



Licence Number L8904/2015/1

Licence Holder Cleanaway Solid Waste Pty Ltd

ACN 120 175 635

File Number: DER2015/001648-1

Premises Banksia Road Putrescible Landfill
Banksia Road
CROOKED BROOK WA 6236
Being Lot 2 on Plan 65861
Certificate of Title Volume 1670 Folio 568

Date of Amendment 25 June 2019

Amendment

The Chief Executive Officer (CEO) of the Department of Water and Environmental Regulation (DWER) has amended the above Licence in accordance with section 59 of the *Environmental Protection Act 1986* (EP Act), as set out in this Amendment Notice. This Amendment Notice constitutes written notice of the amendment in accordance with section 59B(9) of the EP Act.

Steve Checker

MANAGER WASTE INDUSTRIES

REGULATORY SERVICES

an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA).

Definitions and interpretation

Definitions

In this Amendment Notice, the terms in Table 1 have the meanings defined.

Table 1: Definitions

Term	Definition
ACN	Australian Company Number
Amendment Notice	refers to this document
Application	refers to the licence amendment application and supporting documentation submitted to DWER for the construction of the Cristal Pond and CC2: 'License amendment application – Cleanaway Solid Waste Pty Ltd – Banksia Road Landfill Site' (Golder Associates, 1 December 2017). (refer to Appendix 1: Key Documents for detailed listing)
Category/ Categories/ Cat.	categories of Prescribed Premises as set out in Schedule 1 of the EP Regulations
CC2	Cristal Cell 2, the proposed new cell for Cristal pigment waste to replace the MIC Cell and being assessed through this Amendment Notice.
CEO	means Chief Executive Officer. CEO for the purposes of notification means: Director General Department Administering the <i>Environmental Protection Act 1986</i> Locked Bag 10 JOONDALUP DC WA 6919 info-der@dwer.wa.gov.au
Controlled Waste Regulations	<i>Environmental Protection (Controlled Waste) Regulations 2004 (WA)</i>
Decision Document	means the decision document authorised by a Delegated Officer which accompanied the Existing Licence
Delegated Officer	an officer under section 20 of the EP Act
Department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> and designated as responsible for the administration of Part V, Division 3 of the EP Act.
DWER	Department of Water and Environmental Regulation
EPA	Environmental Protection Authority
EP Act	<i>Environmental Protection Act 1986 (WA)</i>
EP Regulations	<i>Environmental Protection Regulations 1987 (WA)</i>
Existing Licence	The Licence issued under Part V, Division 3 of the EP Act and in force prior to the commencement of and during this Review
Licence Holder	Cleanaway Solid Waste Pty Ltd
m ³	cubic metres
MIC Cell	Refers to the existing cell for Cristal pigment waste constructed under works approval W5096/2012/1 and operated since 2013
Minister	the Minister responsible for the EP Act and associated regulations

Noise Regulations	<i>Environmental Protection (Noise) Regulations 1997 (WA)</i>
Prescribed Premises	has the same meaning given to that term under the EP Act.
Premises	refers to the premises to which this Amendment Notice applies, as specified at the front of this Amendment Notice.
Risk Event	as described in <i>Guidance Statement: Risk Assessment</i>

Amendment Notice

This amendment is made pursuant to section 59 of the *Environmental Protection Act 1986* (EP Act) to amend the Licence issued under the EP Act for a prescribed premises as set out below. This notice of amendment is given under section 59B(9) of the EP Act.

This notice is limited only to an amendment for Category 61, to permit the operation of Cristal Cell 2 (CC2) and the associated leachate pond which have been constructed in accordance with Amendment Notice 2. No changes to the aspects of the original licence relating to Category 64 have been requested by the Licence Holder.

