Decision Report

Application for licence renewal

Part V Division 3 of the *Environmental Protection Act 1986*

Licence number	L7329/1997/9
Licence holder	Atlas Group Pty Ltd
ACN	009 061 063
DWER file number	2010/002636-1
Premises	Atlas Composting Facility Old Plains Road, Calingiri, WA 6569 Legal description Part Lot M2043 on Plan 6168 Certificate of Title Volume 1310 Folio 113 As defined by the coordinates in Schedule 1 of the Licence and defined by the Premises maps attached to the issued licence
Date of report	1 November 2019
Decision	Licence Granted

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1. Definitions

Key terms relevant to this decision report and their associated definitions are listed in Table 1.

Table 1: Definitions

Term	Definition
ARI	Annual recurrence interval
AS 4454:2012	means the document titled *Composts, soil conditioners and mulches* published by Standards Australia, as amended from time to time.
Category / categories	Categories of prescribed premises as set out in Schedule 1 of the EP Regulations.
Decision Report	refers to this document.
Delegated Officer	An officer delegated under section 20 of the EP Act.
Department	The department established under section 35 of the *Public Sector Management Act 1994* and designated as responsible for the administration of Part V Division 3 of the EP Act.
DWER	Department of Water and Environmental Regulation As of 1 July 2017, the Department of Environment Regulation (DER), the Office of the Environmental Protection Authority (OEPA) and the Department of Water (DoW) amalgamated to form the Department of Water and Environmental Regulation (DWER). DWER was established under section 35 of the *Public Sector Management Act 1994* and is responsible for the administration of the *Environmental Protection Act 1986* along with other legislation.
Emission	has the same meaning given to that term under the EP Act.
EP Act	*Environmental Protection Act 1986* (WA)
EP Regulations	*Environmental Protection Regulations 1987* (WA)
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 Renewal.
Licence Holder	Atlas Group Pty Ltd
Minister	the Minister responsible for the EP Act and associated regulations.
Noise Regulations	*Environmental Protection (Noise) Regulations 1997* (WA)
Occupier	has the same meaning given to that term under the EP Act.
Prescribed premises	has the same meaning given to that term under the EP Act.
Premises	refers to the premises to which this Decision Report applies, as specified at the front of this Decision Report.

Term	Definition
Primary Activities	as defined in Schedule 2 of the Renewed Licence.
Renewal	this Licence renewal.
Renewed Licence	the renewed Licence issued under Part V, Division 3 of the EP Act following the finalisation of this Renewal.
Risk Event	As described in *Guidance Statement: Risk Assessment*

2. Licence and amendment history

Table 2 provides the amendment history for L7329/1997/9.

Table 2: Licence amendments

Instrument	Issued	Nature and extent of works approval, licence or amendment
L7329/1997/8	10/11/2010	Version 8 of the Licence granted
L7329/1997/8	26/10/2015	Amendment to extend the Licence duration by 1 year to 09/11/2016
L7329/1997/8	29/04/2016	Amendment by notice to extend the Licence duration to 10/11/2019
L7329/1997/9	30/10/2019	This Renewal.

3. Purpose and scope of assessment

An application was received from Atlas Group Pty Ltd (the Licence Holder) on 12 July 2019 to renew the Atlas Composting Facility (the Premises) Existing Licence L7329/1997/8. The only change proposed by the Licence Holder is to amend the existing Premises boundary to be more consistent with the area being used for Category 67A activities. The Licence Holder has noted that the Premises is currently operating in a care and maintenance phase.

The Delegated Officer has assessed the operational impacts of these activities and these are documented through this Decision Report.

This Decision Report reviews the emissions and discharges from the Premises in the context of a new licence application and the site operating at the full capacity authorised under the Existing Licence.

4. Application details

The application is to renew a licence to operate a municipal organic waste composting facility under Category 67A, compost manufacturing and soil blending, with an assessed throughput of no more than 50,000 tonnes per year. The Premises has been previously licensed under instrument L7329/1997/8 and was constructed under Works Approval W2245/1997/1.

