in a table format for the annual period; b) data in graphical format for trend analysis to include at least the last four years data where available; and c) an assessment of process monitoring data trends.	None specified
Table 3.8.1	Summary of all monitoring data for ambient groundwater quality which shall include: a) data in a table format for the annual period; b) data in graphical format for trend analysis to include at least the last four years data where available; and c) an assessment of ambient groundwater quality monitoring data for the risk of emissions.	None specified
5.1.3	Compliance	AACR
5.1.4	Complaints summary for annual period	None specified

Note 1: Forms are in Schedule 2

5.2.2 The Licensee shall ensure that the Annual Environmental Report also contains:
(a) an assessment of the information contained within the report against previous monitoring results and Licence limits; and
(b) an assessment of the information contained within the report against applicable standards and/or guidelines.

5.3 Notification

5.3.1 The Licensee shall ensure that the parameters listed in Table 5.3.1 are notified to the CEO in accordance with the notification requirements of the table.

Table 5.3.1: Notification requirements

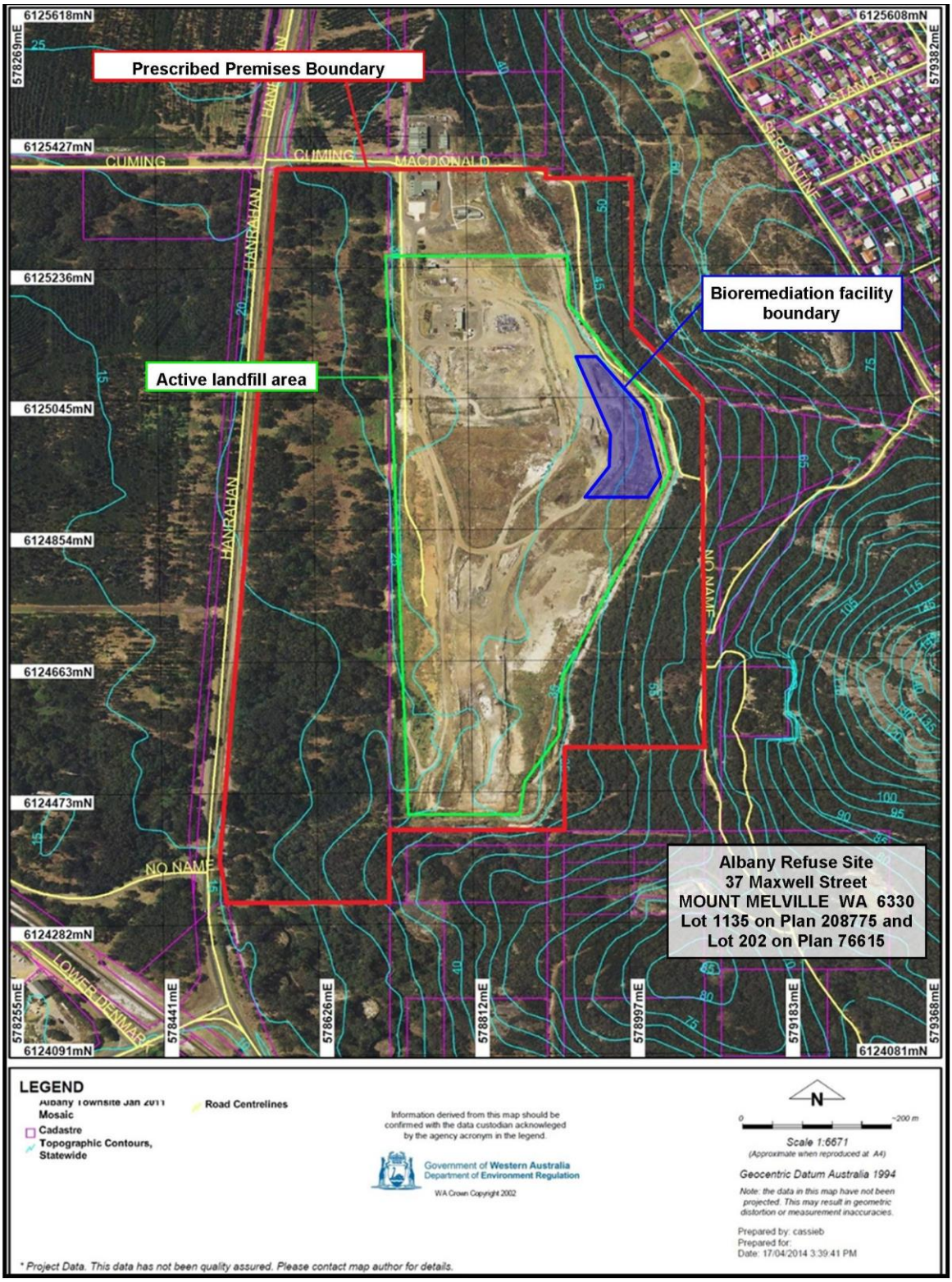
Condition or table (if relevant)	Parameter	Notification requirement	Format or form[1]
1.3.8	The date, time, cause and location of any unauthorised fires on the premises	Within 14 days of the fire	In writing
Condition 2.1.1	Breach of any limit specified in the Licence	Part A: As soon as practicable but no later than 5PM of the next usual working day. Part B: As soon as practicable	N1
3.1.4	Calibration report	As soon as practicable.	None specified