The following guidance statements have informed the decision made on this amendment

- *Guidance Statement: Regulatory Principles* (July 2015)
- *Guidance Statement: Setting Conditions* (October 2015)
- *Guidance Statement: Land Use Planning* (February 2017)
- *Guidance Statement: Licence Duration* (August 2016)
- *Guidance Statement: Decision Making* (February 2017)
- *Guidance Statement: Risk Assessment* (February 2017)
- *Guidance Statement: Environmental Siting* (November 2016)

Amendment description

In January 2019, Amendment Notice 2 was granted to allow the construction of a new cell (CC2) and associated leachate pond (Cristal Pond) for the ongoing disposal of pigment waste. The new cell is required to replace the existing Cristal pigment cell ("MIC Cell") at the Premises as it is approaching capacity. Amendment Notice 2 did not include an increase in the Premises' design capacity under Category 61. The MIC Cell was constructed under works approval W5096/2012/1 and is designed to hold 350,000m³ of Cristal pigment waste received over a period of 5 years, CC2 is also designed to hold 350,000m³ deposited over 5 years. Amendment Notice 2 also included authorisation to construct a 19,000m³ lined leachate pond (Cristal Pond) for the containment of supernatant water decanted from both MIC Cell and CC2.

The required compliance documentation and Construction Quality Assurance Report for CC2 and the Cristal Pond has been submitted, assessed and is considered acceptable by DWER. The amendment will therefore allow the acceptance of waste in the new cell CC2.

This Amendment Notice does not include any assessment of environmental risk relevant to the operation of CC2 and Cristal Pond, as this was addressed through the previous licence amendment (Amendment Notice 2) granted 18 January 2019.

Direct interest stakeholders were notified and asked to comment on the proposed amendment application, Appendix 4 represents a summary of the direct interest stakeholder consultation period.

Amendment history

Table 2 provides the amendment history for L8904/2015/1.

Table 2: Licence amendments

Instrument	Issued	Amendment
L8904/2015/1	22/10/2015	Licence amendment to authorise operation of leachate evaporation pond 3, constructed under W5748

Instrument	Issued	Amendment
L8904/2015/1	05/05/2016	Licence Amendment to: <ul style="list-style-type: none"> • Change company name; • Authorise operation of cell 12 constructed under W5748; and • Address storm water upgrades
L8904/2015/1	21/07/2017	Licence amendment for: <ul style="list-style-type: none"> • Construction and operation of three composite HDPE liner Class III Landfill cells (cells 6, 7 and 8); • Construction and operation of a phytocapping trial on Class III landfill cell 5; and • Review of Premises operations and regulatory controls.
L8904/2015/1	02/02/2018	Amendment Notice 1: to reflect the completion of cell 6 construction and authorise its use.
L8904/2015/1	18/02/2019	Amendment Notice 2: for a new Cristal pigment waste cell & Cristal Pond under Category 61
L8904/2015/1	25/06/2019	Amendment Notice 3: to authorise the use of CC2 and Cristal pond constructed under Amendment Notice 2.

Decision

The Delegated Officer has reviewed the CC2 and Cristal Pond compliance documentation and Construction Quality Assurance Report and considers that it meets the requirements of Amendment Notice 2. The risk assessment relating to the operation of CC2 and the Cristal Pond is detailed in Amendment Notice 2 dated 18 January 2019. As the containment infrastructure has been constructed in accordance with Amendment Notice 2, the Delegated Officer considers there is no change to the risk profile of the site from the assessment detailed in Amendment Notice 2, and has amended L8904/2015/1 to allow operation of CC2 and the Cristal Pond. The amendment includes the removal of conditions 1.3.4, 1.3.5, and Table 1.3.3 as they relate to the construction works of the CC2 cells and the Cristal Pond which have been completed. Condition 3.3.5 has also been removed from the Licence as it relates to the construction compliance documentation that has been submitted to DWER and assessed as compliant with the Licence conditions.

Licence Holder's comments

The Licence Holder was provided with the draft Amendment Notice on 21 June 2019. Comments received from the Licence Holder have been considered by the Delegated Officer as shown in Appendix 3.

Amendment

1. Condition 1.2.1 of the Existing Licence is amended by deletion of the text shown in strikethrough and the insertion of the red text shown in underline below:

1.2.1 The Licence Holder must operate and maintain a stormwater management system in accordance with the following physical controls and limits:

- (a) stormwater must not be ~~not~~ directed into the Active Landfill Area, MIC Cell, CC2, Cristal Pond or any leachate containment infrastructure;
- (b) stormwater arising within, or which has had contact with, the Active Landfill Area and the areas of the Premises when landfilling, waste acceptance and processing and leachate containment occurs must not discharge beyond the Premises boundary.
- (c) the infrastructure depicted in Plan 11 of Schedule 2 and specified in Column 1 of Table 1.2.1 must meet or exceed the specifications in Column 2 of Table 1.2.1 for the infrastructure in each row of Table 1.2.1; and
- (d) any departure from the specifications in Table 1.2.1 and Plan 11 of Schedule 2 must not increase the risk to public health, public amenity or the environment.

