



Application for Licence Amendment

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

Licence Number	L7344/1998/10
Licence Holder	Vancouver Waste Services Pty Ltd
ACN	135 344 357
File Number	DER2016/002256-1
Premises	Mindijup Road Multiple Use Facility Mindijup Road PALMDALE WA 6328 Legal description – Part of Lot 3 on Diagram 61867 and part of Lot 102 on Plan 22860 As defined by the coordinates in Schedule 2 of the revised licence
Date of Report	8 February 2024
Decision	Revised licence granted

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REGULATORY SERVICES**

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

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1. Decision summary

Licence L7344/1998/10 is held by Vancouver Waste Services Pty Ltd (licence holder) for the Mindijup Road Multiple Use Facility (the premises), located on part of Lot 3 on Diagram 61867 and part of Lot 102 on Plan 22860.

This amendment report documents the assessment of potential risks to the environment and public health from proposed changes to the emissions and discharges during operation of the premises. As a result of this assessment, revised licence L7344/1998/10 has been granted.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this amendment report, the department has considered and given due regard to its Regulatory Framework and relevant policy documents which are available at <https://dwer.wa.gov.au/regulatory-documents>.

In this assessment the delegated officer has also considered the approach set out in the [Guideline: Better practice organics recycling](#) (DWER 2022).

2.2 Amendment summary

On 4 May 2023, the licence holder submitted an application to the department to amend licence L7344/1998/10 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). The following amendments are being sought:

- Increase the annual throughput of food organic and garden organic (FOGO) waste accepted under Category 67A for composting from 4,800 tonnes per annum to 10,000 tonnes per annum;
- Increase the annual throughput of green waste accepted under Category 67A for mulching and / or composting from 3,250 tonnes per annum to 4,250 tonnes per annum;
- Add acceptance of 1,000 tonnes per annum of composted manures onto the premises for use on on-site tree plantations or blended into soil mixes to reflect current site practices; and
- Increase the overall annual tonnage of compost permitted to be generated on the premises from 12,000 tonnes per annum to 20,000 tonnes per annum.

As part of the assessment, DWER officers attended the premises for a site visit on 7 August 2023.

Char production on the premises ceased 31 July 2016. All conditions relating to Category 37: Char manufacturing have been removed from the licence as part of this amendment.

3. Risk assessment

The department assesses the risks of emissions from prescribed premises and identifies the potential source, pathway and impact to receptors in accordance with the *Guideline: Risk assessments* (DWER 2020).

To establish a risk event there must be an emission, a receptor which may be exposed to that emission through an identified actual or likely pathway, and a potential adverse effect to the receptor from exposure to that emission.

3.1 Source-pathways and receptors

3.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises operation which have been considered in this amendment report are detailed in Table 1 below.

Table 1 also details the proposed control measures the licence holder has proposed to assist in controlling these emissions, where necessary.

Table 1: Licence holder controls

Emission	Sources	Potential pathways	Proposed controls
Odour	Truck unloading, handling/sorting, storage and composting of increased throughputs of FOGO waste materials	Air/windborne pathway	<ul style="list-style-type: none"> • Windrows will be formed within 48 hours of decontaminated FOGO being received; • Temperature will be maintained at 55°C and above in the windrow for 15 days to guarantee that the whole material of the windrow has been pasteurised; • Turning regime of 4 days on average; • Windrows will be turned with a Komptech Topturn X60 to aerate and homogenise the blend; • A layer of 300mm of composted green waste will be added over any blending or received FOGO; • A layer of 300mm of composted green waste will be added on the initial three windrows; • Odour patrols performed by staff on-site; • Divert unusually odourous loads to landfill; • Moisture to be maintained and tested via a squeeze test; • Maintain C:N ratios; and • Operate in accordance with the Operational Odour Analysis.
Noise			<ul style="list-style-type: none"> • All vehicles to have “croakers” or low frequency type reversing alarms; • Vehicles will travel at a low speed due to speed and space restrictions on site; • Only materials that do not emit excessive noise when handled or

Emission	Sources	Potential pathways	Proposed controls	
			<ul style="list-style-type: none"> unloaded accepted on site; and The licence holder has control over all users of the facility and can address any potentially excessive noise emissions. 	
Dust (including bioaerosols)			<ul style="list-style-type: none"> Moisture levels in compost are maintained at relatively elevated levels; Compost turning performed by a windrow turner which has the capacity to add moisture to the compost through built in water sprays; and The hardstand is sealed. 	
Fire / smoke			<ul style="list-style-type: none"> Temperature will be monitored every 2-3 days initially at minimum depths of 60cm, at half height of the windrow and at every 10cm. When the temperature starts reaching 55°C and above, temperature will be monitored daily. A check of the temperature will be performed at ¼, ½ and ¾ of the length of the windrow just before the scheduled turning period to verify the presence of a temperature at or above 55°C; Moisture levels in compost are maintained at relatively elevated levels; and If windrow temperature reaches above 70°C, the window will be turned immediately and the moisture content verified. 	
Litter and debris			<ul style="list-style-type: none"> FOGO is decontaminated prior to receiving on site. 	
Vectors / vermin			Biological pathway	<ul style="list-style-type: none"> Windrows will be formed within 48 hours of decontaminated FOGO being received; and A layer of 300mm of composted green waste will be added over any blending or received FOGO.
Leachate / contaminated stormwater /			Overland runoff and infiltration into underlying soil	<ul style="list-style-type: none"> All leachate is directed to, and contained within the onsite clay lined leachate pond;