Note 1: Forms are in Schedule 2

Schedule 1: Maps

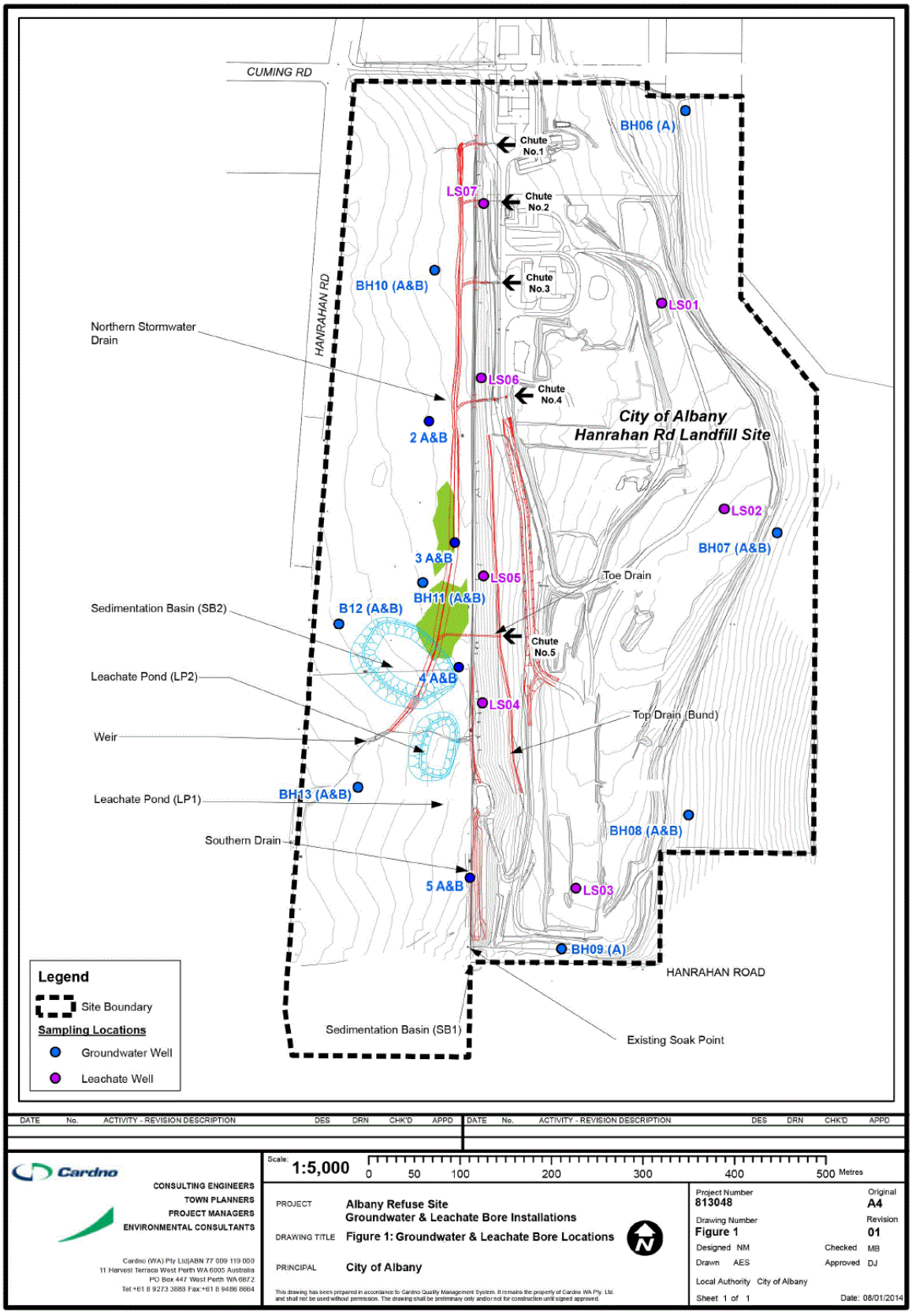
Premises map

The Premises is shown in the map below. The red line depicts the Premises boundary. The green line depicts the active landfill area. The blue line depicts the bioremediation facility.



