Government of Western Australia
Department of Water and Environmental Regulation

Decision Report

Application for Works Approval

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

Works Approval Number	W6905/2024/1
Applicant	Van Tiep Doan, Thi Chinh Duong and Van Phu Doan
File number	DER2023/000583
Premises	Mushroom Compost Facility Lots 800 and 801 Military Road MUCKENBURRA WA 6503 Legal description - Lot 800 and Lot 801 on Deposited Plan 423409 Certificate of Title Volume LR4024 Folio 518 and 519
Date of report	24/09/2024
Decision	Works approval granted

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A/MANAGER WASTE INDUSTRIES

Officer delegated under section 20
of the Environmental Protection Act 1986

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1. Decision summary

This Decision Report documents the assessment of potential risks to the environment and to public health from emissions and discharges during the construction and operation of the premises. As a result of this assessment, Works Approval W6905/2024/1 has been granted.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this decision report, the Department of Water and Environmental Regulation (the department; DWER) 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.

2.2 Application summary and overview of premises

On 7 September 2023, the applicant submitted an application for a works approval to the department under section 54 of the *Environmental Protection Act 1986* (EP Act).

The application is to undertake works relating to the construction of a mushroom composting facility at the premises to manufacture up to 5,590 tonnes of compost per annual period. The compost produced onsite will be inoculated with mushroom spawn and transported to the applicant's mushroom farm where it will be used as mushroom growing media.

2.2.1 Premises overview

The prescribed premises comprises the boundaries of Lots 800 and 801 on Military Road, Muckenburra, located approximately 19 km west of Gingin. The premises is situated in a designated bush fire prone area and in an area of moderate to low risk of acid sulfate soils. The Quin Brook bisects the north-eastern portion of the premises, with the Gingin Brook located approximately 1.8 km north of the premises boundary. The nearest residential premises are located just over a kilometre to the west and north-west of the premises. The mushroom composting facility is proposed to be located on the south-eastern corner of Lot 800, approximately 350 m south-west of the Quin Brook.

The premises relates to the category and assessed production capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in Works Approval W6905/2024/1. The infrastructure and equipment relating to the premises category and any associated activities which the department has considered in line with *Guideline: Risk Assessments* (DWER, 2020b) are outlined in Works Approval W6905/2024/1.

2.2.2 Proposed operational activities under time-limited operations

Time-limited operations have been requested to allow composting activities to commence after construction of the facility. The starting production rate is proposed to be 26 batches per year, and later 52 batches per year of Phase 3 growing substrate.

It is proposed that the facility will be operated from 7.00 am to 5.00 pm on Mondays to Fridays, and 7.00 am to 12.00 pm on Saturdays, with the on-site manager remaining present after operational hours. Articulated B-Double trucks (up to 27.5 m in length) will deliver feedstocks (litter, chicken manure, gypsum and clean straw) to the facility approximately once a week. All feedstocks, apart from baled straw, will be unloaded within the enclosed composting facility building where they will be stored in bunkers. A maximum of 800 m^3 (640 tonnes) of chicken manure is proposed to be stored on the premises. Baled straw will be stored in a designated area external to the building, with a maximum of 1,500 bales (750 tonnes) stored at any one time.

Approximately 5,133 kL of clean water will be required for composting processes. This water is proposed to be sourced from a lined Rain Water Pond constructed to the north of the proposed facility building. The Rain Water Pond will collect water runoff from access roads outside of the enclosed facility and the facility building roof. The Works Approval Holder plans to supplement the Rain Water Pond with groundwater extracted from an existing groundwater bore (GWL150925) on the premises if required during the drier months. The Works Approval Holder has advised that they will be applying to transfer the existing Groundwater Licence for Lot 801 Military Road, Muckenburra, for this purpose. The existing Groundwater Licence allows for the extraction of 44,950 kL of water per year. All mapped water resources for this zone (Beermullah Superficial, SA3 Leederville and SA3 Yarragadee North) are fully allocated and no additional volumes from the allocation pool will be granted.

Any contaminated water or leachate produced from the storage of feedstocks or composting activities is proposed to drain via graded concrete flooring and internal swales to the Goody Water Tanks collection pit and pumped to the Goody Water Tanks for storage. Goody water collection and storage occurs within the Compost Facility Building.

All composting activities will be undertaken within the Compost Facility Building, with the composting process consisting of the following stages:

1. Bale wetting and blending – takes place on the aerated floor of the pre-wetting area inside the Compost Facility Building, where the straw bales are wetted with goody water as they are broken up. The other feedstocks are then blended with the wetted straw. The resulting material then stands for 96 hours, prior to turning and addition of water as necessary to maintain moisture. The temperature of the material is maintained between 45°C and 55°C. The material is then moved to the Phase 1 tunnels to start the composting process.
2. Phase 1 composting – the material is placed in the Phase 1 composting tunnels where the temperature reaches 80°C and rain/bore water is added to maintain moisture levels.
3. Phase 2 pasteurisation and conditioning – The material then enters the Phase 2/3 composting tunnels where the temperature starts off between 45-50°C and then increases to 58°C to destroy any weeds, moulds, micro-organisms, and seeds that may be present through pasteurisation.
4. Phase 3 spawning and colonising – The compost has mushroom spawn added to it which is allowed to grow for a period of 2 weeks at 25°C before removing the inoculated compost from the tunnels.
5. Compost recovery and export – The compost is then packed into crates for storage prior to being loaded onto either 12.5 m long rigid trucks or 19 m long semi-trailers within the Compost Facility Building for transport off-site.

The composting process takes approximately 42 days for one batch of compost to be completed.

2.3 Development Approval

The applicant received approval from the Regional Joint Development Assessment Panel (RJDAP) for Development Assessment Panel (DAP) Application reference DAP/23/02467 for the mushroom composting facility on 12 September 2023. DAP/23/02467 was approved in accordance with Clause 68 of Schedule 2 of the *Planning and Development (Local Planning Schemed) Regulations 2015* and was subject to conditions.

Relevant conditions under DAP Application Reference DAP/23/02467 relate to:

- A maximum annual production of 5,590 tonnes of compost/mushroom substrate.