Table 3 lists the documents submitted during the assessment process.

Table 3: Documents and information submitted during the assessment process

Document/information description	Date received
Application Form (Licence Renewal) and supporting information L7329/1997/8, Atlas Composting Facility, Atlas Group Pty Ltd	12 July 2019
Additional supporting information requested by DWER	13 August 2019

5. Overview of existing Premises

The Premises is currently in a care and maintenance phase and is not accepting or processing any waste material. The Premises formerly operated as a compost manufacturing and soil blending operation for the production of commercial quantities of organic compost and soil conditioner.

The Licence Holder proposes to accept the organic fraction of mechanically separated municipal solid waste processed at the Atlas Waste Sorting Facility in Mirrabooka. The organic material is screened on the Premises with undesired residual wastes (glass, plastics) removed from the process. The organic waste is then placed in open windrows which are turned for aeration, using a mechanical windrow turner. Manures and controlled wastes are not accepted at the premises.

Windrows are monitored for moisture, temperature and carbon dioxide content throughout the composting process, being analysed at intervals of 11, 12 and 13 weeks for assessment of maturity and organic content. Fully composted windrows are then stockpiled for further maturation. Once mature, the product undergoes a screening process in order to the meet the size requirements of AS 4454:2012 with the oversized material being re-introduced into new windrows for further processing and breakdown. Undesired residual wastes are also further removed to meet the requirements of AS 4454:2012 during this screening step.
Once the material has been matured for 14 weeks, it is sampled for heavy metals, pesticide, organic carbon, total nitrogen, phosphorous, potassium and carbon/nitrogen ratio. Once material meets the end product specifications of AS 4454:2012, it is applied to paddocks to grow crops such as wheat, oats and canola on the Licence Holder's surrounding farmland.

Composting material is stored and processed on a large hardstand surrounded by a 3m high earthen bund wall. The hardstand was constructed by compaction of in-situ soil material, due to the sandy-clay nature of the profile. The site is contoured to the north-east so that leachate and stormwater is directed by the earthen bund wall to a clay lined retention basin located on the eastern boundary of the premises. The earthen bund and retention basin are designed to hold inflow received from a 100 year ARI, 72 hour duration rainfall event.

Fire prevention
The Licence Holder manages fire at the composting facility through the use of firebreaks around the premises boundary. Firebreaks are seasonally maintained to prevent organic material from building up around contour banks on the site boundary. A water truck with firefighting and rapid-fill capacity is based on the premises that is also utilised for dust suppression and addition of water to the composting process.

Table 4: Classification of premises and assessed design capacity

Category	Description	Assessed production or design capacity or throughput
Category 67A	Compost manufacturing and soil blending premises on which organic material (excluding silage) or waste is stored pending processing, mixing, drying or composting to produce commercial quantities of compost or blended soils.	More than 5,000 but no more than 50,000 tonnes per year

6. Description of operations

The proposed infrastructure and equipment are outlined in Table 5 below and the site layout is shown in Figure 1 and Figure 2.

Table 5: Proposed infrastructure and equipment

Ref	Infrastructure or Equipment	Premises Layout Plan reference (Figure 1)
1	Hardstand for composting windrows and stockpiling constructed of compacted in-situ soils.	Compost processing area and compost storage area
2	Diesel powered screening unit	Screen
3	Hydraulic screening unit	
4	3m high earthen bund wall for containment and redirection of stormwater	Stormwater containment bund
5	Stormwater runoff and leachate retention basin designed to contain a 1 in 100 year ARI event over 72 hours.	Retention basin
6	Mechanical windrow turner	N/A (mobile machinery)