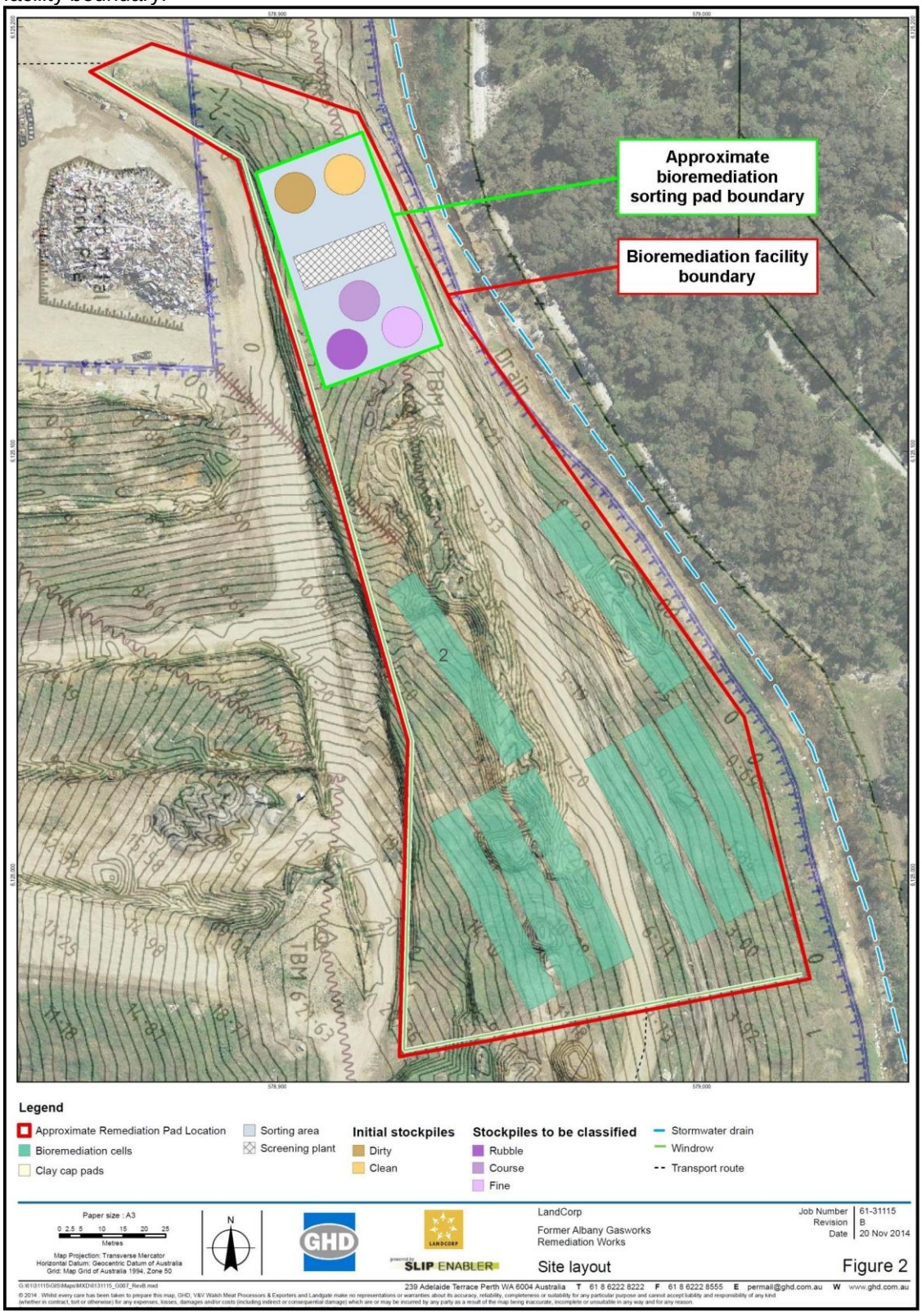
Map of monitoring locations

The locations of the monitoring points defined in Tables 3.2.1, 3.4.1 and 3.5.1 are shown below.



Bioremediation facility map

The bioremediation facility is shown in the map below. The red line depicts the bioremediation facility boundary.



Schedule 2: Reporting & notification forms

These forms are provided for the proponent to report monitoring and other data required by the Licence. They can be requested in an electronic format.

ANNUAL AUDIT COMPLIANCE REPORT PROFORMA

SECTION A

LICENCE DETAILS

Licence Number:	Licence File Number:
Company Name: Trading as:	ABN:
Reporting period: _____ to _____	

STATEMENT OF COMPLIANCE WITH LICENCE CONDITIONS

1. Were all conditions of the Licence complied with within the reporting period? (please tick the appropriate box)

Yes ☐ Please proceed to Section C

No ☐ Please proceed to Section B

Each page must be initialled by the person(s) who signs Section C of this Annual Audit Compliance Report (AACR).

Initial:

SECTION B

DETAILS OF NON-COMPLIANCE WITH LICENCE CONDITION.

Please use a separate page for each Licence condition that was not complied with.

a) Licence condition not complied with:	
b) Date(s) when the non compliance occurred, if applicable:	
c) Was this non compliance reported to DER?:	
☐ Yes ☐ Reported to DER verbally Date _____ ☐ Reported to DER in writing Date _____	☐ No
d) Has DER taken, or finalised any action in relation to the non compliance?:	
e) Summary of particulars of the non compliance, and what was the environmental impact:	
f) If relevant, the precise location where the non compliance occurred (attach map or diagram):	
g) Cause of non compliance:	
h) Action taken, or that will be taken to mitigate any adverse effects of the non compliance:	
i) Action taken or that will be taken to prevent recurrence of the non compliance:	

Each page must be initialled by the person(s) who signs Section C of this AACR

Initial:

SECTION C

SIGNATURE AND CERTIFICATION

This Annual Audit Compliance Report (AACR) may only be signed by a person(s) with legal authority to sign it. The ways in which the AACR must be signed and certified, and the people who may sign the statement, are set out below.

Please tick the box next to the category that describes how this AACR is being signed. If you are uncertain about who is entitled to sign or which category to tick, please contact the licensing officer for your premises.