- A revised Operational Environmental Management Plan being submitted to the Shire of Gingin for approval, addressing management of waste, wastewater, stormwater, dust, vermin/mosquitoes, noise, and odour, and the inclusion of a soil and nutrient monitoring program.
- The keeping of up-to-date soil and nutrient monitoring records and compost production tonnage.
- Submission of a Bushfire Management Plan and Bushfire Risk Management Plan to the Shire of Gingin for approval prior to site works.
- Submission of a Construction Management Plan (CMP) to the Shire of Gingin prior to site works.
- Road/intersection upgrades.
- Time restrictions on hours of operation.

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, 2020b).

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 construction and operation which have been considered in this decision report are detailed in Table 1 below. Table 1 also details the control measures the applicant has proposed to assist in controlling these emissions, where necessary.

Table 1: Proposed applicant controls

Emission	Sources	Potential pathways	Proposed controls
Construction			
Dust	Earthworks, construction, and vehicle movements for installation of pond infrastructure, concrete slabs, concrete drain and sheds.	Air/windborne pathway	• Water cart or other dust suppression systems such as sprinklers will be used to wet down dust generating areas/activities. • Access to a sufficient water supply will be maintained onsite. • Vehicle speeds limited to less than 25 km/hr on unconsolidated or unsealed roads.
Noise			• Vehicles, equipment, and machinery will be regularly inspected and maintained, and operated effectively.

Emission	Sources	Potential pathways	Proposed controls
Windblown waste	Packaging from construction materials	Air/windborne pathway	Nil
Oxidation of acid sulfate soils	Excavation of soil for concrete slab footings	Soil/groundwater pathway	Nil
Operation			

Odour	Receipt of feedstocks such as chicken manure and straw bales, Phase 1 composting, Phase 2 pasteurisation and conditioning, Phase 3 spawning and colonising, and compost recovery and export.	Air/windborne pathway	• Feedstocks will only be accepted from established, reputable and reliable suppliers.
			• Feedstocks not authorised for acceptance at the facility or that are unusually odourous will be rejected from the premises.
			• All operations will occur within the Composting Facility Building and enclosed pasteurisation/spawning and colonisation tunnels.
			• Doors to Composting Facility Building will be closed outside of operational hours.
			• Materials undergoing composting will be maintained in an aerobic state by implementing the following controls:
			  ○ Wetted mixtures of feedstocks will be regularly turned in a manner that provides effective aeration throughout the entire mass of the materials. The floor of the wetting area will be aerated (constructed with aeration pipes).
			  ○ A moisture content of 65-75% will be maintained during pasteurisation to prevent the material becoming saturated and anaerobic.
			• Wind speeds and directions will be observed and odour-generating activities (such as material aeration) will be limited when the winds are in the direction of nearby sensitive receptors.
			• Aerators will be deployed in the Rain Water Pond if required.

Emission	Sources	Potential pathways	Proposed controls
Dust (including bioaerosols)	Vehicle movements and equipment operation. Receipt of feedstocks such as chicken manure and straw bales, Phase 1 composting, Phase 2 pasteurisation and conditioning, Phase 3 spawning and colonising, and compost recovery and export.	Air/windborne pathway	• Coverage of feedstock materials (apart from clean straw) and finished product during transport. • Vehicles leaving the premises will be free of loose mud, dirt and sediment to prevent generation of dust on public roads. • All composting activities will be carried out within the Composting Facility Building. • Doors to the Composting Facility Building will be closed when it is not in use. • Enclosed composting facility, and enclosed pasteurisation/spawning and colonisation tunnels.
Noise			• Effective maintenance and operation of vehicles, equipment, and machinery. • Hours of operation limited from 7.00 am to 5.00 pm Monday to Friday, and from 7.00am to 12.00pm on Saturday. • Composting activities, majority of feedstock deliveries (litter, gypsum, manure) will occur in the enclosed Composting Facility Building.
Litter and debris	Receipt of feedstocks such as chicken manure and straw bales, Phase 1 composting, Phase 2 pasteurisation and conditioning, Phase 3 spawning and colonising, and compost recovery and export.	Air/windborne pathway	• Feedstock materials and finished product will be covered during transport. • Feedstocks will be inspected for contamination (e.g., plastic and paper) on acceptance, and contaminated loads will be rejected from the premises. • Vehicles leaving the premises will be free of loose mud, dirt, and sediment. • All composting activities will be carried out in the Composting Facility Building. • Doors to the Compost Facility Building will be closed outside of operating hours. • General housekeeping, including maintenance of feedstock storage and processing areas, and draining infrastructure will be undertaken. • The premises is in a rural area (rural amenity is anticipated to experience some level of impact from primary production activities occurring within the rural area.

Emission	Sources	Potential pathways	Proposed controls
Vectors and vermin	Storage of feedstocks	Attraction, harbouring and dispersal of pests	• Aerators will be deployed in the Rain Water Pond if required. • Feedstocks will be prepared within the enclosed Compost Facility Building. • External openings to the shed (vents etc.) will be fly-screened. • Treatments will be applied if required and feedstocks will be regularly turned during storage. • Feedstock storage and processing areas, stormwater, and leachate containment infrastructure, will be regularly cleaned using good housekeeping practices. • Residual physical contaminants will be regularly removed from the processing area and disposed of to an appropriately authorised facility. • The floor of the composting facility will be made of graded concrete, with drainage swales to prevent pooling of water. • A professional pest control organisation will be employed if required.
Leachate	Receipt of feedstocks such as chicken manure, storage, and composting. Collection and storage of leachate in “Goody Water” tanks.	Overland runoff to surface waters and seepage through soils to groundwater	• All composting activity will take place within the Composting Facility Building with a graded concrete floor; perimeter drainage swales and drains. • Leachate will be collected and stored internally within Goody Water Tanks and reused within the composting process. • Spills outside of the Compost Facility Building will be recovered immediately. • Direct application of goody water, bore water and rainwater to feedstocks will be managed to avoid excessive leachate generation (i.e. wetting and mixing with suitable liquid to solid ratios). • Moisture content of the composting materials will be maintained below 75% to reduce the potential for oversaturation and leachate generation. • Goody Water Tanks will be fitted with high-level alarms. • Only bore water or rainwater will be used for dust suppression.

Emission	Sources	Potential pathways	Proposed controls
Contaminated/ sediment-laden stormwater	Receipt and storage of feedstocks	Overland runoff to surface waters	• Feedstock materials and finished product will be covered during transport. • All composting activities will be carried out in the Composting Facility Building. • Doors to the Compost Facility Building will be closed outside of operating hours. • Drainage swales external to the building will collect stormwater from roads and the roof of the Composting Facility Building, directing it to a lined Rain Water Pond. • Rain Water Pond will be constructed with HDPE liner with capacity for 1 in 20 year 24 hour storm event (1 in 100 year 12 hour event) with 500 mm freeboard.