Emission	Sources	Potential pathways	Proposed controls
fire water		and groundwater	<ul style="list-style-type: none"> • New deliveries of FOGO are delivered to the area immediately in front of the leachate pond where kerbing and channels on the hardstand direct leachate to the leachate pond; • Water from leachate pond is periodically tested for water quality; • Moisture to be maintained and tested via a squeeze test; • If large volumes of run-off occurs at the time of construction of the windrow then new mixing with green waste or sand will occur to rebuild the windrow; • A 300 mm layer of composted green waste will be added to a windrow if it is too moist; and • Only composted manures, wood fines, shredded green waste or blended products are stored off the hardstand.
Release of physical, chemical and / or biological contamination	Product quality	Direct contact of product by consumers and the receiving environment.	<ul style="list-style-type: none"> • Compost pasteurised over a 15 day period and tested; and • Finished product is screened and laboratory tested pursuant to AS 4454.

3.1.2 Receptors

In accordance with the *Guideline: Risk assessments* (DWER 2020), the Delegated Officer has excluded employees, visitors and contractors of the licence holder's from its assessment. Protection of these parties often involves different exposure risks and prevention strategies, and is provided for under other state legislation.

Table 2 and Figure 1 below provides a summary of potential human and environmental receptors that may be impacted as a result of activities upon or emission and discharges from the prescribed premises (*Guideline: Environmental siting* (DWER 2020)).

Table 2: Sensitive human and environmental receptors and distance from prescribed activity

Human receptors	Distance from prescribed activity
Industrial premises – AustSand Mining	Approximately 200 m south-east of prescribed activity
Residential premises	Approximately 600 m south-west of the prescribed activity Approximately 1.4 km south-west of the prescribed activity Approximately 3.6 & 5.16 km west of the prescribed activity Approximately 3.7 km north-east of prescribed activity Approximately 4.3 & 4.7 km south-east of the prescribed activity Approximately 5.4 km south of the prescribed activity Approximately 5.18 km north-west of prescribed activity Approximately 4 & 5.25 km south-west of the prescribed activity
Users of products	Broad-acre application on pine plantations both on and off-site, noting no restrictions are proposed on the use of the products and the licence holder has indicated the intention to sell the product in the future.
Environmental receptors	Distance from prescribed activity
Significant wetlands	Minidijup Road wetland (conservation class) – approximately 1.4 km south of prescribed activity Lake Corimup (National (ANCA)) – approximately 5.7 km east of prescribed activity
DBCA legislated tenure – conservation of flora and fauna	Approximately 3.7 km east of the prescribed activity
Albany Waterways Management Area	Within management area
Kalgan River	Approximately 760 m north-west of the prescribed activity
Threatened fauna – Baudin's Cockatoo (<i>Calyptorhynchus baudinii</i>) and white tailed black cockatoo (<i>Calyptorhynchus sp.</i>)	Found within 3 km of the premises
Underlying groundwater	According to a previous application submitted by the licence holder, groundwater is >10 m bgl. Previous monitoring undertaken at the site in 2017 and 2018 has indicated depths between 16 and 31 m bgl. Salinity measured in previous monitoring on site ranges from 470 to 1,400 $\mu\text{S}/\text{cm}$.