Table 1.2.1: Stormwater management system specifications	
Column 1 Infrastructure	Column 2 Specifications (design and construction)
Stormwater ponds and spillways	(a) Sized to accommodate a 1 in 100 year ARI rainfall event. (b) A freeboard of 0.5m is maintained in the Secondary Stormwater Dam.
Eastern area stormwater diversion	(c) Sized to accommodate a 1 in 100 year ARI rainfall event. (d) Minimum 0.5m high bund with adjacent channel 1 m wide and 0.5 m deep.
Western stormwater bund	(e) Minimum height of 1 m.
Northern boundary drains	(f) None specified.

Southern boundary drains	(g) Sized to accommodate a 1 in 100 year ARI rainfall event.
Sediment traps, drains, bunds and culverts	(h) Sized to accommodate a 1 in 20 year ARI rainfall event.

2. Condition 1.4.3 of the Existing Licence is amended by the removal of the text shown in strikethrough and the insertion of the red text shown in underline below:

- 1.4.3 The Licence Holder must ensure that waste types set out in Column 1 of Table 1.4.3 and Table 1.4.4 accepted onto the Premises are only subjected to the process(es) set out in Column 2 of Table 1.4.3 and Table 1.4.4 and in accordance with any process limits described in Column 3 of Table 1.4.3 and Table 1.4.4 for the waste type in each row of Table 1.4.3 and Table 1.4.4.

Table 1.4.3: Waste Processing – liquid waste		
Column 1 Waste type	Column 2 Process(es)	Column 3 Process limits
Liquid waste	Receipt, handling, storage, treatment and disposal of waste	<p>(a) Cristal Pigment Slurry <u>only</u> must <u>only</u> be disposed of into the designated MIC cell <u>or CC2</u>, as depicted in Map 1 Schedule 1.</p> <p>Drill muds must be processed to a solid waste prior to landfilling by the following process:</p> <p>(b) temporarily stored in sealed vessels on a 200mm sacrificial sand layer within an active Class III landfill cell of the Active Landfill Area;</p> <p>(c) unloaded and treated on a Hardstand:</p> <ul style="list-style-type: none"> i. with bund walls that prevent the discharge of leachate from the Hardstand; and ii. by mixing with shredded timber, compost, Clean Fill or other absorbent material to ensure a spadeable consistency; <p>(d) demonstrated to achieve contaminant levels that comply with the Acceptance Criteria for Class III landfills, as demonstrated by the analysis of samples required by Condition 2.3.1; and</p> <p>(e) Disposed of via landfilling in accordance with Condition 1.4.3, Table 1.4.4.</p>

Table 1.4.4: Waste Processing – solid waste		
Column 1 Waste type	Column 2 Process(es)	Column 3 Process limits
Clean Fill	Receipt, handling, storage, treatment and disposal of waste by landfilling	None specified.
Contaminated Solid Waste		<p>(a) Waste must only be disposed of by burial to the Active Landfill Area.</p> <p>(b) All waste, except Special Waste Type 1, must be levelled in layers no greater than 0.5 m thick and compacted with a minimum 3 passes with the compacter.</p> <p>(c) Burning of waste is prohibited.</p> <p>(d) No tyres are to be landfilled.</p>
Drill muds (processed in accordance with Condition 1.4.3, Table 1.4.3(b)-(e))		
Inert Waste Type 1		
Inert Waste Type 2		
Putrescible Waste		<p>(e) Waste must only be disposed of by burial to the Active Landfill Area.</p> <p>(f) Disposal must not result in the discharge of ACM or</p>
Special Waste Type 2		
TWM processed septage		
Special Waste Type 1		

Table 1.4.4: Waste Processing – solid waste		
Column 1 Waste type	Column 2 Process(es)	Column 3 Process limits
		asbestos fibres. (g) Bulk loads of soil containing ACM or asbestos must be wet down during disposal, levelling and immediate burial. (h) Waste must not be compacted until covered in accordance with Condition 1.4.7, Table 1.4.8.