Electro-magnetic radiation (light)	Lighting for nighttime operations or emergency access at night	Light spill	• Potential lighting impacts are regulated through the development approval for the project (ref: DAP/23/02467).
			• The development approval requires the preparation and implementation of an Operational Environment Plan that includes lighting management.
			• Lighting management for the premises will consider the requirements of the Western Australian Planning Commission's (WAPC) Position Statement: *Dark sky and astrotourism,* including:
			  ○ No external lighting after 6.00pm except as required for emergency access.
			  ○ Lighting minimised to light the task, rather than the environment.
			  ○ Use of energy efficient bulbs and warmer white colours.
			  ○ Ensure lights are not directed towards reflective surfaces.
			• The development approval requires external lighting located on approved structures to be designed, baffled and located to comply with Australian Standard 4282:2019 '*Control of the obtrusive effects of outdoor lighting*'.

Emission	Sources	Potential pathways	Proposed controls

Smoke	Upset conditions (fire) from overheating of composting materials, operating equipment, equipment failures, or ignition of dry materials.	Air/windborne pathway	• Combustible solid materials will be stored away from ignition sources, and fuels and flammable solvents used for operational purposes.
			• A maximum of 750 tonnes of straw and 640 tonnes of chicken manure will be stored on the premises at any one time.
			• Stockpiles and composting material will be regularly turned to disperse heat and minimise the risk of auto ignition.
			• Moisture content and temperature managed and regularly monitored to ensure:
			  ○ Temperatures within stockpiles of feedstocks, materials undergoing processing and products do not exceed 80°C.
			  ○ Moisture content within materials undergoing pasteuriation or composting is maintained between 65-75%.
			• Stored combustible materials will be regularly inspected to identify any smouldering areas or smoke, especially during extreme weather conditions and total fire bans.
			• The site will be provided with fixed and portable firefighting equipment, including:
			  ○ Fixed on-site fire hydrants
			  ○ Fire hose reels, portable fire extinguishers and fire blankets
			• A 10 m wide vehicle access track will be constructed around the mushroom composting facility, straw bale storage area, and rainwater pond, which will also act as a fire break and allow access to the facility by emergency vehicles.
			• The fire hydrant system will provide coverage based on open yard in accordance with AS 2419.1. Coverage shall reach all areas of the open yard within 60 m of hose and 10 m of water stream.
			• The fire hydrant system will provide a minimum 4 hours water supply based on two operating hydrants at 10 L/s each.
			• Fire hose reels based on open yard in accordance with AS 2441. Coverage shall reach all points on the floor with 36

Fire embers			

Emission	Sources	Potential pathways	Proposed controls
			m of hose and 4 m water stream. Fire hose reels will be located at the perimeter of the site and provided with bollards against mechanical damage.
Firefighting wash water	Upset conditions (fire) from overheating of composting materials, operating equipment, equipment failures, or ignition of dry materials.	Overland runoff to surface waters and seepage through soils to groundwater	• Firefighting wash water, from an internal fire in storage/composting areas, will be contained by impermeable swales, preventing runoff to other areas. • Firefighting wash water from an external fire will be directed to the rainwater pond (sized to 1,258 m^3 based on a 1 in 20 year 24 hour storm event) through external swales.
Mushroom compost product quality derived impacts: release of physical, chemical and biological contaminants that can result in pollution or environmental harm	Feedstock/waste types Application of products with inadequate treatment of feedstocks during processing and/or with residual contaminants within products.	Direct contact of product by consumers and leachate migration into the receiving environment	• Feedstocks will only be accepted from established, reputable and reliable suppliers. • Product will only be used on the Works Approval Holder's mushroom farm. • Goody water will only be used during pre-wetting and clean water (either rain water or bore water) will be used from Phase 1 of the composting process onwards. • Compost will reach 80°C during phase 1 and will undergo pasteurisation to 58°C in phase 2, destroying pathogens. • Finished mushroom compost will be subject to strict internal quality assurance and quality control protocols. • Batches of compost that do not meet the required specifications will be rejected and either reprocessed through the composting facility or removed to a suitable facility for recovery or disposal.

3.1.2 Receptors

In accordance with the *Guideline: Risk Assessment* (DWER, 2020b), the Delegated Officer has excluded the applicant's employees, visitors, and contractors 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, 2020a)).

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

Receptors	Distance from prescribed activity
Human receptors	
Residential premises	The nearest residential premises are located 1.04 km to the west, 1.06 km to the west, and 1.05 km to the north-west of the premises boundary.
Agricultural premises	Immediately adjacent to the premises to the north, north-east, west, and south
Willowbrook Farm Caravan Park	Appx. 1.6 km north-west of the premises
The Gravity Discovery Centre (physics and astronomy science education centre)	Appx. 2.5 km south/south-east of the premises
Aboriginal Heritage Site – Gingin Brook Waggyl Site (historical, mythological camo site)	Intersected by the eastern boundary of the premises
Environmental receptors	
Quin Brook (has one of the highest diversities of freshwater fish in the southern half of WA)	Bisects the north-eastern portion of the premises and is appx. 250 m from the proposed composting facility. The premises slopes downwards towards Quin Brook (level appx 26 m AHD, with ground level being 40-50 m AHD)
Gingin Brook (has one of the highest diversities of freshwater fish in the southern half of WA)	Appx. 1.8 km north of premises boundary
Geomorphic wetlands of the Swan Coastal Plain	Resource Enhancement and Conservation category wetlands are located in close proximity to the premises. Two wetlands are located within the prescribed premises boundary, one appx. 200 m to the south and the other appx. 800 m south-west of the proposed composting facility. Four wetlands are appx. 70 m south of the premises southern boundary. One wetland is located appx. 80 m south-west of the prescribed premises boundary, one appx. 330 m to the north, and another borders the prescribed premises boundary to the west.
Underlying groundwater (Groundwater discharge plays an important role in maintaining habitat for aquatic species)	Approximately 9 m below the surface of the premises. Groundwater generally flows in a north-westerly direction towards Gingin Brook. There are 168 Groundwater Licences recorded (historic and current) within 2 km from the proposed composting facility, with surrounding properties relying on groundwater as their main water supply.