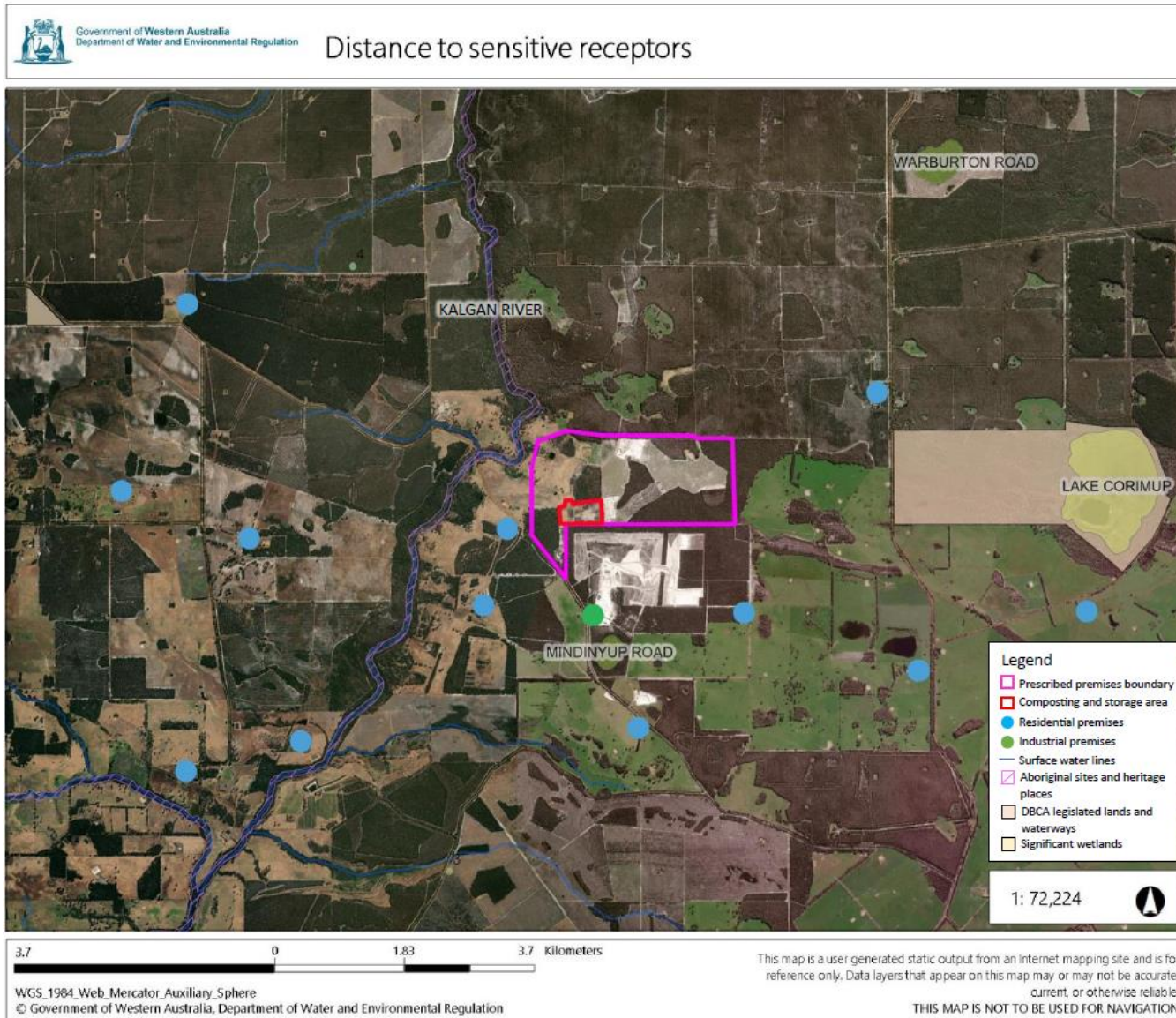


Figure 1: Distance to Sensitive Receptors

L7344/1998/10

IR-T15 Amendment report template v3.0 (May 2021)

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) for those emission sources which are proposed to change and takes into account potential source-pathway and receptor linkages as identified in Section 3.1. Where linkages are incomplete they have not been considered further in the risk assessment.

Where the licence holder has proposed mitigation measures/controls (as detailed in Section 3.1), these have been considered when determining the final risk rating. Where the delegated officer considers the licence holder's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the licence as regulatory controls.

Additional regulatory controls may be imposed where the licence holder's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 3.

The revised licence L7344/1998/10 that accompanies this amendment report authorises emissions associated with the operation of the premises.

The conditions in the revised licence have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

Table 3. Risk assessment of potential emissions and discharges from the premises during operation

Risk Event					Risk rating ¹ C = consequence L = likelihood	Licence holder's controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls		
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence holder's controls						
Operation										
Truck unloading, handling/sorting, storage and composting of increased throughputs of FOGO waste materials	Odour	Air/windborne pathway causing impacts to human and ecosystem health and amenity	Nearby rural properties (closest 600 m south-west of prescribed activity) Industrial premises 200 m south-east of prescribed activity Threatened fauna DBCA legislated tenure 3.7 km east of prescribed activity	See Section 3.1	C = Moderate L = Likely High Risk	Y	See detailed risk assessment Section 3.3			
	Noise			See Section 3.1	C = Minor L = Rare Low Risk				Emission to be regulated under the <i>Environmental Protection (Noise) Regulations 1997</i>	N/A
	Dust (including bioaerosols)			See Section 3.1	C = Minor L = Rare Low Risk				Existing conditions of licence: Conditions 5, 17, 55, 56 & 57	N/A
	Fire / smoke			See Section 3.1	C = Severe L = Unlikely High Risk				Existing conditions of licence: Conditions 5, 14 & 20	N/A
	Litter and debris			See Section 3.1	C = Minor L = Unlikely Medium Risk				Existing conditions of licence: Conditions 15, 55, 56 & 57	N/A
	Vectors / vermin	Biological pathway causing impacts to human and ecosystem health and amenity	Nearby rural properties (closest 600 m south-west of prescribed activity) Industrial premises 200 m south-east of prescribed activity Threatened fauna DBCA legislated tenure 3.7 km east of prescribed activity	See Section 3.1	C = Minor L = Possible Medium Risk	Y	Existing conditions of licence: Conditions 5, 55, 56 & 57	N/A		
	Leachate / contaminated stormwater / firewater	Overland runoff and infiltration to underlying soil and groundwater causing ecosystem disturbance and health of groundwater users	Nearby rural properties (closest 600 m south-west of prescribed activity) Industrial premises 200 m south-east of prescribed activity Groundwater 16 – 31 m bgl Significant wetlands 1.4 km south and 5.7 km east of prescribed activity Kalgan River 760 m	See Section 3.1	C = Moderate L = Possible Medium Risk	Y	See detailed risk assessment Section 3.4			