3. Condition 1.4.4 of the Existing Licence is amended by the insertion of the red text shown in underline below:

1.4.4 The Licence Holder must ensure that all cell(s) listed in Column 1 of Table 1.4.5 and Table 1.4.6 are maintained and operated to meet or exceed the specifications listed in Column 2 of Table 1.4.5 and Table 1.4.6 for the cell(s) listed in each row of Table 1.4.5 and Table 1.4.6.

Table 1.4.5: Liquid waste containment infrastructure	
Column 1 Cell(s)	Column 2 Specifications
MIC Cell <u>and CC2</u>	(a) Lined with an engineered Geosynthetic HDPE composite liner free of leaks and defects. (b) Cristal Pigment Slurry must be maintained in a damp state. (c) All leachate must be directed to the MIC Cell Leachate Pond <u>or the Cristal Pond.</u> (d) All leachate pipes, gravity feeds and pumps must be free of blockage, leak and defect. (e) <u>Daily inspections of the MIC Cell Leachate pond and the Cristal Pond leachate levels must be undertaken to ensure the maintenance of required freeboard levels;</u> (f) <u>Maintenance of at least 1m freeboard in the Cristal Pond at all times;</u> (g) <u>Maintenance of at least 1.8m freeboard in CC2 (stage 1 only) at all times; and</u> (h) <u>Maintenance of at least 1.7m freeboard in CC2 (stage 2) at all times</u>

4. Condition 1.4.5 of the Existing Licence is amended by the insertion of the red text shown in underline below:

1.4.5 The Licence Holder must ensure that the vessel or compounds listed in Column 1 of Table 1.4.7 only store the leachate listed in Column 2 of Table 1.4.7 and in accordance with any specification in Column 3 of Table 1.4.7 for the vessel or compounds in each row of Table 1.4.7.

Table 1.4.7: Leachate containment infrastructure		
Column 1 Vessel compound	Column 2 of Leachate source	Column 3 Specification
All	All	(a) Liners must be maintained free of leaks and defects. (b) Overtopping of the vessel or compound must not occur. (c) Stormwater runoff must not enter the vessel or compound or cause erosion of embankments. (d) A freeboard of 500 mm must be maintained in the vessel or compound, except the MIC Cell storage tanks.
MIC Cell	MIC cell	(e) HDPE lined to achieve a permeability of at least $<1 \times 10^{-10}$

Table 1.4.7: Leachate containment infrastructure		
Column 1 Vessel of compound	Column 2 Leachate source	Column 3 Specification
leachate pond		⁹ m/s or equivalent. (f) Direct all leachate to the MIC Cell leachate storage tanks.
MIC Cell leachate storage tanks		(g) Four impervious storage tanks with a total minimum storage capacity of 85kL each, located on a hardstand that directs any leachate back to the MIC Cell or CC2 . (h) Leachate must be sent for reuse at the Kemerton Titanium Dioxide Processing Plant.
Primary Leachate Pond	Landfill leachate from Cells 1, 2, 3, 4A, 4B, 5m 12 and Cells 6, 7, and 8	(i) HDPE lined to achieve a permeability of at least $<1 \times 10^{-9}$ m/s or equivalent.
Leachate Evaporation Ponds 1, 2 and 3		(j) Designed to contain leachate and stormwater produced as a result of a 1 in 100 year ARI rainfall event. (k) Leachate ponds 1, 2 and 3 must have a total storage capacity of 8,500 kL each while allowing for 500mm freeboard.
<u>Cristal Pond</u>	<u>CC2</u>	(l) <u>HDPE lined geomembrane overlying a Geosynthetic clay layer (GCL), over a compacted subgrade.</u> (m) <u>Direct all leachate to the Cristal Pond.</u>

5. Condition 1.4.6 of the Existing Licence is amended by the insertion of the red text shown in underline below:

1.4.6 The Licence holder must manage leachate in accordance with the following physical controls and limits:

- (a) reuse of MIC Cell **and CC2** leachate at the Premises must not occur;
- (b) the recirculation of leachate via spray over the internal walls of the leachate ponds must not result in discharge beyond the leachate pond embankment liners;
- (c) the recirculation of leachate for dust suppression must only occur to the active tipping area within the Active Landfill Area; and
- (d) direct reinjection of leachate into landfill cells must not occur.