Receptors	Distance from prescribed activity
Priority 1 Public Drinking Water Source Area (PDWSA) – the Gnangara Underground Water Pollution Control Area.	Appx. 1.8 km south of the proposed facility and appx. 1 km from the south-western corner of the prescribed premises boundary
Threatened Ecological Communities	68 occurrences within 2 km of the premises, with some occurrences within the prescribed premises boundary
DBCA Legislated Lands – Gnangara-Moore State Forest	Appx 1.1 km south of proposed composting facility and adjoining south-west corner of proposed prescribed premises boundary
Risk of acid sulfate soils	The works are planned in an area mapped as moderate to low risk for acid sulfate soils (ASS), and approximately 200 m from an area considered high to moderate risk (DWER Acid Sulfate Soil Risk Map – Swan Coastal Plain)
Threatened Fauna: - White-tailed black cockatoo - Common greenshank - Red-necked stint - Wood sandpiper - Blue-billed duck	Sited within 3 km of the prescribed premises
Environments receiving products	Limited to Works Approval Holder's mushroom farm – used to grow mushrooms for human consumption

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER, 2020b) for each identified emission source and takes into account potential source-pathway and receptor linkages as identified in Section 3.1. Where linkages are in-complete they have not been considered further in the risk assessment.

Where the applicant 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 applicant's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the works approval as regulatory controls.

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

Works Approval W6905/2024/1 that accompanies this decision report authorises construction and time-limited operations. The conditions in the issued works approval, as outlined in Table 3 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER, 2015a).

A licence is required following the time-limited operational phase authorised under the works approval to authorise emissions associated with the ongoing operation of the premises. A risk assessment for the operational phase has been included in this decision report, however licence conditions will not be finalised until the department assesses the licence application.