If the licence holder is		The Annual Audit Compliance Report must be signed and certified:
An individual	□	by the individual licence holder, or
	□	by a person approved in writing by the Chief Executive Officer of the Department of Environment Regulation to sign on the Licensee's behalf.
A firm or other unincorporated company	□	by the principal executive officer of the Licensee; or
	□	by a person with authority to sign on the Licensee's behalf who is approved in writing by the Chief Executive Officer of the Department of Environment Regulation.
A corporation	□	by affixing the common seal of the Licensee in accordance with the *Corporations Act 2001*; or
	□	by two directors of the Licensee; or
	□	by a director and a company secretary of the Licensee, or
	□	if the Licensee is a proprietary company that has a sole director who is also the sole company secretary – by that director, or
	□	by the principal executive officer of the Licensee; or
	□	by a person with authority to sign on the Licensee's behalf who is approved in writing by the Chief Executive Officer of the Department of Environment Regulation.
A public authority (other than a local government)	□	by the principal executive officer of the Licensee; or
	□	by a person with authority to sign on the Licensee's behalf who is approved in writing by the Chief Executive Officer of the Department of Environment Regulation.
a local government	□	by the chief executive officer of the Licensee; or
	□	by affixing the seal of the local government.

It is an offence under section 112 of the *Environmental Protection Act 1986* for a person to give information on this form that to their knowledge is false or misleading in a material particular. There is a maximum penalty of $50,000 for an individual or body corporate.

I/We declare that the information in this annual audit compliance report is correct and not false or misleading in a material particular.

SIGNATURE: _____

NAME:
(printed) _____

POSITION: _____

DATE: _____/_____/_____

SIGNATURE: _____

NAME:
(printed) _____

POSITION: _____

DATE: _____/_____/_____

SEAL (if signing under seal)

Licence: L6925/1997/9 Licensee: City of Albany
Form: N1 Date of breach:

These pages outline the information that the operator must provide.
Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

Part A

Licence Number	
Name of operator	
Location of Premises	
Time and date of the detection	

Notification requirements for the breach of a limit	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value	
Date and time of monitoring	
Measures taken, or intended to be taken, to stop the emission	

Part B

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident.	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission.	
The dates of any previous N1 notifications for the Premises in the preceding 24 months.	

Name	
Post	
Signature on behalf of City of Albany	
Date	

Government of Western Australia
Department of Environment Regulation

Decision Document

Environmental Protection Act 1986, Part V

Licensee: City of Albany

Licence: L6925/1997/9

Registered office: 102 North Road
ALBANY WA 6330

Premises address: Albany Refuse Site
37 Maxwell Street
MOUNT MELVILLE WA 6330
Being Lot 1135 on Plan 208775 and Lot 202 on Plan 76615 as depicted in Schedule 1.

Issue date: Thursday, 23 May 2013

Commencement date: Monday, 3 June 2013

Expiry date: Saturday, 2 June 2018

Decision

Based on the assessment detailed in this document the Department of Environment Regulation (the DER), has decided to issue an amended licence. The DER considers that in reaching this decision, it has taken into account all relevant considerations and legal requirements and that the Licence and its conditions will ensure that an appropriate level of environmental protection is provided.

Decision Document prepared by: Peter van Schoubroeck
Licensing Officer

Decision Document authorised by: Caron Goodbourn
Delegated Officer

Contents

1 Purpose of this Document

This decision document explains how the DER has assessed and determined the application and provides a record of DER's decision-making process and how relevant factors have been taken into account. Stakeholders should note that this document is limited to DER's assessment and decision making under Part V of the *Environmental Protection Act 1986*. Other approvals may be required for the proposal, and it is the proponent's responsibility to ensure they have all relevant approvals for their Premises.

2 Administrative summary

Administrative details		
Application type	Works Approval ☐ New Licence ☐ Licence amendment ☒ Works Approval amendment ☐	
Activities that cause the premises to become prescribed premises	**Category number(s)**	**Assessed design capacity**
	62	30 050 tonnes per annual period
	64	100 000 tonnes per annual period
Application verified Application fee paid	Date: N/A Date: N/A	
Works Approval has been complied with Compliance Certificate received	Yes ☐ No ☐ N/A ☒ Yes ☐ No ☐ N/A ☒	
Commercial-in-confidence claim	Yes ☐ No ☒	
Commercial-in-confidence claim outcome	None applicable	
Is the proposal a Major Resource Project?	Yes ☐ No ☒	
Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the *Environmental Protection Act 1986*?	Yes ☐ No ☒	Referral decision No: Managed under Part V ☐ Assessed under Part IV ☐
Is the proposal subject to Ministerial Conditions?	Yes ☐ No ☒	Ministerial statement No: EPA Report No:
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the *Environmental Protection Act 1986*)?	Yes ☐ No ☒ Department of Water consulted Yes ☐ No ☒	
Is the Premises within an Environmental Protection Policy (EPP) Area Yes ☐ No ☒		
Is the Premises subject to any EPP requirements? Yes ☐ No ☒		

Executive summary of proposal and assessment

The Albany Refuse Site (ARS) is a Class II unlined landfill located adjacent Hanrahan Road about two kilometres from the Albany city centre and one kilometre from Princess Royal Harbour. The ARS has been operating for almost 40 years and approximately 70% of the 31 hectare site has been used for landfilling. Landfilling occurs through the centre of the site and a resource recovery area and reuse shop are located to the north at the entry to the site. Sustainable waste management activities carried out at the entry and located directly north of the ARS is the Materials Recycling Facility.

The ARS:

- is orientated in a north-south direction along the western flanks of Mount Melville, covering about one kilometre in length;
- hydraulic gradient runs generally north-east to south-west;
- stormwater flows into the Munster Hill drain and from there into Princess Royal Harbour;
- sensitive receptors are identified as:
  - residences located approximately 300 metres north east;
  - surface water flows into the Munster Hill drainage system;
  - groundwater, estimated to be <15 metres below ground level at the bioremediation facility proposal site; and
  - Princess Royal Harbour, located approximately 800 metre south.