6. Condition 3.4.2 of the Existing Licence is amended by the deletion of the text shown in strikethrough and the insertion of the red text shown in underline below:

3.4.2 The Licence Holder must submit to the CEO and Annual Environmental Report within 90 days after the Anniversary Date for the Annual Period. The Annual Environmental Report must contain the information listed in Table 3.4.1 in the format or form specified in Table 3.4.1.

Table 3.4.1: Annual Environmental Report		
Condition of table	Parameter	Format or form
1.4.3	Summary of the Active Landfill Area, and MIC Cell and CC2 that includes: (a) Areas that have been subject to waste deposition for the Annual Period; and (b) Remaining capacity for waste deposition in each cell.	None Specified
1.4.9	Summary of landfill gas collection and management system that includes: (a) Infrastructure installed during the Annual Period; and	

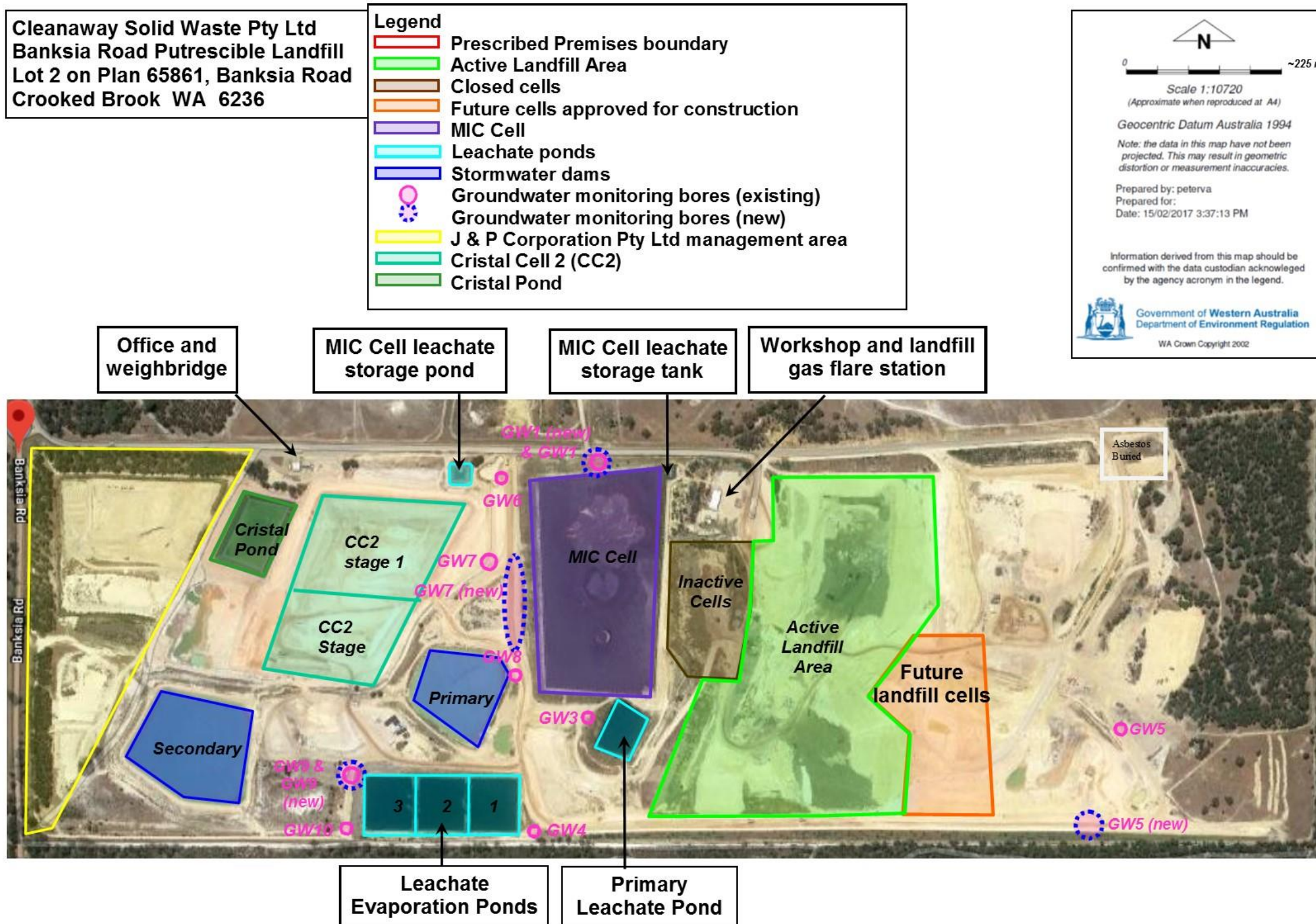
Table 3.4.1: Annual Environmental Report		
Condition of table	Parameter	Format or form
	(b) A map of the spatial coverage of the landfill gas collection and management system.	
Table 2.2.1	Volume of wastes accepted/rejected for each waste type during the annual period in a table format.	
Table 2.3.1	Process monitoring Drill Muds: data in a table format for the annual period	
Table 2.3.2	Process monitoring landfill gas management system data in a table format for the annual period	
Table 2.4.1	Monitoring of ambient groundwater quality for the annual period that includes: (a) data in a table format for the annual period; and (b) data in graphical format for trend analysis to include at least the last five years data where available.	
3.1.2	Complaints summary for the annual period	
3.1.3	Plan of disposal locations for Special Waste Type 1 and Special Waste Type 2 and for the Annual Period	