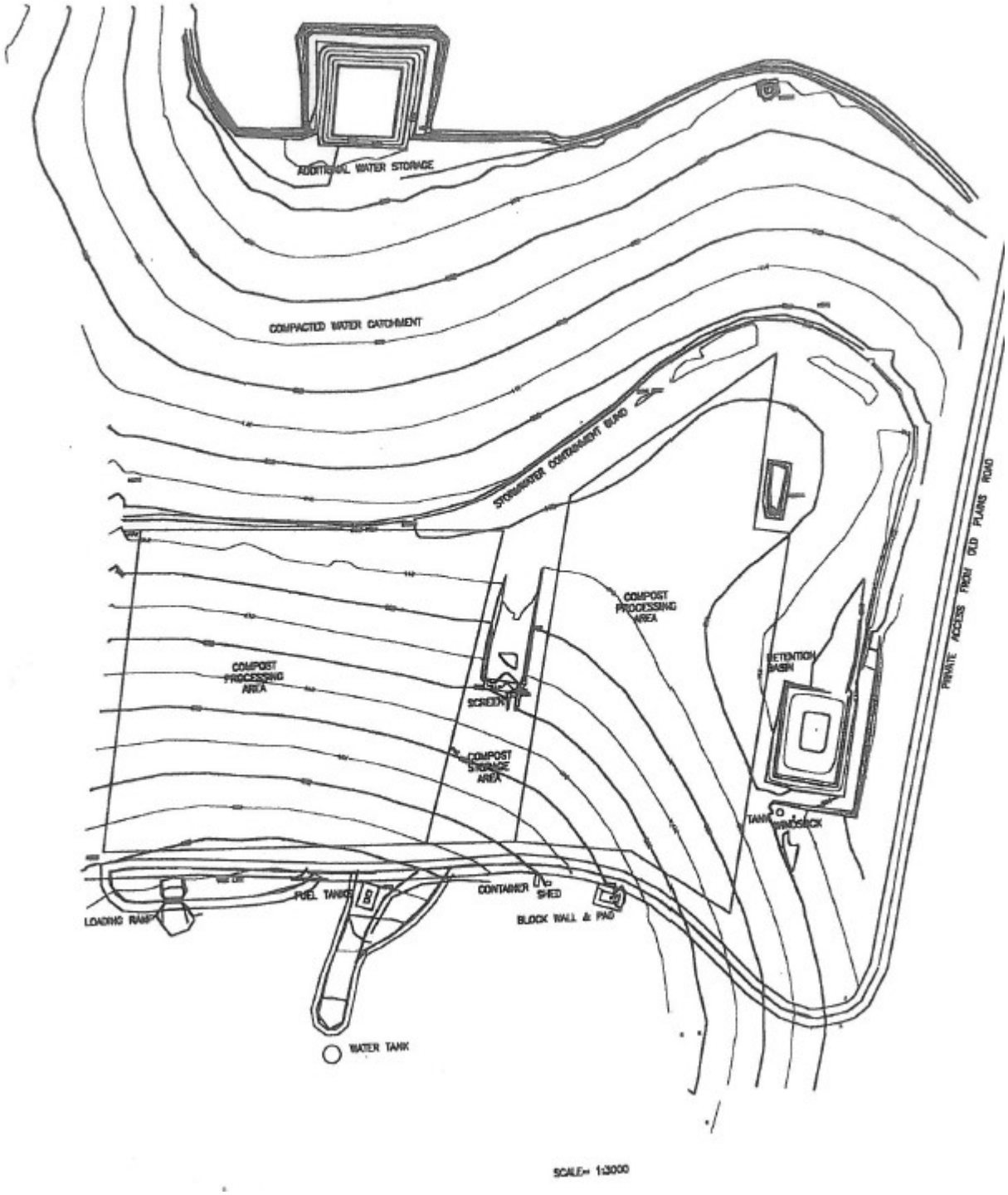

Figure 1: Premises site plan

Figure 2: Premises map

6.1 Legislative context and other approvals

Approvals relevant to the premises are outlined in Table 6 below.