Risk Event					Risk rating ¹	Licence holder's controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence holder's controls	C = consequence L = likelihood			
			north-west of prescribed activity Albany Waterways Management Area					
Use of end product	Release of physical, chemical and / or biological contamination	Direct contact of product by consumers and the receiving environment impacting amenity and environmental and human health	Product users and the environment receiving the product	See Section 3.1	C = Moderate L = Possible Medium Risk	N	New conditions: Conditions <u>5, 6 & 7</u> Existing conditions of licence: Conditions 8, 9, 10 & 11	<p>The delegated officer determines it appropriate to specify that all feedstocks must be either processed into a recycled organic product or managed as a waste at the premises. Condition 5 has been updated to reflect this requirement.</p> <p>The <i>Guideline: Better Practice Organics Recycling</i> (the guideline) was released in December 2022. The licence holder produces only Category A products on the premises, as defined in the guideline. The licence holder noted that leachate is re-used back on compost windrows for the purpose of moisture addition. The guideline specifies that as a minimum, leachate is not to be re-used on material that has already been pasteurised or begun the pasteurisation process. Re-using leachate has the potential to cause cross-contamination and reintroduce weeds and pathogens to pasteurised material. Management measures must be implemented to prevent recontamination of pasteurised material for a product to be considered a Category A product. The licence holder has requested to continue reusing the water in the Retention Pond in the composting process due to water supply restrictions. As the licence holder is authorized to accept a number of high-risk feedstocks (manure, FOGO and biosolids) on the premises which are known to contain a number of pathogens that may infect humans, the delegated officer has determined that monthly testing of the Retention Pond water for indicator pathogen species is required to demonstrate the Retention Pond water is unlikely to re-inoculate stockpiles with pathogens. Monthly testing will ensure that over the seven week composting period, the Retention Pond water has been tested twice over the life cycle of a stockpile. The delegated officer has included conditions 6 and 7 to specify the testing and reuse requirements for water in the Retention Pond.</p> <p>During the site visit, it was noted that compost windrows were being stored with the most mature windrow closest to the leachate pond. The licence holder noted that this was an error and would be rectified for the next batch. The delegated officer has amended condition 5 to state that the most mature windrow must be furthest from the leachate pond, as per the Compost Management Plan. Storing the most mature window upgradient of less mature windrows prevents cross contamination as leachate drains toward the leachate pond.</p>

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guideline: Risk assessments* (DWER 2020).

Note 2: Proposed licence holder's controls are depicted by standard text. **Bold and underline text** depicts additional regulatory controls imposed by department.

3.3 Detailed risk assessment for odour

3.3.1 Description of emissions risk event

The licence holder has applied for an amendment to licence L7344/1998/10 to increase the amount of FOGO waste accepted and composted on the premises from 4,800 tonnes per annual period to 10,000 tonnes per annual period. FOGO waste is sourced from the City of Albany’s kerbside waste collection service and is decontaminated at an appropriately licensed facility before being delivered to the premises.

The amendment also seeks to add the acceptance of 1,000 tonnes per annual period of composted manure for use on the premises to spread around the on-site tree farm and additionally for soil blending. The licence holder already accepts and processes 1,000 tonnes per annual period of composted manure but has requested the licence be updated to reflect this.

Acceptance, storage, composting and blending of FOGO waste and composted manure has the potential to generate odour emissions from the premises which may impact the health and amenity of nearby human receptors.

Residential and industrial receptors are show in Figure 2 below.