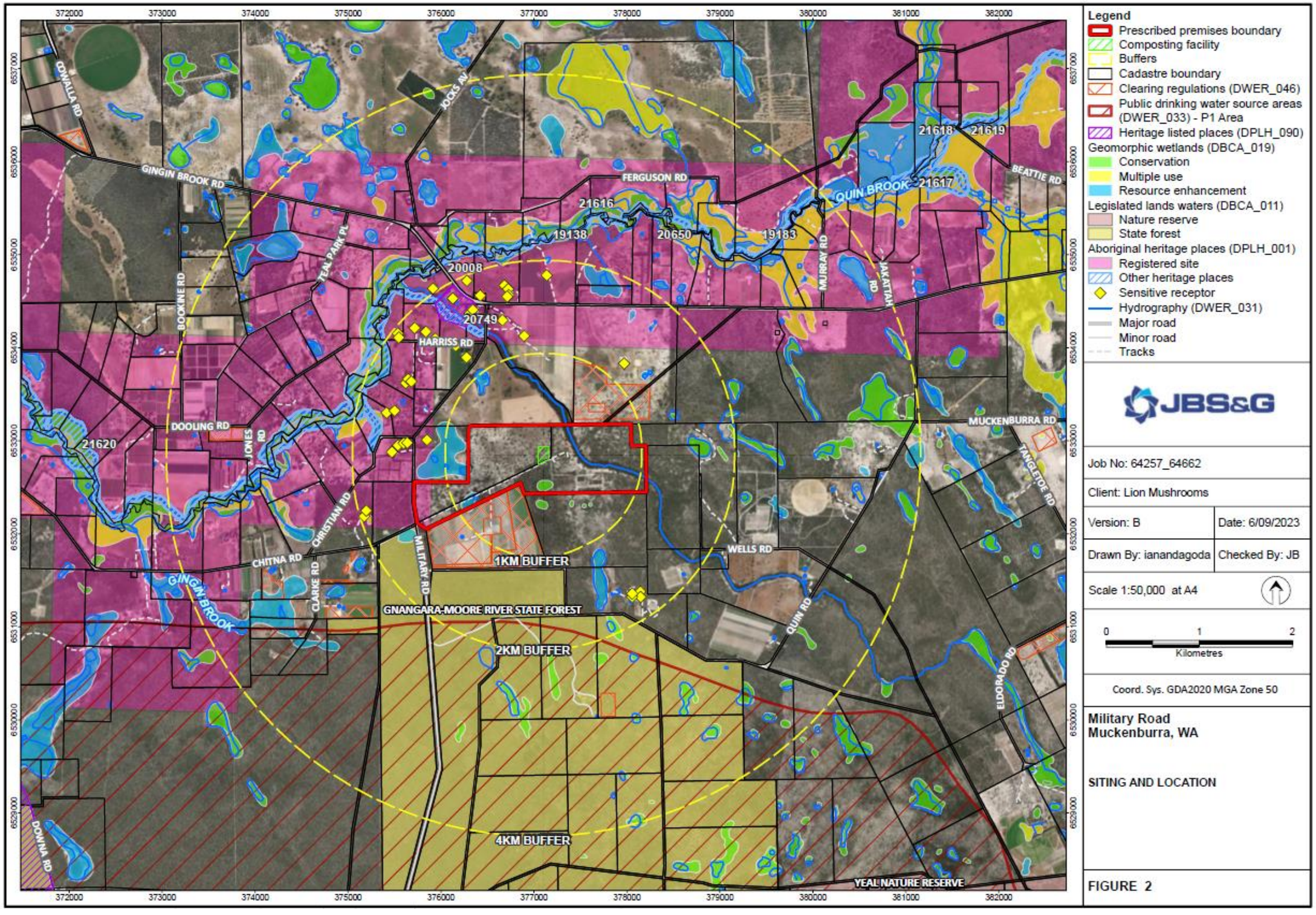

Figure 1: Distance to sensitive receptors

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

Risk events					Risk rating [1] C = consequence L = likelihood	Applicant controls sufficient?	Conditions [2] of works approval	Justification for additional regulatory controls
Sources / activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
Construction								
Earthworks, construction, and vehicle movements for installation of pond infrastructure, concrete slabs, concrete drain and sheds	Dust	Air / windborne pathway causing impacts to health and amenity	Residences located 1.04 km to the west, 1.06 km to the west, and 1.05 km to the north-west Willowbrook Farm Caravan Park Fauna	Refer to Section 3.1	C = Minor L = Unlikely **Medium Risk**	N	**Conditions 1, 2**	The Delegated Officer considers it appropriate to require a Construction Environmental Management Plan to be submitted to DWER prior to construction activities commencing with details of potential sources of noise and dust emissions during construction works and mitigation and management measures for potential emissions.
	Noise			Refer to Section 3.1	C = Moderate L = Unlikely **Medium Risk**	N	**Conditions 1, 2**	
Packaging from construction materials	Windblown waste			Refer to Section 3.1	C = Minor L = Unlikely **Medium Risk**	N	**Condition 5**	The applicant has not proposed controls for windblown wastes during construction. The Delegated Officer considers that some controls should be in place to prevent windblown waste from escaping the premises and these have been included as conditions within the works approval.
Excavation of soil below natural ground level for concrete slab footings	Production of sulfuric acid from the oxidation of acid sulfate soils and potential acid sulfate soils Release of elements in soluble form, such as metals and nutrients from the soil profile	Soil/groundwater causing loss of biodiversity in wetlands and waterways, as well as contamination of groundwater resources by acid, arsenic, heavy metals and other contaminants	Resource Enhancement and Conservation category wetlands Quin Brook Beneficial uses of groundwater	Refer to Section 3.1	C = Moderate L = Unlikely **Medium Risk**	N	**Conditions 1, 2**	Excavations are not expected to exceed 3 metres in depth below the natural ground surface. However, due to the proximity of works to the Quin Brook and wetlands, the proposed works trigger an ASS investigation as per the *Guideline: Identification and investigation of acid sulfate soils on acidic landscapes* (DER, 2015b). Investigations prior to ground or water disturbing activities are required to prevent harm under the EP Act.
Operation **(including time-limited-operations operations)**								
Vehicle movements and equipment operation Receipt of feedstocks such as animal manure and clean straw bales, Phase 1 composting, Phase 2 pasteurise and conditioning, Phase 3 spawning and colonising, compost recovery and export	Dust (including bioaerosols)	Air / windborne pathway causing impacts to health and amenity	Residences located 1.04 km to the west, 1.06 km to the west, and 1.05 km to the north-west Willowbrook Farm Caravan Park	Refer to Section 3.1	C = Minor L = Unlikely **Medium Risk**	Y	Conditions 18, 19, 20 and 21	N/A
	Noise	Air / windborne pathway causing impacts to health and amenity		Refer to Section 3.1	C = Moderate L = Unlikely **Medium Risk**	Y	Conditions 18, 21 and 22	N/A
Receipt of feedstocks such as chicken manure and straw bales, Phase 1 composting, Phase 2 pasteurise and conditioning, Phase 3 spawning and colonising, compost recovery and export	Odour	Air / windborne pathway causing impacts to health and amenity	Residences located 1.04 km to the west, 1.06 km to the west, and 1.05 km to the north-west Willowbrook Farm Caravan Park	Refer to Section 3.1	Refer to detailed risk assessment for odour in Section 3.3			
	Vectors (pests such as stable fly and mosquitoes)	Attraction, harbouring and dispersal of pests causing impacts to health and amenity	Residences located 1.04 km to the west, 1.06 km to the west, and 1.05 km to the north-west Willowbrook Farm Caravan Park Agricultural premises Livestock	Refer to Section 3.1	C = Moderate L = Unlikely **Medium Risk**	N	Condition 3, 18, 19, 20, and 21 **Condition 25**	Although the storage of chicken manure will occur internally, there is a possibility of external spills of feedstocks if operations are not managed correctly (i.e. spills from trucks during delivery). The Delegated Officer considers it necessary to have regulatory controls for the immediate recovery of any external spills of manure to prevent fly breeding.

Risk events					Risk rating [1] C = consequence L = likelihood	Applicant controls sufficient?	Conditions [2] of works approval	Justification for additional regulatory controls
Sources / activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
Storage of feedstocks (straw, litter, gypsum, chicken manure)	Contaminated stormwater	Overland runoff potentially causing ecosystem disturbance or impacting surface water quality	Resource Enhancement and Conservation category wetlands Quin Brook Gingin Brook	Refer to Section 3.1	Refer to detailed risk assessment for contaminated stormwater and leachate in Section 3.4			
Receipt of feedstocks (litter, chicken manure, gypsum), storage, and composting Collection and storage of leachate in Goody Water tanks	Leachate	Overland runoff potentially causing ecosystem disturbance or impacting surface water quality Seepage through soils to groundwater, impacting the beneficial uses of groundwater and causing ecosystem disturbance	Conservation category wetlands Quin Brook Gingin Brook Beneficial uses of groundwater	Refer to Section 3.1				
Upset conditions (fire) from spread of nearby bushfires, overheating of composting materials, operating equipment, equipment failures, or ignition of dry materials	Smoke	Air / windborne pathway causing impacts to health and amenity	Residences located 1.04 km to the west, 1.06 km to the west, and 1.05 km to the north-west Willowbrook Farm Caravan Park	Refer to Section 3.1	C = Major L = Unlikely **Medium Risk**	N	Condition 3, 18, 30 and 31 **Condition 8, 21 and 27**	The premises is located in a designated bushfire prone area, which increases the risk of a fire at the premises. A Bushfire Management Plan and Bushfire Risk Management Plan is required as a condition of the Development Approval, separate to the works approval, which will address this concern. The Delegated Officer considers the applicant's proposed controls to be necessary for the prevention and management of a fire at the premises. Therefore, these controls have been included as conditions within the works approval. However, the Delegated Officer has determined that the following additional controls are required to further reduce the risk of a fire at the premises, and they have also been included as regulatory controls within the works approval: • Controls as stipulated within the *Guideline: Better practice organics recycling* (DWER, 2022; Organics Recycling Guideline) to ensure that a fire within compost materials can be effectively extinguished. Controls include ensuring that there is a hardstand area on the premises where compost can be moved to and broken apart to be extinguished and that machinery is available on the premises for this purpose. • A requirement for the Works Approval Holder to maintain a Fire and Emergency Management Plan for the operation of the premises to ensure that premises activities do not result in the ignition of a fire. • Controls for the storage of baled straw to mitigate impacts from a potential fire incident on the premises. The potential fire size correlates with the quantity of combustible materials stockpiled on-site and the site layout. It is noted that the Building Plans for the premises will also need to be approved by the Department of Fire and Emergency Services under Regulation 18b of the *Building Regulations 2012* prior to construction.
	Fire embers	Air / windborne pathway causing bushfire and impact to terrestrial ecosystems	Threatened Ecological Communities DBCA Legislated Lands – Gnangara-Moore State Forest Fauna	Refer to Section 3.1	C = Major L = Unlikely **Medium Risk**	N		
	Firefighting wash-water	Overland runoff potentially causing ecosystem disturbance or impacting surface water quality Seepage through soils to groundwater, impacting the beneficial uses of groundwater and causing ecosystem disturbance	Conservation category wetlands Quin Brook Gingin Brook Beneficial uses of groundwater	Refer to Section 3.1	C = Major L = Unlikely **Medium Risk**	N	Condition 3 and 18 **Condition 27**	Any fire wash-water produced from firefighting activities has the potential to seep into groundwater or run into the nearby Quin Brook if appropriate controls are not in place to contain the wash-water. The applicant's controls are deemed appropriate and have been included as regulatory controls within the works approval. Additional controls for a Fire and Emergency Management Plan to be maintained have been included, as well as the requirement for fire-fighting wash-water to be removed from the premises and disposed of at an appropriate authorised facility.