Table 6: Summary of approvals and legislation relevant to the Premises

Legislation	Number	Approval
Part V, Division 1 *Environmental Protection Act 1986*	W2245/1997/1	Works approval for activities causing a premises to become prescribed.
Part V, Division 1 *Environmental Protection Act 1986*	L7329/1997/9	Licence issued for the operation of a prescribed premises.
Town Planning and Development Act 1928	BU 0102	Shire of Victoria Plains planning approval.

7. Location and siting

7.1 Siting context

The Premises is located within the Shire of Victoria Plains approximately 95 km north-east of Perth. The location is zoned Rural under the Shire of Victoria Plains Local Planning Scheme No. 5 with the majority of the area having been cleared for primary production. A large area of bushland that forms part of the Bindoon Training Ground utilised by the Australian Army is located to the west of the property on which the Premises is situated. There are no other prescribed premises located within 10km of the Atlas Composting Facility.

Receptors are discussed in Section 8.2 below.

7.2 Soil type

Table 7 details soil types and characteristics relevant to the assessment.

Table 7: Soil and sub-soil characteristics

Factor	Details
Soil type classification	Udamong System - characterised by loamy gravel, minor pale sand and clay derived from granitic gneiss. Soil at the Premises is described as weathered granite material comprised of sandy clay, overlying clay with a low permeability.[1]
Acid sulfate soil risk	ASS at the Premises is described as having an extremely low probability of occurrence.[2]

[1]Based on previous compliance information submitted by the Licence Holder in 2013 relating to dam construction (Atlas Group 2013, pers. comm 15/08/2013).

[2]The area is not covered by DWER ASS risk mapping and information is sourced from the National ASS Atlas (Source http://www.asris.csiro.au/).

7.3 Meteorology

7.3.1 Wind direction and strength

The closest weather station for wind frequency data is Wongan Hills site 008137. Prevailing winds are from the east in the mornings, and from the west and south west in the afternoons (Figure 3). It is important to note that these wind roses show historical wind speed and wind direction data for the Wongan Hills weather station and should not be used to predict future data.