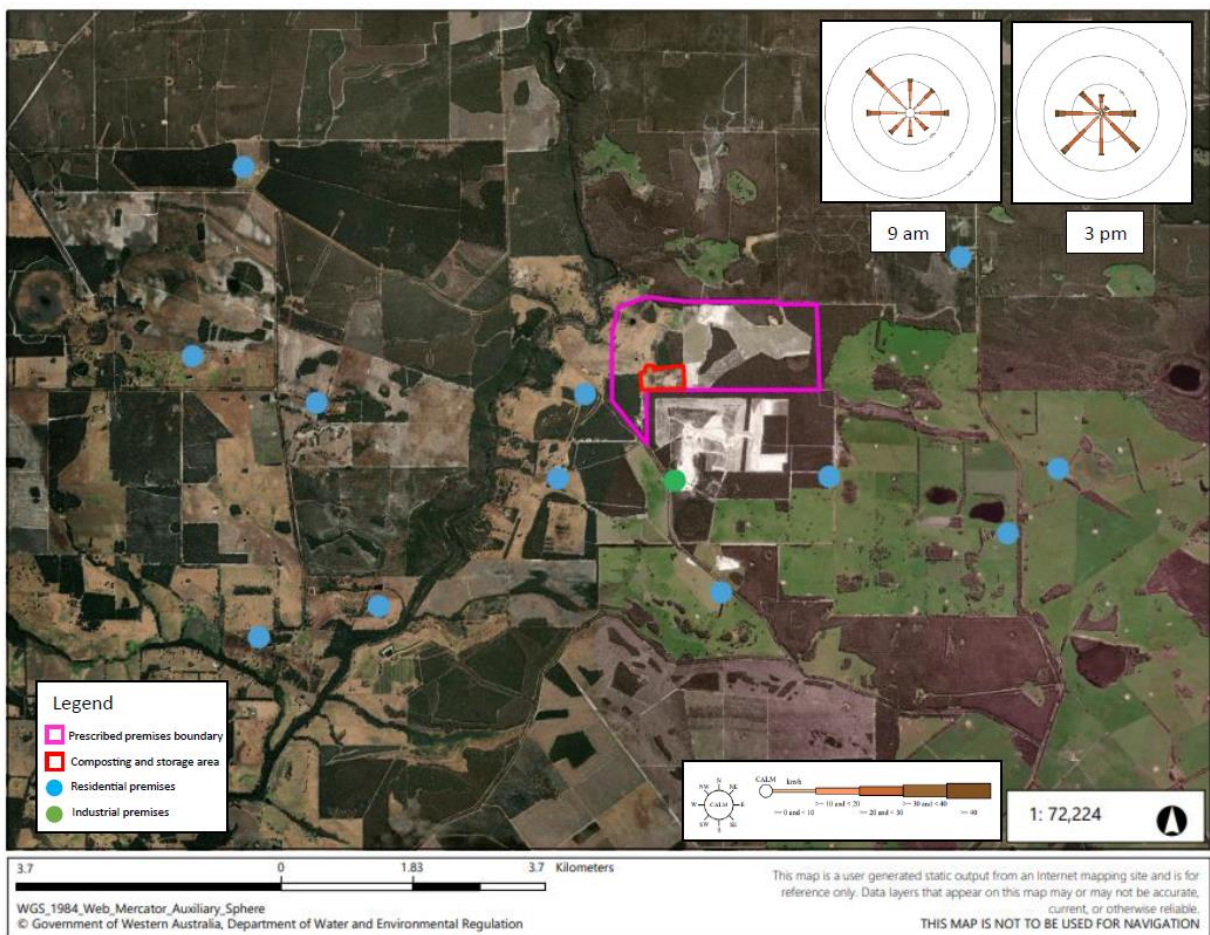


Figure 2: Distance to residential and industrial receptors showing average prevailing wind (wind roses source: BoM Station: 009741)

3.3.2 Identification and characterisation of the emission

The *Guideline: Better practice organics recycling* (the guideline; DWER 2022) was released in December 2022. The guideline lists FOGO waste and manure as high-risk feedstocks and both waste types are considered to be highly odourous feedstocks.

The premises accepts green waste and straw for composting and has been accepting FOGO waste since 26 July 2021. The premises has not yet commenced accepting biosolids.

As part of the previous amendment (1 July 2021) to authorise the acceptance, storage and composting of FOGO waste on the premises, the licence holder was required to conduct an odour field assessment (OFA) in accordance with the *Guideline: Odour Emissions* and European Standard EN 16841-2 (plume method) within the first six months of receiving FOGO waste or biosolids on the premises. The purpose of the OFA was to address the high-degree of uncertainty around the impact of odour on sensitive receptors. On 23 November 2023, the licence holder sent an email stating that an odour field assessment had not yet been completed due to delays in the acceptance of biosolids on the premises. The licence holder has requested the requirement for an odour field assessment be removed from the licence as there have been no observed impacts noted during the ongoing odour patrols and there have been no odour complaints received for the premises since the acceptance and composting of FOGO in July 2021.

As part of this assessment, on 7 August 2023 DWER officers conducted a site visit at the premises. Officers noted minimal odour with only low levels detected within a couple of meters of windrows on the downwind side. Based on the compost management plan, the last delivery of FOGO waste on the premises was 4 August 2023, three days prior to the site inspection.

3.3.3 Description of potential adverse impacts from emission

Exposure to nuisance odour may affect general quality of life and wellbeing (amenity) leading to disturbance of normal day to day activities at surrounding residential and industrial premises. Individual responses to odour may vary depending on a person's particular sensitivity, age, health status and previous patterns of exposure.

The guideline states that composting of high-risk feedstocks should be carried out inside an enclosed structure when within 1km of sensitive receptors. The closest residential receptor is 600 m south-west of the prescribed activity.

3.3.4 Licence holder's controls

The licence holder's controls are detailed in Section 3.1.

One of the key controls proposed by the licence holder in July 2021 was to conduct odour patrols. The licence holder has suitably qualified staff members who undertake odour patrols at a frequency as detailed in licence L7344/1998/10 depending on intensity. The results of the odour assessment are unclear as the licence holder has not submitted complete annual reports to the department for the previous two annual periods.

3.3.5 Key findings

The delegated officer has reviewed the information regarding odour and has found:

1. FOGO waste and manure are considered highly odourous feedstocks, however, composted manure may be considerably less odourous than fresh manure. Composted manure is already accepted and processed on the premises.
2. There are several non-compliances with licence conditions including no submission of reports that would detail the extent of odour from the premises and efficacy of odour controls. Therefore, the delegated officer remains uncertain on the efficacy of

odour controls.

3. The guideline states that composting high-risk feedstocks within 1km of sensitive receptors should be carried out inside an enclosed facility.
4. At the time of the site visit, DWER officers did not notice unreasonable odour emissions from the premises.
5. The department has not received any odour complaints regarding the premises.

3.3.6 Risk Assessment

The delegated officer has:

- Considered that the consequence to receptors (residential and industrial premises) exposed to odour emissions from the premises could have **moderate** impacts to human health and amenity;
- Considered that the likelihood of impacts to receptors is **possible** based on the controls proposed by the licence holder and the licence holder's compliance history; and
- Determined that the overall risk of impacts from odour emissions, based on a consequence of moderate and a likelihood of possible, is **medium**.

3.3.7 Additional regulatory controls

The delegated officer has not removed the requirement to conduct an OFA. A high-degree of uncertainty remains regarding the additive potential for odour impacts from the additional acceptance, storage and composting of biosolids as well as FOGO waste. As biosolids have not yet been accepted on the premises, the delegated officer has amended the condition to require an OFA within six months of the first delivery of biosolids to the premises.

The guideline specifies a benchmark control for odour emissions is that storage and aerobic composting of high-risk feedstocks within 1 km of sensitive receptors is carried out inside an enclosed structure with air extraction, negative pressure and a built-in odour-treatment system. If odour monitoring is not effective at mapping out the nature, extent and any impacts from odour from the premises, site improvements to enclose the feedstock storage and composting activities to reduce odour emissions from the premises may be required.

3.4 Detailed risk assessment for leachate

3.4.1 Description of emissions risk event

The licence holder has applied to increase the amount of FOGO waste accepted and composted on the premises from 4,800 tonnes per annual period to 10,000 tonnes per annual period. The acceptance, storage and composting of FOGO waste has the potential to generate leachate through the decomposition of waste material and through water applied during the composting process or rain. Feedstocks and compost are stored on the composting hardstand which is graded toward a retention pond.