Risk events					Risk rating [1] C = consequence L = likelihood	Applicant controls sufficient?	Conditions [2] of works approval	Justification for additional regulatory controls
Sources / activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
Product quality	Pathogens Contamination or not 'fit for purpose' compost product	Direct contact with compost causing impacts to human health	Consumers of mushrooms grown in the mushroom compost The environment receiving the compost	Refer to Section 3.1	C = Moderate L = Rare **Medium Risk**	N	Conditions 18, 19, 20 and 21 **Condition 28 and 30**	The Delegated Officer notes that the finished mushroom compost product is only proposed to be used on the Works Approval Holder's mushroom farm. However, as it will be used for growing food which may be consumed by the public, the Delegated Officer considers that controls are required to ensure that the product will be of good quality and will not present a risk to consumers of the mushrooms grown in it. Therefore, maximum contaminant concentrations for the compost and product monitoring requirements have been included in the works approval.
Lighting for nighttime operations or emergency access at night	Electromagnetic radiation (light)	Light spill causing impacts to amenity and affecting scientific research and studies	Residences located 1.04 km to the west, 1.06 km to the west, and 1.05 km to the north-west Gravity Discovery Centre	Refer to Section 3.1	C = Moderate L = Rare **Medium Risk**	Y	Condition 22	Operating hours are specified as a control in the works approval and nighttime operations are not permitted. Light spill is regulated through the development approval (ref: DAP/23/02467) for the project and therefore, the Delegated Officer does not consider it necessary to specify additional regulatory controls for lighting.

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

Note 2: Proposed applicant 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 Hazard characterisation and potential impacts

Odour generated in the compost process is generally associated with receipt, storage, handling and decomposition of putrescible feedstocks, as well as leachate runoff generated from feedstock and compost in the initial composting and pasteurisation stages. Odour can cause amenity and health impacts to surrounding receptors.

Individual responses to odour may vary depending on a person's sensitivity to odours, age, health status and previous exposure patterns to odour. Community impacts from odour can include annoyance, potentially leading to stress and loss of amenity. Exposure to repeated odour events can create a nuisance effect.

Exposure times and frequency of odour emissions will be dependent on day-to-day activities and weather conditions.

3.3.2 Odour assessment

As part of the works approval application, the applicant provided an Odour and Emissions Impact Assessment Report (JBS&G, 2023). The assessment has been undertaken in a manner that broadly follows the principles and procedures of the *Guideline: Odour emissions* (DWER, 2019; Odour Guideline). The Odour and Emissions Impact Assessment Report was referred to the department's specialist Air Quality Branch (AQB) for review. The following observations regarding the proposal were made:

- the facility's anticipated production of 5,590 tonnes per annum places it at the lower end of composting facility sizes.
- There is reference to a 650 m separation distance in the JBS&G Odour Impact Assessment. However, the odour guideline specifies a 1.1 km screening distance for throughputs of 5,001 to 12,000 tonnes per annum. The 650 m separation distance is for facilities with throughputs of between 2,000 and 5,000 tonnes per annum.
- The nearest odour-sensitive receptor is approximately 1.04 km from the proposed composting facility.
- Although the operations include the use of chicken manure, which is a high-risk feedstock, special (benchmark) odour controls are not automatically recommended in the Organics Recycling Guideline (DWER, 2022) when the nearest sensitive receptor is greater than 1 km from the composting facility.
- The works approval application for the mushroom composting facility proposes to undertake composting indoors within aerated tunnels, a benchmark control recommended in the Organics Recycling Guideline (DWER, 2022) where the nearest sensitive receptor is less than 1 km from the facility.
- DWER is aware of another similar sized licensed composting facility (throughput of 5,000 tonnes per annum) with sensitive receptors located less than 300 m away. This facility has outdoor aerated/covered windrows, whereas the Lion Mushrooms compost facility proposes higher level controls through being fully enclosed with sensitive receptors located over 1 km away. DWER has not received any recent odour complaints regarding the licensed facility mentioned above.

Based on the above, the risk of impacts at the nearest sensitive receptors appears to be low. However, large uncertainties are associated with assessing proposed odour generating facilities. Residual risk may be mitigated through a proactive odour management plan that minimises odour emissions during normal operational conditions and specifies effective contingency actions for upset conditions.

3.3.3 Criteria for assessment

There are no set threshold or concentration criteria for odour assessment. Under section 49(5) of the EP Act, it is an offence to emit or cause to be emitted, an unreasonable emission from any premises. Any unreasonable emission is defined in the EP Act (section 49(1)) as an emission or transmission of noise, odour or electromagnetic radiation which unreasonably interferes with the health, welfare, convenience, comfort or amenity of any person.

3.3.4 Applicant controls

Section 3.1.1 above (Table 1) details the control measures the applicant has proposed to assist in controlling odour emissions.

3.3.5 Key findings

The Delegated Officer considers:

1. The proposed feedstocks are recognised as having a high potential to produce odour.
2. Taking into consideration that no recent odour complaints have been received for a comparable licensed composting facility, the combination of controls proposed by the Works Approval Holder to minimise odours, along with the separation distance from the proposed facility to the nearest sensitive receptor, is currently considered acceptable to mitigate odour emissions.
3. It is acknowledged that there are some uncertainties in relation to assessing odour emissions from the proposed facility as odour emissions are dependent on day-to-day activities, weather conditions and management of the facility.
4. It is appropriate to require the Works Approval Holder to develop and implement a proactive odour management plan that minimises odour emissions during normal operational conditions and specifies effective contingency plans for upset conditions.
5. Odour monitoring during environmental commissioning of the facility will provide more certainty on the extent and risk of odour emissions from the premises. Results obtained from odour monitoring will be considered prior to a licence being issued for the continued operation of the premises.