Works Approval W5797/2015/1 was granted on 27 February 2015 authorising the Licensee to construct a temporary storage, bioremediation and immobilisation facility for the subsequent disposal of contaminated material (waste) excavated from the former Albany Gasworks and Cannery (AGC). Licence L6925/1997/9 was amended for the operation of the works on 16 March 2015.

The supporting information submitted for works approval W5797/2015/1, indicated that a large portion of the contaminated waste was classified as Class III and some as Class IV waste. The data indicated that hydrocarbons contributed to the bulk of the contamination. Subsequent to the operations commencing contaminated waste from the AGC was relocated to the bioremediation facility at the Albany Refuse Site. Testing results from the screened and stockpiled contaminated waste provided to DER on the 15 June 2015 indicates that the majority of the material is classified as Class III waste based on leachability results with lead being the significant contaminant. Cyanide and Polyaromatic Hydrocarbons (PAH) were also detected at higher levels than anticipated. Table 1 Summaries the new data.

Table 1: Available contaminated waste stockpile summary of lead monitoring data:

Stockpile number	Contaminant Threshold classification	Leachable Concentration ASLP classification
1, 2 and 3	Class III	Class I
4 and 12	Class IV	Class I
9, 10 and 11	Class IV	Class III
5, 6, 7 and 8	Class V	Class III

Bioremediation and immobilisation of the contaminated waste is no longer proposed to take place.

This DER initiated amendment to Licence L6925/1997/9 is to:

- Remove the authorisation to accept, store, process and bioremediate or immobilise Class III and above contaminated waste and the associated monitoring requirements;
- Include additional groundwater ambient environmental monitoring requirements in response to the potential risk posed by contaminants identified in the contaminated waste;
- Include a requirement to assess and report on the environmental risk of any contamination of the bioremediation facility and material beneath it;
- Remove the reporting requirements with regards to the contaminated waste management process;
- Increase the storage limit for the solid waste depot activities until the fate of the contaminated waste is resolved; and
- Update licence conditions and formatting.

4 Decision table

All applications are assessed in line with the *Environmental Protection Act 1986*, the *Environmental Protection Regulations 1987*, and the DER Operational Procedure on Assessing Emissions and Discharges from Prescribed Premises. Where other references have been used in making the decision they are detailed in the decision document.

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
Interpretation and general conditions	L1.2.1-1.2.4	Amendment to licence conditions on the previous licence include: • Condition 1.1.2: amended to update contact details and remove definitions for terms not in the amended licence. • Condition 1.1.5: deleted; the provision was not a condition, it provided an explanatory statement that attempted to clarify the operation of a licence. • Condition 1.2.1: deleted; the condition is considered redundant. • Conditions 1.2.2 and 1.2.3: removed as the storage and remediation of spills of relevant materials can be effectively regulated by the general provisions of the *Environmental Protection Act 1986* and the *Environmental Protection (Unauthorised Discharges) Regulations 2004*. • Condition 1.2.4: deleted; the condition is considered redundant. The management of stormwater and leachate at the Premises are currently subject to improvements under Works Approval W5543/2013/1 (issued 9/01/2014) as indicated by the construction concept plans in Appendix A. • Condition 1.2.5: deleted, the condition is not necessary, the prescribed premise boundary is adequately defined by the Licence.	*Environmental Protection (Unauthorised Discharges) Regulations 2004* General provisions of the *Environmental Protection Act 1986*
Premises operation	L1.2.2; 1.2.4; and 1.2.14-1.2.15	**Operation** Assessment and decision making are detailed in Appendix B. Amendment to licence conditions on the previous licence include: • All conditions with the previous licence condition section 1.3 amended to 1.2; • Condition 1.2.2: amended to remove contaminated waste acceptance limit, no additional contaminated waste is to be accepted to the Premises. • Condition 1.2.4: amended to remove contaminated waste processing controls.	General provisions of the *Environmental Protection Act 1986* GHD 2014, *LandCorp bioremediation of contaminated soil supporting information for works approval*, Perth,

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
		Bioremediation and/ or immobilisation are no longer approved. • Conditions 1.2.14, 1.2.15 and 1.2.16 which covered contaminated waste operational controls have been removed and are no longer approved.	Western Australia
Emissions (general)	L2.1.1	**Operation** Amendment to licence conditions on the previous licence include: • Condition 2.1.1: amended to remove the reference to targets, no targets are contained within section 2 of the amended licence. • Section 2.2 removed as there are no conditions relevant to point source emissions to air. • Section 2.4 has been removed as there are no conditions relevant to point source emissions to groundwater.	General provisions of the *Environmental Protection Act 1986*
Emissions (point source emissions)	L2.2.3	**Operation** Amendment to licence conditions on the previous licence include: • Condition 2.2.3: has been removed. Condition 2.2.2 regulates emissions of nitrogen to surface water through emission limits. Regulation through emission targets in addition to limits is no longer considered necessary. Targets relating to nitrogen and phosphorous have been removed. Phosphorous is not considered to be a contaminant of significant concern from the Premises. Condition 3.2.1 requires monitoring of phosphorous in surface water emissions to identify any changing trends in the phosphorous loading of the emissions.	General provisions of the *Environmental Protection Act 1986*
Emissions (dust)	N/A	**Operation** DER's assessment and decision making are detailed in Appendix B. Amendment to licence conditions on the previous licence include: • Conditions 2.6.1 - 2.6.3 have been removed. It is considered that the provisions of Section 49 of the *Environmental Protection Act 1986* are sufficient to regulate fugitive dust emissions.	General provisions of the *Environmental Protection Act 1986* GHD 2014, *LandCorp bioremediation of contaminated soil supporting information for works approval*, Perth, Western Australia