7. The Existing Licence is amended by the deletion of Premises Map 1 in Schedule 1: Maps and the insertion of the Premises Map shown in Appendix 2.
8. The Existing Licence is amended by the addition of Condition 1.4.15.
 - 1.4.15 The Licence Holder shall ensure that the unloading of Cristal pigment waste occurs on an impervious hardstand area.

Appendix 1: Key documents

	Document title	In text ref	Availability
1	Licence L8904/2015/1- Banksia Road Landfill	L8904/2015/1	accessed at www.dwer.wa.gov.au
2	DER, July 2015. <i>Guidance Statement: Regulatory Principles</i> . Department of Environment Regulation, Perth.	DER 2015a	accessed at www.dwer.wa.gov.au
3	DER, October 2015. <i>Guidance Statement: Setting Conditions</i> . Department of Environment Regulation, Perth.	DER 2015b	
4	DER, August 2016. <i>Guidance Statement: Licence Duration</i> . Department of Environment Regulation, Perth.	DER 2016a	
5	DER, November 2016. <i>Guidance Statement: Risk Assessments</i> . Department of Environment Regulation, Perth.	DER 2016b	
6	DER, November 2016. <i>Guidance Statement: Decision Making</i> . Department of Environment Regulation, Perth.	DER 2016c	

Appendix 2: Premises Map



Appendix 3: Summary of Licence Holder comments

The Licence Holder was provided with the draft Amendment Notice on 21/06/2019 for review and comment. The following comment was received on the draft Amendment Notice.

Condition	Summary of Licence Holder comment	DWER response
1.4.5 (Table 1.4.7)	Applicant confirmed that the leachate storage tanks will direct leachate back to the MIC cell or CC2.	Noted

Appendix 4: Summary of Direct Interest Stakeholder Consultation and Comments

Method	Comments received	DWER response
<p>Application advertised on DWER website on 12/06/2019</p> <p>Notification of 32 individual stakeholders contacted via email or post (11/06/2019) -</p>	<p>3 submissions were received during the public comment period.</p> <p>One submission was received after the public comment period.</p>	
	<p>Submission 1 – summary of issues</p> <ul style="list-style-type: none"> No Environmental Impact Assessment (EIA) conducted for the site 	<ul style="list-style-type: none"> The operation of CC2 and the Cristal Pond is an extension of existing operations and was therefore not considered to be a significant proposal and was not referred to the EPA. Under Part V of the EP Act (Part V) DWER is required to ensure that the proposal does not represent an unacceptable risk to the environment and public health. The risk assessment associated with the CC2 construction and operations is detailed in Amendment Notice 2. <p>Note : A referral relating to the proposed lithium processing tailings cell at the Banksia Road Landfill was received by the EPA on 1 May 2019. The EPA is currently determining whether or not this proposal requires assessment through an EIA under Part IV of the EP Act</p> <p>Whilst an EIA for the site has not been undertaken, a full review of the Banksia Road Part V licence and operations was conducted in 2017. The reviewed licence and</p>