Leachate has the potential to infiltrate into groundwater through defects in the retention pond or the hardstand. Visible scouring on the banks of the retention pond have been noted on historical satellite imagery and during the site visit, officers noted large defects on the hardstand area. Leachate may also enter surface water system through overland runoff or overtopping of the retention pond.

Spraying leachate onto pasteurised compost and/or mulch as dust suppressant or additional moisture could also have the potential to reintroduce contaminants such as pathogens and viable plant propagules into the compost product.

The licence holder currently uses water from the retention pond back on the windrows on the composting hardstand as a water saving measure.

The amendment also seeks to add the acceptance of 1,000 tonnes per annual period of composted manure for use on the premises to spread around the on-site tree farm and additionally for soil blending. The licence holder already accepts and processes 1,000 tonnes per annual period of composted manure but has requested the licence be updated to reflect this.

Composted manure is currently stored on the compost feed stock storage area to the east of the composting hardstand. The compost and feedstock storage area is not a hardstand area and is not graded toward the retention pond.

3.4.2 Identification and characterisation of the emission

Leachate generated from the acceptance, storage and composting of feedstocks may contain elevated levels of nutrients, metals, salts, pathogens, viable plant propagules and other decomposition products of waste.

There is currently no active treatment of leachate in the retention pond, leachate may only be altered by evaporation (concentration) and passive biodegradation.

3.4.3 Description of potential adverse impacts from emission

Groundwater

Receptors that may be affected by leachate emissions include current and future beneficial users of groundwater. The premises is located on the edge of the Albany hinterland area. The Albany hinterland region is unproclaimed, however, contains several large areas of groundwater and has strong potential to support future expansion in agriculture and fit for purpose industrial or potable drinking water supplies.

There are four hinterland areas with prospective groundwater resources including the Kalgan River groundwater resource. The Kalgan River groundwater resource is approximately 4 km south-west of the prescribe premises.

The surficial aquifer of the area is the Pallinup Formation which is an unconfined aquifer of low permeability. The aquifer tends to be low yielding, however, along the Kalgan River and its tributaries the Pallinup aquifer is sandier than in other areas of the hinterland and may be suitable for future abstraction. Groundwater is fresh to saline.

Groundwater beneath the premises is approximately 16 -31 m below ground level.

Groundwater may become contaminated by leachate infiltrating through defects in the hardstand or retention pond. Additionally, the compost feed stock storage area is not a hardstand thereby creating a direct pathway for leachate to infiltrate to groundwater.

There are no groundwater monitoring bores on the premises around the composting area with the closest bores being located approximately 700 m north-east of the composting area. It is inferred that groundwater flows in a west to north-west direction toward the Kalgan River.

Human and ecological health may be impacted by coming into contact with contaminated groundwater. There are no known current groundwater users within the vicinity of the premises, however, as the area is not proclaimed and abstraction is not regulated, it is possible nearby premises are beneficial users of groundwater.

Surface Water

The Kalgan River is approximately 760 m west and north-west of the prescribed activity. The Mindinyup Road and Lake Corimup wetlands are approximately 1.4 km south and 5.7 km east of the prescribed activity respectively.

The Kalgan River is a registered Aboriginal heritage site (place ID:31739) that has high cultural, social, environmental and economic value. The Kalgan River is the largest catchment to Oyster Harbour. Both the Kalgan River and Oyster Harbour are used for recreational and commercial activities including swimming, fishing and boating. Oyster Harbour hosts a large seagrass habitat and is home to the native oyster (*Ostrea angas*).

Leachate may enter surface water systems via overland runoff or via groundwater. Leachate can contain high levels of contaminants that can lead to a degradation of water quality impacting human health and ecosystem health and function.

3.4.4 Licence holder's controls

The licence holder's controls are detailed in Section 3.1.

During the site visit, officers noted that the only half of the composting hardstand had been constructed and of the section that had been constructed there were a number of defects and potholes in that hardstand. It was also noted in historical satellite imagery that there had been significant scouring on the walls of the retention pond. The scouring had been repaired since the site visit and the licence holder verbally noted to officers that defects in the hardstand were to be fixed as well.

3.4.5 Key findings

The delegated officer has reviewed the information regarding leachate and has found:

1. Leachate may contain elevated levels of nutrients, metals, salts, pathogens, viable plant propagules and other decomposition products of waste.
2. Leachate control infrastructure including the composting hardstand and the retention pond have been observed to contain a number of defects.
3. Composted manure and feedstocks are not stored on a hardstand and the compost and feedstock storage area is not graded toward the retention pond.
4. Leachate emissions have the potential to degrade water quality and impact human and ecological health of nearby sensitive receptors.
5. There are no groundwater monitoring wells in the vicinity of the composting area. Groundwater is not well understood under the premises and may either be low yielding or have the potential for future abstraction.

3.4.6 Risk Assessment

The delegated officer has:

- Considered that the consequence to receptors (beneficial users of groundwater, significant wetlands and the Kalgan River) exposed to leachate emissions from the premises could have **moderate** impacts to human and ecological health;
- Considered that the likelihood of impacts to receptors is **possible** based on the controls proposed by the licence holder and observations made during the site visit; and
- Determined that the overall risk of impacts from leachate emissions, based on a consequence of moderate and a likelihood of possible, is **medium**.

3.4.7 Additional regulatory controls

In considering the findings of the risk assessment for contaminated groundwater and surface water through infiltration and overland run-off of leachate from the site, the delegated officer considers the additional regulatory controls listed in Table 4 as necessary to address the uncertainties surrounding the containment of leachate.