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
Emissions (odour)	N/A	**Operation** Odour represents a moderate risk to the environment as demonstrated by the risk assessment below. Emission Description The acceptance, movement and disposal of putrescible waste can generate considerable odour. The nearest residential receptor to the landfill area is 400 metres away. There are no odour complaints on record. Risk Assessment *Likelihood:* Possible *Consequence:* Minor *Risk rating:* Moderate Regulatory Controls It is considered that the provisions of Section 49 of the *Environmental Protection Act 1986* are sufficient to regulate odour emissions. Condition 2.7.1 has therefore been removed from the licence. Residual Risk *Likelihood:* Possible *Consequence:* Minor *Risk rating:* Moderate	General provisions of the *Environmental Protection Act 1986*

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
Monitoring (point source emissions)	L3.2.1	**Operation** Amendment to licence conditions on the previous licence include: • Section 3.2 has been removed as there are no point source emissions to air that require monitoring. • Section 3.3 has been removed as there are no point source emissions to groundwater that require monitoring. • Section 3.4 has been removed as there are no emissions to land that require monitoring. • Condition 3.3.1 (now 3.2.1): amended to include additional monitoring parameters at the stormwater management system sedimentation basin and discharge weir based on the risk of discharge of contaminated waste at the Premises. Additional parameters to be monitored on a monthly basis include cyanides, polycyclic aromatic hydrocarbons and total recoverable hydrocarbons (previously based on an annual monitoring frequency).	General provisions of the *Environmental Protection Act 1986*
Monitoring (process)	L3.4.1	**Operation** Amendment to licence conditions on the previous licence include: • Condition 3.7.1 (now 3.4.1): Table 3.7.2 has been removed; it is no longer relevant to the storage of contaminated waste.	General provisions of the *Environmental Protection Act 1986*
Monitoring (ambient environmental quality)	L3.5.1	**Operation** Amendment to licence conditions on the previous licence include: • Condition 3.8.1 (now 3.5.1): amended to include additional monitoring parameter, cyanide, for all groundwater monitoring bores. • Section 3.6 has been removed as no conditions relating to meteorological monitoring are required. Elevated levels of cyanide have been detected in the contaminated waste on the bioremediation facility. Cyanide has therefore been added to the groundwater monitoring parameters to identify if any impacts have occurred as a result of the contaminated waste being deposited at the Premises.	General provisions of the *Environmental Protection Act 1986*

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
Improvements	L4.1.1	**Operation** Amendment to licence conditions on the previous licence include: • Condition 4.1.1: improvement reference IR2/IR3 has been included. These conditions have been added to ensure that the extent of any potential contamination of the bioremediation facility and material adjacent to and beneath the bioremediation facility as a result of contaminated waste storage is assessed and that actions to manage any contamination are implemented to minimise risks to the environment.	General provisions of the *Environmental Protection Act 1986*
Information	L5.2.3	**Operation** Amendment to licence conditions on the previous licence include: • Condition 5.2.3: (BFR1) amendment to remove reporting requirements, these are no longer relevant. • Condition 5.2.3: (BFR2) amended to remove reporting requirements, these are no longer relevant. • Condition 5.3.1: amendment to remove notification requirements covered by the general provisions of the *Environmental Protection Act 1986*.	General provisions of the *Environmental Protection Act 1986*
Licence Duration	N/A	No changes to the licence duration have been made or are required as part of this amendment process.	N/A

5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
06/11/2015	Proponent sent a copy of draft instrument	• Agreement on additional administrative changes to referred draft licence version. • Request for amendment of term Total Residual Chloride to Total Residual Chlorine.	• Additional administrative changes made. • Term change, administrative error.
12/12/2015	Amended instrument was advertised in West Australian		

6 Risk Assessment

Note: This matrix is taken from the DER Corporate Policy Statement No. 07 - Operational Risk Management