3.3.6 Consequence

Given the uncertainties outlined within the risk assessment, until such time that odour sources and emissions are adequately characterised, the Delegated Officer has determined that off-site impacts of odour may result in mid-level impact to amenity. Therefore, the Delegated Officer considers the consequence of odour emissions to be **moderate**.

3.3.7 Likelihood of risk event

Given the uncertainties outlined within the risk assessment, until such time that odour sources and emissions are adequately characterised, the Delegated Officer has determined that odour emissions, impacting receptors, may occur at some time. Therefore, the Delegated Officer considers the likelihood of odour emissions causing impacts to amenity is **possible**.

3.3.8 Overall rating of odour risk

The Delegated Officer has compared the consequence and likelihood ratings described above with the risk rating matrix and determined that the overall rating for the risk of odour emissions is **medium.**

3.3.9 Regulatory controls

The Delegated Officer has determined that the controls stated by the applicant are required to control the risk of potential odour emission impacts to sensitive receptors and will be specified as regulatory controls under the works approval.

The applicant will also be required to undertake the following as additional regulatory controls:

1. prepare and implement a proactive odour management plan to manage the potential impacts from odour emissions; and
2. retain the services of an odour panelist to plan and implement odour field assessments (OFAs) during environmental commissioning which follow the plume measurement methodology as specified in the *Guideline: Odour Emissions* (DWER, 2019) and the *European Standard EV 16841-2 (plume method)*.

The results of the OFAs will assist in determining whether odour controls are adequate or require improvement prior to the issue of a licence for continued operation of the facility.

3.4 Detailed risk assessment for contaminated stormwater and leachate

3.4.1 Hazard characterisation and potential impacts

Leachate emissions from composting facilities have the potential to contain nutrients, metals, salts, and other soluble or suspended components and decomposition products of waste. Leachate also generally has a high biochemical oxygen demand.

No emissions to surface water, groundwater, or land as a result of construction or operational activities are proposed. However, without effective containment measures, composting leachate has the potential to infiltrate to soil and groundwater or flow into surface water bodies. This may lead to adverse environmental impacts or affect the beneficial use of these resources. Beneficial use means a use of the environment, or of any portion thereof, which is conducive to public benefit, public amenity, public safety, public health, or aesthetic enjoyment and which requires protection.

Groundwater in the area is shallow, generally flowing north-west towards the Gingin Brook. The Quin Brook bisects the north-eastern portion of the site, approximately 350 m north-east of the proposed composting facility, with the Gingin Brook located approximately 1.8 km north of the premises boundary. This section of the Quin Brook as well as the Gingin Brook, either side of its confluence with Quin Brook, is in connection with groundwater in the superficial aquifer, and supports ground-water dependent vegetation, native crayfish and macroinvertebrate species over the dry season. In the wet season, it is likely to be an important tributary for aquatic species seeking breeding sites and protective habitat. As Gingin Brook has one of the highest diversities of freshwater fish and crayfish in the south-west, the health and condition of Quin Brook is crucial in maintaining these populations.

The Organics Recycling Guideline (DWER, 2022) sets outcomes that must be achieved through environmental performance objectives (EPOs). The Organics Recycling Guideline (DWER, 2022) identifies benchmark controls as the standard to achieve EPO's, as well as allowing for alternative controls to achieve the EPOs which are consistent with a risk-based approach. It is noted that the minimum separation distance specified in the Organics Recycling Guideline (DWER, 2022) from organics recycling facilities to down-hydraulic-gradient surface water should be at least 500 m. In this case, the Quin Brook could be considered to be down-hydraulic-gradient to the proposed facility, and thus, the specified separation distance will not be achieved.

The Organics Recycling Guideline (DWER, 2022) also specifies a separation distance of at least 1,000 m from a geomorphic wetland which is down-hydraulic-gradient of the premises. There are a number of Resource Enhancement category and Conservation category Geomorphic Wetlands of the Swan Coastal Plain in close proximity to the premises. Conservation category wetlands are the most valuable wetlands and they support a high level of ecological functions and attributes (DEC, 2007). Resource Enhancement wetlands are wetlands that have been partially modified but still support substantial ecological attributes and functions (DEC, 2007). The closest wetlands are located approximately 200 m south and approximately 800 m south-west of the proposed composting facility. Although these wetlands are up-hydraulic-gradient to the proposed facility, they are in close proximity to the access track. Any spills of feedstocks or compost from trucks may potentially be washed into wetlands during wet weather if not cleaned up appropriately. Two wetlands are located within 1 km, approximately 900 m down hydraulic gradient of the proposed facility. Contamination of surface water bodies may result in eutrophication and the excessive growth of algae. Algae growth may impact the survival of existing organisms through light and oxygen restriction, and cause the degradation of surface water values and beneficial use.

Although the proposed facility does not meet some of the environmental siting factors of the Organics Recycling Guideline (DWER, 2022) due to a reduced setback to surface water bodies, the guideline does allow for additional alternative controls to be implemented in this case to achieve the EPOs.

The nearest residential premises are located just over a kilometre to the west and north-west of the proposed facility. Mains water is unavailable in the area, with many surrounding properties relying on groundwater as their only water source. Contamination of the groundwater in this area has the potential to affect the community's main water supply. The Gnangara Underground Water Pollution Control Area (Priority 1 Public Drinking Water Source Area) is located approximately 1.8 km south and upgradient of the proposed composting facility and provides approximately 40 percent of Perth's drinking water. The Gnangara groundwater system in this area is comprised of three main aquifers, being the Superficial aquifer, the Leederville aquifer, and the Yarragadee aquifer. Where the premises is located, the Superficial aquifer and Leederville aquifer are in direct connection. Further east, all three aquifers (Superficial, Leederville, and Yarragadee) are in direct connection. Areas of aquifer connectivity are shown in Figure 2 below.

Therefore, inadequate management of leachate and contaminated stormwater has the potential to detrimentally affect the beneficial uses of groundwater in the area, as well as causing disturbance to important groundwater dependent ecosystems.

3.4.2 Criteria for assessment

The following guidelines are considered appropriate assessment criteria to assess the potential impact on the beneficial use of groundwater, given that bore water is the main water supply for the area and may be used for drinking purposes:

- Australian Drinking Water Guidelines for potable uses (NHMRC & NRMMC, 2011).