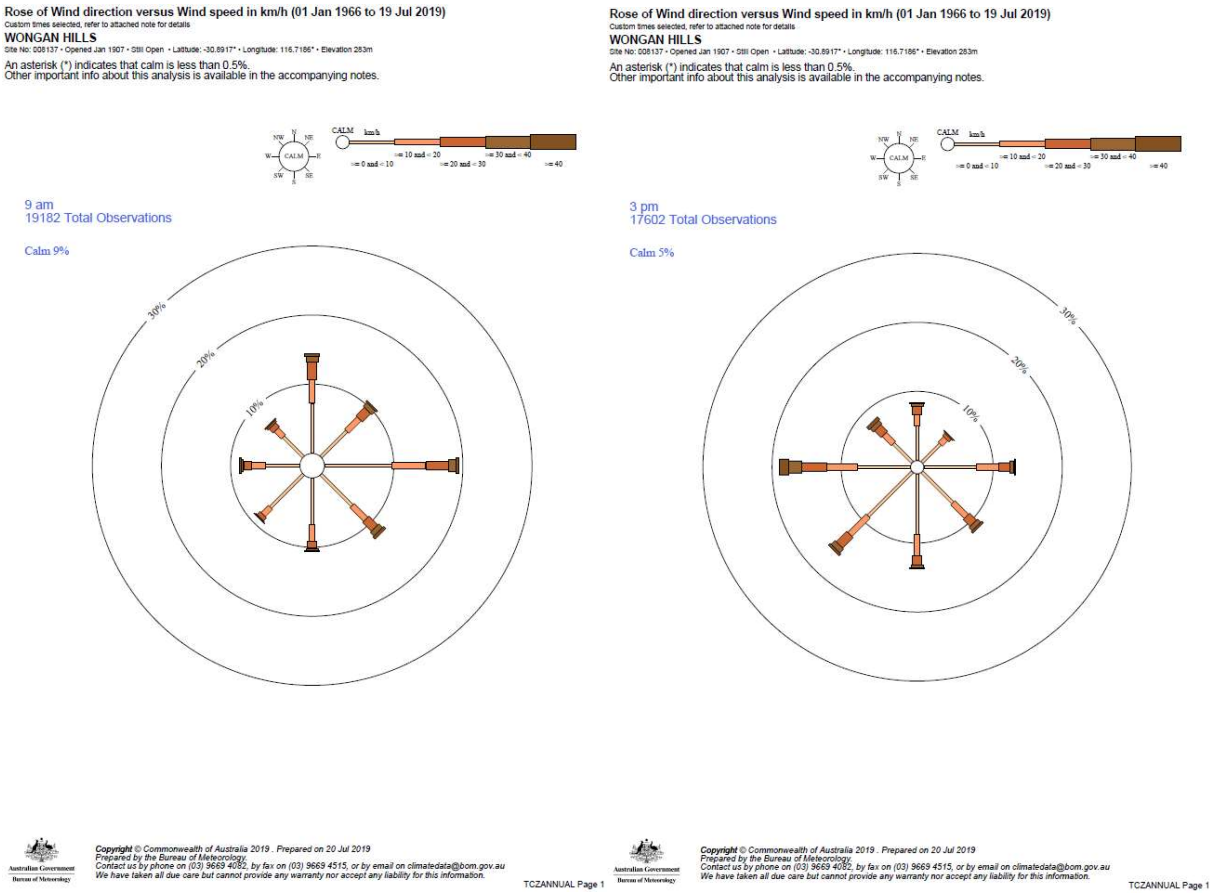

Figure 3: Annual wind rose for 9am and 3pm at Wongan Hills

Source: Bureau of Meteorology website www.bom.wa.gov.au

7.3.2 Rainfall and temperature

The closest weather station for rainfall data is Calingiri site 010156. Maximum average rainfall is received in June and July annually. Minimum average rainfall is received from November to January annually (Table 8).

Table 8: Rainfall statistics (mm) for Calingiri site 010156
Source: Bureau of Meteorology website www.bom.wa.gov.au

Statistic	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean	14.6	17.2	17.7	24.1	59.1	83.2	84.0	63.4	33.4	25.6	12.2	10.2	449.1
Lowest	0.0	0.0	0.0	0.0	0.0	16.5	18.0	5.6	2.1	0.0	0.0	0.0	276.4
5th %ile	0.0	0.0	0.0	1.0	9.3	31.5	26.4	21.5	9.6	2.9	0.0	0.0	309.0
10th %ile	0.0	0.0	0.0	1.9	16.0	39.0	40.0	27.0	14.2	5.4	0.0	0.0	315.2
Median	3.8	5.8	9.1	18.9	54.4	76.8	79.7	62.0	29.8	20.7	10.7	4.4	451.4
90th %ile	34.0	43.5	37.1	55.0	114.9	123.3	124.1	101.8	52.3	50.5	26.8	30.2	583.0
95th %ile	70.3	66.4	63.4	68.8	125.2	151.9	146.6	121.2	56.1	61.8	35.0	45.3	607.5
Highest	146.0	154.3	144.2	92.8	171.7	254.5	232.5	173.6	97.4	103.9	46.7	66.5	712.2

The closest weather station for temperature data is Wongan Hills site 008137. Highest average temperatures are experienced in December to February annually. Lowest average temperatures are experienced in June to August annually (Table 9).

Table 9: Average annual minimum and maximum temperature (°C) for Wongan Hills site 008137 Source: Bureau of Meteorology website www.bom.wa.gov.au

Statistic	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Highest	37.7	37.3	33.7	29.5	24.4	20.6	19.8	21.7	23.3	29.6	32.1	36.2	26.9
Lowest	19.9	21.7	18.6	16.1	12.9	9.8	8.7	9.0	9.6	12.4	15.8	18.3	12.8

8. Emission sources, receptors and pathways

8.1 Emissions

The potential for emissions to impact on sensitive receptors has been assessed in accordance with the Department's Risk Framework. The key emissions during Premises operation which have been considered in this report are noise, dust, odour and leachate from vehicle movements, loading and unloading of material, windrow turning by machinery and the open windrow composting process.