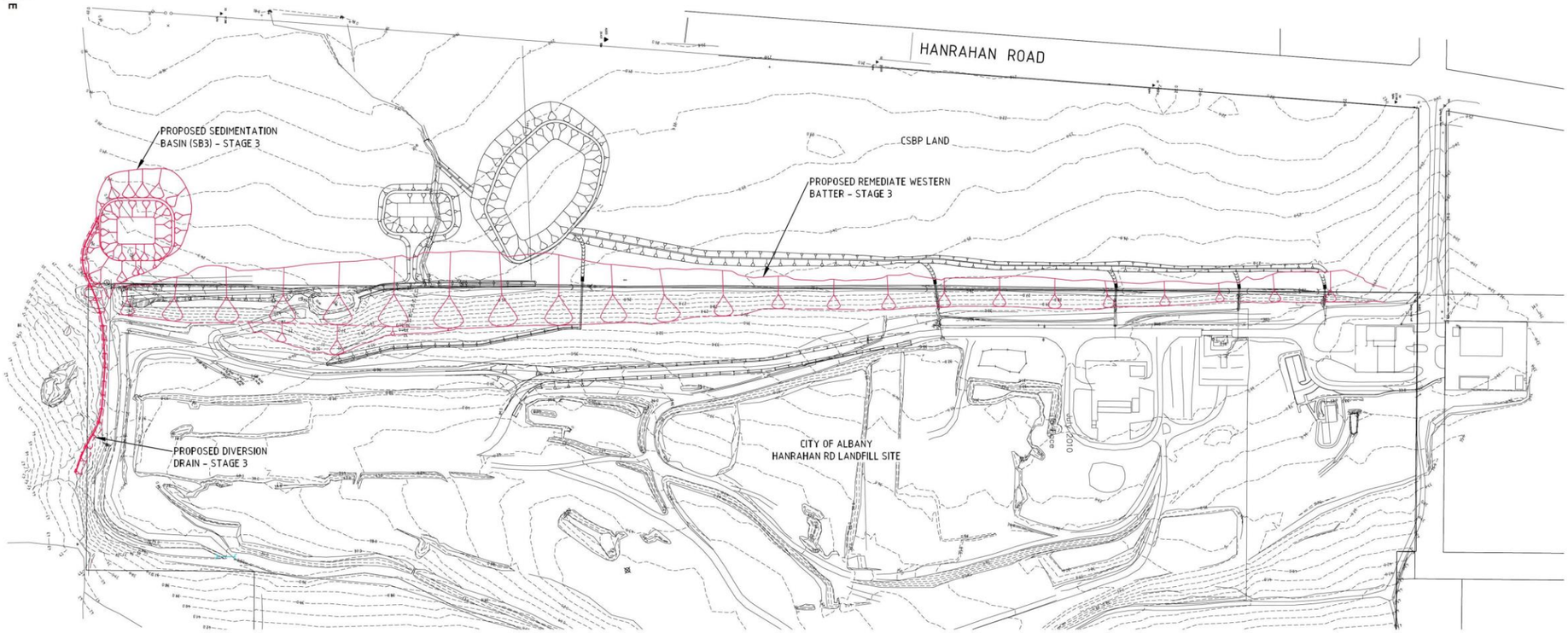
Table 1: Emissions Risk Matrix

Likelihood	Consequence				
	Insignificant	Minor	Moderate	Major	Severe
Almost Certain	Moderate	High	High	Extreme	Extreme
Likely	Moderate	Moderate	High	High	Extreme
Possible	Low	Moderate	Moderate	High	Extreme
Unlikely	Low	Moderate	Moderate	Moderate	High
Rare	Low	Low	Moderate	Moderate	High

Appendix A

Stage 3 concept design for Works Approval W5543/2013/1 (issued 9/01/2014). The red line indicates the additional works being undertaken to help control leachate and stormwater at the Premises.

CITY OF ALBANY
HANRAHAN ROAD REFUSE SITE
LEACHATE & DRAINAGE UPGRADE WORKS - STAGE 3



LEGEND

STAGE 3 WORKS

1:1500 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

Rev	Date	Description	Drawn	Appr.
A	07.06.2013	INITIAL ISSUE	JYY	

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Drawn	BM	Date 11.03.2011
Designed	BM	Date 11.03.2011
Checked	PSN	Date 17.02.2011
Reviewed	NTT	Date 17.09.2012
Approved	NTT	Date 17.09.2012

Client: CITY OF ALBANY
Project: HANRAHAN ROAD REFUSE SITE, ALBANY
LEACHATE & DRAINAGE UPGRADE WORKS
Title: TEMPORARY LEACHATE MANAGEMENT MEASURES
LAYOUT PLAN – STAGE 3
Status: TENDER ISSUE
Date 29.03.2011 | Datum A.H.D. | Scale AS SHOWN | Size A1
Drawing Number: E12021-ST3-50
Revision: A

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150mm ON A1 ORIGINAL

Appendix B

The Albany Refuse Site bioremediation facility was authorised to operate in accordance with information submitted by the proponent in support of works approval (W5797/2015/1). The supporting documentation indicated that a large portion of the contaminated waste from the Albany Gas Works and Cannery was classified as Class III and some as Class IV waste. The data indicated that hydrocarbons contributed to the bulk of the contamination. Subsequent to the operations commencing all contaminated waste from the AGC was relocated to the bioremediation facility at Albany Refuse Site. Testing results from the screened and stockpiled contaminated waste provided to DER on the 15 June 2015 indicate that the majority of the material is classified as Class III based on leachability results with lead being the significant contaminant.

Subsequently, following a site visit on 19 June 2015 with City of Albany representatives DER understands that:

- Bioremediation is no longer proposed to take place.
- A contaminated waste immobilisation processed was initially planned as a contingency measure in the event that waste could not be bioremediated to Class II waste acceptance criteria however, specifications on how immobilisation would be undertaken were limited (including concrete batching ration, unit size and expected leachable concentration results from the immobilised waste).
- All stockpiled contaminated waste was until recently uncovered.
- Until recently of the approximately twenty four contaminated waste stockpiles only twelve screened stockpiles are known to have received laboratory results. The stockpiles that were awaiting laboratory results were until recently not covered by a HDPE liner.
- Asbestos contamination has been found in some of the contaminated waste.
- The integrity of the bioremediation facility stormwater and leachate retention pond HDPE liner was not, until recently, maintained to contain all leachate.