Table 4: Summary of additional regulatory controls

Condition number	Regulatory control
Condition 5	Manures are considered a high-risk feedstock. Composted manures contain high levels of nutrients. The delegated officer does not consider it appropriate for composted manures accepted on site to be stored off the composting hardstand due to the potential for leachate generation and contaminated stormwater. Condition 5 has been amended to require composted manure to be stored and blended on the composting hardstand so leachate / contaminated stormwater will be directed into the leachate pond.
Condition 13	A site visit was conducted by the department on 7 August 2023 as part of the application process. DWER officers noted that only approximately half of the composting hardstand had been constructed and there was damage including large potholes in the existing hardstand. Condition 13 has been included to ensure the hardstand area is maintained in good working order and remains an effective control. The delegated officer considers it appropriate that composting activities and storage is only done so on completed hardstand.
Condition 27, 28 & 50	<p>Uncertainty exists regarding the efficacy of leachate containment and control measures. Given the observed defects in the hardstand, retention pond and the storage of feedstocks off of an engineered hardstand, the delegated officer considers it appropriate to install two groundwater monitoring bores, one up hydraulic gradient of the composting area and one immediately down hydraulic gradient of the retention pond. Groundwater monitoring requirements have also been included to observe for any impacts to groundwater. Conditions 27 and 50 have been added accordingly.</p> <p>If consecutive groundwater monitoring events indicate elevated levels of contaminants in the groundwater likely associated with composting activities on the premises, the delegated officer may wish to review the efficacy of leachate controls.</p>
Condition 50	Daily moisture content monitoring has been included to reduce the potential for oversaturation of compost windrows and excess leachate generation

4. Consultation

Table 5 provides a summary of the consultation undertaken by the department.

Table 5: Consultation

Consultation method	Comments received	Department response
Application advertised on the department's website 27 July 2023	None received	N/A
The City of Albany advised of proposal 20 July 2023	None received	N/A
Licence Holder was provided with the draft amendment on 14 December 2023	See Appendix 1	See Appendix 1

5. Conclusion

Based on the assessment in this amendment report, the delegated officer has determined that a revised licence will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

5.1 Summary of amendments

Table 6 provides a summary of the proposed amendments and will act as record of implemented changes. All proposed changes have been incorporated into the revised licence as part of the amendment process.

Table 6: Summary of licence amendments

Condition no.	Proposed amendments
N/A	Category 37: Char manufacturing removed as this was a trial for a 12 month period
3	Remove green waste accepted under category 37.
3	Increasing combined total of feedstocks accepted under category 67A to 20,000 tpa.
3	Inclusion of composted manure as an accepted feedstock.
3	Increasing maximum quantity limit of FOGO waste from 4,800 tpa to 10,000 tpa
5	Included processing requirements for all feedstocks accepted under category 67A and processing requirements for composted manure.
6	Inclusion of leachate reuse requirements
7	Inclusion of leachate monitoring requirements
10	Requirement to reprocess or remove recycled organic products that exceed contaminant thresholds.
13	Requirement for composting hardstand area to be free of defects and be graded

Condition no.	Proposed amendments
	to the retention pond to prevent pooling.
19	Remove requirement for management plan for char production.
27	Requirement to install two groundwater monitoring bores associated with the composting area.
36	Removed authorised emission points to air relating to char production.
43	Removed monitoring requirements for char production.
44	Removed requirement for notification for an odour field assessment within 6-months of receipt of the first delivery of biosolids.
46	Removal of process monitoring for char manufacturing.
49	Inclusion of the need for daily moisture content monitoring of compost windrows.
50	Inclusion of groundwater monitoring suite for new monitoring bores constructed for the composting area.
51	Removal of improvement program for char production.
57	Addition of leachate monitoring reporting requirements in annual environmental report.
57	Removal of reporting requirement for char production in annual environmental report.
57	Addition of groundwater monitoring reporting in annual environmental report.
Definitions	Inclusion of definition for recycled organic products.
Figure 2	Removal of figure relating to char manufacturing.

1. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
2. Department of Water and Environmental Regulation (DWER) 2022, *Guideline: Better Practice Organics Recycling*, Perth, Western Australia.
3. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
4. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Risk Assessments*, Perth, Western Australia.

Appendix 1: Summary of licence holder's comments on risk assessment and draft conditions

Condition	Summary of licence holder's comment	Department's response
<p>All conditions relating to Category 37: Char manufacturing (Conditions 1, 18, 42, 50, 56, Table 17 & Figure 2)</p>	<p>Category 37: char manufacturing has been removed in the draft licence. Whilst this activity is not currently occurring on site, we do wish to maintain this category on the licence for potential future use. Removal of this category was not something requested by us. Can this be reinstated.</p>	<p>Char production has not been permitted on the premises since 31 July 2016. If/when Vancouver Waste Services wishes to reinstate char manufacturing, the department considers it appropriate that this activity is reassessed to the current regulatory framework. As such, the category and all associated conditions have been removed.</p>
<p>Condition 6 (leachate water reuse)</p>	<p>The use of water from the onsite leachate pond for composting has always been our intention. This enables us to maintain the required freeboard on the leachate pond and provide the required moisture to the windrows throughout the composting process. Is there an option to have the leachate pond water tested at agreed intervals and in the event that it meets the required pathogen limits that finished compost is required to meet, then the water can be used throughout the composting process?</p>	<p>The <i>Guideline: Better Practice Organics Recycling</i> (DWER 2022) outlines benchmark controls operators can use to achieve the environmental performance objectives (EPO). To meet the EPO for product quality, operators must ensure that contaminants in feedstocks are treated effectively and recycled organic products are fit for purpose. For Category A products, operators need to implement management measures to prevent recontamination of pasteurised material. Table 8 of the guideline states that "As a minimum, this requires that the re-use of leachate is not applied to material that has already been pasteurised." However, as stated in Section 6.3 of the guideline, we support suitable alternative controls where operators may demonstrate that they can still achieve the EPOs.</p> <p>Giving regard to this provision for alternative controls, the delegated officer finds it acceptable to reuse leachate pond water in the composting process if the leachate pond water is demonstrated to contain low to no concentrations of pathogens. The delegated officer has included provisions for monthly testing of the Retention Pond water for indicator pathogen species. Conditions 6 and 7 have been included to specify testing and reuse requirements. Reporting of monitoring results has also been included in the annual environmental report (Condition 57).</p>