The Licence Holder has proposed measures to assist in controlling these emissions, where necessary. The control measures are outlined in Section 8.4 below and have been considered when undertaking the risk assessment detailed in Section 9.

8.2 Environmental Receptors and Aspects

Risk is assessed as a combination of emission sources, the proximity and sensitivity of receptors to those emission sources and any pathways that can allow the emission to reach and potentially harm the receptor. Figure 4 and the table below provides a summary of human and environmental receptors in proximity to the premises which have a potential to be impacted from site activities, and the risk assessment in Section 9 considers these receptors in the context of emissions and potential pathways.

Table 10: Potential receptors surrounding the Premises

Human receptors	Description of receptors	Distance from activity or prescribed premises
Residential premises	Residence contained on an agricultural property	2.1 km to the east of the Premises boundary

Environmental receptors	Description of receptors	Distance from activity / prescribed premises
Groundwater	There are no registered or licenced bore sites located within 5 km of the Premises, based on the WIN Groundwater Sites dataset. The nearest WIN bore (61510405) is located approximately 6.3 km south-east of the site and was drilled to a depth of 11m with no information provided for groundwater depth. The local groundwater system is described as a combined regolith and fractured rock aquifer with a groundwater salinity in the range of 7000-14,000 mg/L TDS. Groundwater is unlikely to have a beneficial use due to its high salinity.	At least 3m below ground level at the northern side of the Premises[1] and inferred to be at least 13-17 mbgl across the hardstand area.
Public Drinking Water Source Area	Calingiri Water Reserve	Approximately 8.6 km north and cross gradient of the Premises.
Gavin Gully	Minor non-perennial watercourse which flows into Toodyay Brook, terminating at the Avon River.	Approximately 1 km down gradient from the Premises.
Fauna habitat	Carnaby's black cockatoo foraging and breeding habitat	Approximately 2.6 km west of the Premises and adjacent to the Lot boundary.
Conservation area	Rica Erikson Nature Reserve	Approximately 4.75 km from the Premises.

[1]Based on previous compliance information submitted by the Licence Holder in 2013 relating to dam construction (Atlas Group 2013, pers. comm 15/08/2013).

Figure 4: Potential receptors surrounding the Premises

8.3 Pathways

As odour, noise and dust are considered potential emissions, the prevailing wind direction has been considered. Using information available on the Bureau of Meteorology's website, the closest available weather station for wind data is Wongan Hills (site 008137). Based on this data (January 1966 to July 2019), the prevailing wind direction is east in the mornings, and from the west and south west in the afternoons (Figure 3).

Leachate is considered a potential emission due to the moisture requirements of the composting process and the ability for stormwater to interact with the open windrows. As a result site topography, soil type and depth to groundwater have been considered. Information derived from limited site specific and regional investigations suggests a high clay content and low permeability soil is present. These soil types are likely to impede movement of leachate through the soil profile. The Premises and surrounding topography slopes north-east towards Gavin Gully, indicating a potential pathway to a surface watercourse.

These pathways have been considered in the risk assessment table in Section 9.

8.4 Licence Holder controls

The Licence Holder has proposed the following management measures/controls as part of the application:

Table 11: Summary of Licence Holder proposed controls

Emission (as identified above)	Source	Proposed controls
Odour	Composting windrows Compost storage	Facility siting and distance to sensitive receptors. Regular testing of CO_2 in composting windrows with follow up aeration by windrow turner to prevent anaerobic conditions from occurring.
Leachate and sediment	Composting windrows Compost storage	Hardstand compacted from in-situ soils, surrounded by earthen bunds constructed to approximately 3m high. Site topography and grading directing leachate and contaminated stormwater into a retention basin.
Dust	Lift-off from composting windrows Lift-off from compost storage Vehicle/heavy machinery movements on unsealed surfaces	Facility siting and distance to sensitive receptors Water and retained leachate application to the composting windrows. Water cart retained onsite with for wetting down of roads/unsealed areas when required.