	<ul style="list-style-type: none"> • Licence Holder non-compliance • Will the cells only be used for Cristal waste? • Is there a water permit listed on the site? • Concerns raised about the life of the liners • PFAS found on site in a bore. Query regarding distance from bore to CC2 	<p>accompanying decision document is available on DWER's website</p> <ul style="list-style-type: none"> • The Delegated Officer has considered the compliance history of the Licence Holder in determining this amendment. The Delegated Officer notes that matters relating to recent complaints are being addressed by DWER and the Licence Holder. • Yes. The wording of Condition 1.4.3 has been amended to make this explicit. • The site is outside of a proclaimed area and therefore does not hold a licence to take groundwater under the <i>Rights in Water and Irrigation Act 1914</i>. The licence, however, contains a number of controls relating to groundwater protection, monitoring and management onsite. • As detailed in Amendment Notice 2, the Delegated Officer has determined that the type of liners and installation specifications associated with CC2 and the Cristal pond are suitable and consistent with requirements at similar waste disposal facilities around the State. HDPE liners for buried wastes are expected to have a life expectancy ranging from several decades to over 100 years. • Matters relating to a possible elevated contaminant reading at a bore at Banksia Road Landfill are currently under investigation by DWER. The bore in question (labelled 'GW10' in Premises Map 1 in Attachment 2) is approximately 220m South of CC2. It is noted that the licence does not allow the acceptance of PFAS contaminated wastes.
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	<p>Submission 2 raised the following issues:</p> <ul style="list-style-type: none"> • The site should not accept mining waste of any kind. • The site is too big, ill positioned (high rainfall/runoff and exposure to winds) and too busy. 	<ul style="list-style-type: none"> • The operation of CC2 and the Cristal Pond is an extension of existing operations. The historical acceptance of this waste was subject to statutory planning processes. Under Part V of the EP Act (Part V) DWER is required to ensure that a given proposal does not represent an unacceptable risk to the environment and public health. The risk assessment and application of regulatory controls associated with the construction and operation of CC2 and the Cristal Pond is documented in Amendment Notice 2 which is available on DWER's website. • The scope of DWER's assessment under Part V of the EP Act is limited to matters relating to impacts to the environment and the public health from emissions from the primary regulated activities. Matters related to the general location, scale of development and potential for impacts to tourism are outside of the scope of Part V and are best addressed through planning processes.
	<p>Submission 3 raised concerns about the effect the site will have on tourism in the region and opposes increased development of the landfill and associated increased truck movements. .</p>	<ul style="list-style-type: none"> • The scope of DWER's assessment under Part V of the EP Act is limited to matters relating to impacts to the environment and the public health from emissions from the primary regulated activities. Matters related to the potential for impacts to tourism are outside of the scope of Part V and are best addressed through planning processes. Concerns relating to activities outside of the premises boundary such as truck movements are outside of the scope of Part V and should be addressed to the Local Government Authority or Main Roads.
	<p>Submission 4 was received outside of the public comment period. Requested deferral of a decision on all amendment applications pending EIA outcomes</p>	<ul style="list-style-type: none"> • See EIA response under Submission 1 • Formal EIA process under Part IV of the EP Act has not been undertaken for the site, however DWER is still required to fulfil its statutory functions regarding the determination of

		applications for licences and works approvals under Part V of the EP Act.
Request for comment sent to Local Government Authority: Shire of Dardanup.	The Shire responded stating they had considered the proposed licence amendment and have no objection to the proposal. The construction and operation of CC2 was approved by the Shire in May 2018 and therefore the Shire has no objection to the licence amendment to enable the use of the cell.	Noted