Condition	Summary of licence holder's comment	Department's response
		<p>If testing of the Retention Pond water consistently does not meet the upper contaminant limits for indicator pathogen species as specified in Condition 7, then the delegated officer may review the effectiveness of the controls for product quality and reuse of leachate water.</p>

Appendix 2: Application validation summary

SECTION 1: APPLICATION SUMMARY				
Application type				
Works approval	<input type="checkbox"/>			
Licence	<input type="checkbox"/>	Relevant works approval number:		None <input type="checkbox"/>
		Has the works approval been complied with?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
		Has time limited operations under the works approval demonstrated acceptable operations?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	
		Environmental Compliance Report / Critical Containment Infrastructure Report submitted?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
		Date Report received:		
Renewal	<input type="checkbox"/>	Current licence number:		
Amendment to works approval	<input type="checkbox"/>	Current works approval number:		
Amendment to licence	<input checked="" type="checkbox"/>	Current licence number:	L7344/1998/10	
		Relevant works approval number:		N/A <input type="checkbox"/>
Registration	<input type="checkbox"/>	Current works approval number:		None <input type="checkbox"/>
Date application received	2 May 2023			
Applicant and Premises details				
Applicant name/s (full legal name/s)	Vancouver Waste Services Pty Ltd			
Premises name	Mindijup Road Multiple Use Facility			
Premises location	Part of Lot 3 on Diagram 61867 and Part of Lot 102 on Plan 22860			
Local Government Authority	City of Albany			
Application documents				
HPCM file reference number:	DER2016/002256-1~6			
Key application documents (additional to application form):	Compost Management Plan Odour Screening Analysis Operational Odour Analysis			
Scope of application/assessment				
Summary of proposed activities or changes to existing operations.	Licence amendment to increase the waste acceptance quality limit for FOGO from 4,800 tpa to 10,000 tpa and include 1,000 tpa of composted manure.			

Category number/s (activities that cause the premises to become prescribed premises)

Table 1: Prescribed premises categories

Prescribed premises category and description	Assessed production or design capacity	Proposed changes to the production or design capacity (amendments only)
Category 67A: Compost manufacturing and soil blending	12,000 tpa (4,800 tpa of FOGO waste)	20,000 tpa (limit of 10,000 tpa FOGO waste and 1,000 tpa of composted manure)
Category 12: Screening etc. of material	400,000 tpa	No change
Category 37: Char manufacturing	4,000 tpa	No change
Category 62: Solid waste depot	17,000 tpa	No change
Category 63: Class I inert landfill site	5,500 tpa	No change
Category 64: Class II or III putrescible landfill site	50,000 tpa	No change

Legislative context and other approvals

Has the applicant referred, or do they intend to refer, their proposal to the EPA under Part IV of the EP Act as a significant proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Referral decision No: N/A Managed under Part V <input type="checkbox"/> Assessed under Part IV <input type="checkbox"/>
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Ministerial statement No: N/A EPA Report No: N/A
Has the proposal been referred and/or assessed under the EPBC Act?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Reference No: N/A
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Certificate of title <input checked="" type="checkbox"/> General lease <input type="checkbox"/> Expiry: Mining lease / tenement <input type="checkbox"/> Expiry: Other evidence <input type="checkbox"/> Expiry:
Has the applicant obtained all relevant planning approvals?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Approval: P295102 Expiry date: N/A If N/A explain why? No expiry date provided on planning consent.
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	CPS No: N/A No clearing is proposed.

<p>Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>Application reference No: N/A Licence/permit No: N/A No clearing is proposed.</p>
<p>Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>Application reference No: N/A Licence/permit No: N/A Licence / permit not required.</p>
<p>Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>Name: N/A Type: N/A Has Regulatory Services (Water) been consulted? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Regional office: N/A</p>
<p>Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/></p>	<p>Name: N/A Priority: N/A Are the proposed activities/ landuse compatible with the PDWSA (refer to WQPN 25)? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/></p>
<p>Is the Premises subject to any other Acts or subsidiary regulations (e.g. <i>Dangerous Goods Safety Act 2004, Environmental Protection (Controlled Waste) Regulations 2004, State Agreement Act xxxx</i>)</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>N/A</p>
<p>Is the Premises within an Environmental Protection Policy (EPP) Area?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>N/A</p>
<p>Is the Premises subject to any EPP requirements?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>N/A</p>
<p>Is the Premises a known or suspected contaminated site under the <i>Contaminated Sites Act 2003</i>?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>Classification: N/A Date of classification: N/A</p>