Emission (as identified above)	Source	Proposed controls
Noise	Screening operation Vehicle/heavy machinery operation and movement	Facility siting and distance to sensitive receptors

9. Risk assessment

The identification of the sources, pathways and receptors to determine Risk Events are set out in Table 12 below. Risk ratings have been assessed for each key emission source and take into account potential source-pathway-receptor linkages. The mitigation measures / controls proposed by the Licence Holder have been considered in determining the risk rating.

The conditions in the issued Licence, as outlined in Table 12, have been determined in accordance with the *Guidance Statement: Setting Conditions*.

Table 12: Identification of emissions, pathway and receptors during operation

Risk Event				Consequence rating[1]	Likelihood rating[1]	Risk[1]	Reasoning	Regulatory controls (refer to conditions of the granted instrument)
Source/Activities*	**Potential emissions**	**Potential receptors, pathway and impact**	**Licence Holder controls**					
Composting windrows Compost storage	Odour	Air/windborne pathway causing impacts to health and amenity of closest sensitive human receptor approximately 2.1km east from the premises.	Regular testing of CO_2 in composting windrows to identify if anaerobic conditions are occurring. Regular aeration by mechanical windrow turner. Location and siting of the facility within the centre of a large rural land parcel (approx. 8000 ha) to increase distance to nearest sensitive receptors.	Minor	Rare	Low	The site has been in operation since 1997 and a search of the Department's Incidents and Complaints Management System indicates no odour complaints have been received for the Premises. Although the receptor is located within a prevailing wind direction, the 2.1 km separation distance is likely to provide sufficient attenuation before reaching the receptor. The Licence Holder's proposed control measures are likely to be sufficient at mitigating odour emissions. They are inherent in the aerobic composting process and will be included in the Licence as regulatory controls.	Conditions 1-3: *Waste acceptance and throughput* Condition 9: *Windrow management* Condition 10: *Infrastructure and equipment requirements*
Composting windrows Compost storage	Leachate	Seepage through the soil profile to groundwater causing increased nutrient levels in groundwater. Overland flow and groundwater discharge causing impacts to surface water (Gavin's Gully) through increased nutrient levels.	Compacted hardstand areas used for the placement of compost windrows and storage stockpiles. Site topography and earthen bunds direct leachate run-off to an on-site retention basin.	Minor	Unlikely	Medium	The hardstand was formed through the compaction of in-situ material due to its high clay content and it is understood that the hardstand was prepared to regulatory requirements when the facility was constructed in 1997. Regional scale soil system mapping and limited site specific information indicates that surface soils are sandy clay, overlying clay. This material would exhibit a low in-situ permeability and would be suitable for use as a compacted material for hardstand construction. Excavation to 3 m below surface level during dam construction in the north of the Premises did not encounter groundwater. Based on site topography, depth to groundwater across the hardstand areas has been inferred to be at least 13-17 mbgl. Further regulatory controls are required due to a lack of site specific groundwater information and uncertainties in the permeability of the Licence Holder's proposed controls. Validation of the permeability for the hardstand and leachate retention ponds should be undertaken and groundwater monitoring bores should be installed prior to operations recommencing at the Premises.	Conditions 1-4: *Waste acceptance and throughput* Conditions 5-8: *Storage and processing locations* Condition 10: *Infrastructure and equipment requirements* Condition 11: *Permeability testing of containment infrastructure* Condition 12: *Groundwater investigation* Condition 13: *Final product testing*
	Sediment	Overland runoff causing impacts to surface water (Gavin's Gully) from increased suspended solids in the environment.	Site topography and earthen bunds direct sediment to an on-site retention basin.	Minor	Rare	Low	Site topography and bund walls intercept and direct surface runoff towards a retention basin, making it unlikely for sediment transport to Gavin's Gully to occur. The retention basin is designed for a 100 year ARI. The Licence Holder's proposed storm water mitigation controls are likely to be sufficient at mitigating sediment emissions.	