The asbestos and lead contamination, together with the elevated cyanide in the contaminated waste was unanticipated and, together with a lack of adequate monitoring results for all contaminated waste, creates uncertainty regarding the contaminant levels within the waste and the effectiveness of the management controls put in place by the Licensee. The failure to cover the waste with a HDPE liner and maintain the HDPE liner in the bioremediation sorting area stormwater and leachate retention pond has increased the risk of unanticipated emissions from the Premises. Subsequently DER has reassessed the emission risk for the storage of the contaminated waste.

Emission Risk Assessment – Operations (Dust)

Emission Description

Emission: Dust emissions arising from the stockpiled contaminated waste which contain lead, asbestos and other contaminants. Lead Contaminant Threshold levels in the stockpiles which have results provide to DER ranged as follows: stockpiles 1-3 (<5-17 mg/kg); stockpiles 4 and 12 (20-82 mg/kg); stockpiles 9-11 (22-180 mg/kg); and stockpiles 5-8 (56 -1600 mg/kg). Based on these results, total lead concentrations are Class IV and Class V. Asbestos contamination is known to have occurred within the contaminated waste stockpiles. From a human health risk perspective DER notes that the concentrations of lead in most samples are below the health-based investigation levels for lead in soil at residential sites – 300mg/kg, as published in the National Environment Protection (Assessment of Site Contamination) Measure, however, no monitoring results have been provided to verify the level of contamination.

Impact: Potential reduction in local air quality and impact on the health and amenity of persons on and adjacent to the ARS. The nearest residences are located about 300 metres north east. Prevailing winds in the afternoons, when stockpiles are likely to be driest, are from the west, south west and around to the southeast. Dust may also contain contaminants that enter stormwater drains.

Controls: The licence required the bioremediation facility to be operated in accordance with the works approval supporting documentation. However, no HDPE covers were sighted on any contaminated waste stockpiles on the 19 June 2015. At this time a spray had been applied to the surface of the stockpiles to form a crust; fauna ingress had compromised the crust at the time of visiting the site. The Licensee has subsequently undertaken measures to ensure:

- All contaminated waste is completely covered by a HDPE liner to prevent any emissions of dust leachate, liquid or solid waste.
- All water originating from the bioremediation facility is appropriately managed subject to the level of contamination within the waste.
- The HDPE liner for the bioremediation facility stormwater and leachate pond has been reinstated.

Risk Assessment
Consequence: Moderate
Likelihood: Possible
Risk Rating: Moderate

Regulatory Controls
Acceptance and processing of the contaminated waste are no longer approved under the Licence.

This Licence amendment:

- Amends condition 1.3.4 to remove all conditions relevant to the processing and operational controls for the contaminated waste.
- Removes conditions 2.6.1- 2.6.3; it is considered that the provisions of Section 49 of the *Environmental Protection Act 1986* are sufficient to regulate dust emissions.

Residual Risk
Consequence: Moderate
Likelihood: Rare
Risk Rating: Moderate

Emission Risk Assessment – Operations (Leachate)
Emission Description
Emission: Leachate arising from the contaminated waste stockpiles on the temporary bioremediation facility which could contain lead (which bio-accumulates), hydrocarbons, cyanide and other contaminants. Leachate could also enter the environment from the bioremediation facility stormwater and the leachate retention pond HDPE liner not being maintained such that all leachate is contained. The pond was under hydraulic load when sighted on the 19 June 2015.

Impact: Leachate could migrate to groundwater through the in-situ landfill mass and increase the contaminant load (including hydrocarbons, lead and cyanide) within the existing landfill leachate plume which migrates towards Princess Royal Harbour.

Controls: The existing Class II landfill is not lined. A 100 mm clean fill liner for the bioremediation facility was authorised through works approval W5797/2015/1. No low permeability liner was until recently in place to control leachate arising from the uncovered contaminated waste stockpiles.

Risk Assessment
Consequence: Moderate
Likelihood: Possible
Risk Rating: Moderate

Regulatory Controls
Acceptance and processing of the contaminated waste is no longer approved under the Licence.
Residual Risk

Consequence: Moderate
Likelihood: Unlikely
Risk Rating: Moderate

Emission Risk Assessment – Operations (Stormwater)

Emission Description

Emission: Stormwater and wastewater arising within the bioremediation facility may become contaminated from contact with the contaminated waste and from leachate arising from the contaminated waste stockpiles. Currently any stormwater leaving the bioremediation facility would enter the clean stormwater management system at the Premises. The clean stormwater management system is directed to a sedimentation basin prior to discharge to the local drainage line which flows to Princess Royal Harbour.

Impact: Contaminated stormwater may contain suspended solids which could include hydrocarbons, lead, cyanide and other contaminants. Suspended solids could impact water quality and/ or contaminants could have toxic effects on aquatic biota in the local draining line and Princess Royal Harbour. Broader catchment inflows and the receiving environment will have a diluting effect on any contaminants however lead bio-accumulates and ongoing discharges could have impacts.

Controls: All stormwater arising within the bioremediation facility is directed to a stormwater and leachate retention pond. The pond was constructed with HDPE and should have been maintained in accordance with condition 1.3.13(c) of Licence L6925/1997/9. The bioremediation facility stormwater and the leachate retention pond HDPE liner was not being maintained such that all leachate is contained on the 19 June 2015.

Risk Assessment

Consequence: Minor
Likelihood: Unlikely
Risk Rating: Moderate

Regulatory Controls

Acceptance and processing of the contaminated waste is no longer approved under the Licence.

Residual Risk

Consequence: Minor
Likelihood: Rare
Risk Rating: Low