Risk Event				Consequence rating[1]	Likelihood rating[1]	Risk[1]	Reasoning	Regulatory controls (refer to conditions of the granted instrument)
Source/Activities*	**Potential emissions**	**Potential receptors, pathway and impact**	**Licence Holder controls**					
Lift-off from composting windrows Lift-off from compost storage Screening operation Vehicle/heavy machinery movements on unsealed surfaces	Dust	Air/windborne pathway causing impacts to health and amenity of closest sensitive human receptor approximately 2.1km east from the premises. Air/windborne pathway causing impacts to threatened fauna approximately 2.6km west of the premises.	Water and retained leachate application to the composting windrows during pasteurisation. Water cart retained onsite for wetting down of roads/unsealed areas when required. Location and siting of the facility within the centre of a large rural land parcel (approx. 8000 ha) to increase distance to nearest sensitive receptors.	Slight	Rare	Low	The site has been in operation since 1997 and a search of the Department's Incidents and Complaints Management System indicates that no dust complaints have been received for the Premises. Both receptors are located within a prevailing wind direction with a separation distance of 2.1 and 2.6 km from the Premises boundary. The application of water throughout the process and intermittent vehicle movements are unlikely to generate large dust emissions with the capacity to reach these receptors. The Licence Holder's proposed control measures are likely to be sufficient at mitigating dust emissions. They are inherent in the aerobic composting process and inclusion in the Licence as regulatory controls is not required.	General provisions of the *EP Act* apply
Screening operation Vehicle/heavy machinery movements	Noise	Air/windborne pathway causing impacts to health and amenity of closest sensitive human receptor approximately 2.1 km east from the premises.	Regular machinery servicing. Location and siting of the facility within the centre of a large rural land parcel (approx. 8000 ha) to increase distance to nearest sensitive receptors.	Slight	Rare	Low	The site has been in operation since 1997 and a search of the Department's Incidents and Complaints Management System indicates that no noise complaints have been received for the Premises. The 2.1 km separation distance is likely to provide sufficient attenuation before reaching the receptor. The siting of the Licence Holder's Premises is likely to be sufficient at mitigating noise emissions received at the nearest sensitive receptor.	General provisions of the *EP Act* apply

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the Department's Guidance Statement: Risk Assessments (February 2017)

10. Consultation

Table 13: Summary of consultation

Method	Comments received	DWER response
Application advertised on DWER website (28/08/2019)	None received	N/A
Local Government Authority advised of application (22/08/2019)	None received	N/A
Applicant referred draft documents (4 October 2019)	None received	N/A

11. Conclusion

Based on the assessment in this decision report, the Delegated Officer has determined that the application to renew licence L7329/1997/9 will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

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A/MANAGER WASTE INDUSTRIES
REGULATORY SERVICES

An officer delegated by the CEO under section 20 of the EP Act

Appendix 1: Key documents

Document title	Availability
Licence (L7329/1997/9) application form and supporting documentation (July, 2019)	DWER records (DWERDT179009)
Further information provided by Licence Holder (August, 2019)	DWER records (DWERDT188908)
DER, July 2015. *Guidance Statement: Regulatory principles.* Department of Environment Regulation, Perth.	accessed at www.dwer.wa.gov.au
DER, October 2015. *Guidance Statement: Setting conditions.* Department of Environment Regulation, Perth.	
DER, August 2016. *Guidance Statement: Licence duration.* Department of Environment Regulation, Perth.	
DER, February 2017 *Guidance Statement: Risk Assessments*. Department of Environment Regulation, Perth.	
DWER, June 2019. *Guideline: Decision Making*. Department of Water and Environmental Regulation, Perth.	
Atlas Group 2013, pers. comm 15/08/2013	DWER records (A690220)