The following guidelines are considered appropriate assessment criteria to assess the potential impact on groundwater dependent ecosystems, freshwater ecosystems and surface water quality:

- Australian and New Zealand Guidelines for Fresh and Marine Water Quality for high conservation/ecological value ecosystems (99% protection level trigger values) (ANZECC & ARMCANZ, 2000).

3.4.3 Applicant controls

Section 3.1.1 above (Table 1) details the control measures the applicant has proposed to assist in controlling leachate emissions.

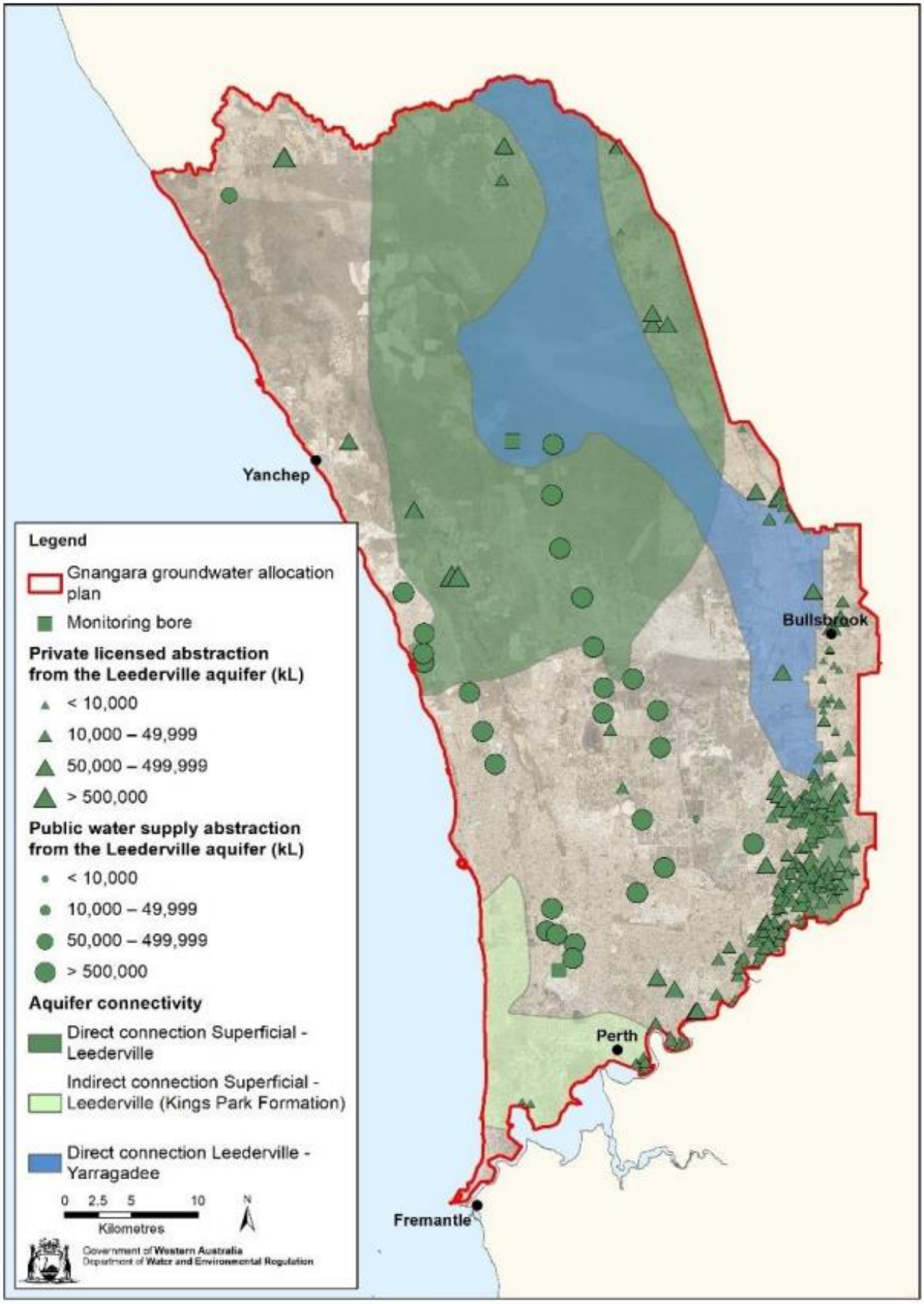

Figure 2: Groundwater connectivity of the Leederville aquifer, with abstraction locations and volumes (DWER, 2024)

3.4.4 Key findings

The Delegated Officer considers:

1. The storage and handling of feedstocks, compost and leachates has the potential to impact groundwater and surface water quality if not appropriately contained.
2. Although the proposed facility does not meet some of the environmental siting factors of the Organics Recycling Guideline (DWER, 2022) due to a reduced setback to surface water bodies, the guideline allows for additional alternative controls to be implemented to achieve the EPOs where these are not met.
3. To achieve EPOs, all composting operations must occur within the compost facility building, with the compost processes occurring in enclosed composting tunnels. The compost facility building is required to be fully enclosed with a concrete floor, and perimeter drainage swales and drains to collect any leachate internally for storage in "goody water" tanks. The goody water tanks must also be located within the compost facility building. This will ensure that containment of all leachate occurs within the compost facility building, significantly reducing any risk of it entering the environment.
4. The applicant's controls to prevent external spills of feedstocks and compost, which may lead to leachate or contaminated stormwater generation, are suitable if managed correctly. Feedstocks are proposed to be delivered covered in trucks and unloaded within the compost facility building to prevent any external spills of feedstocks. The finished compost product is also proposed to be loaded onto a truck within the building and covered prior to transport offsite. However, if not managed appropriately (i.e. feedstocks do not arrive securely covered or delivery drivers unload feedstocks in the incorrect area), there is a potential for some spills to occur.
5. The analysis of groundwater quality prior to the premises operating, and ongoing regular monitoring of groundwater quality thereafter, is crucial for the early detection of any impacts to groundwater at the site.

3.4.5 Consequence

Based on the proximity of receptors and the sensitivity of the receiving environment, the Delegated Officer has determined that leachate and contaminated stormwater emissions could cause high-level on-site impacts with mid-level offsite impacts. Therefore, the Delegated Officer considers the consequence to be **major**.

3.4.6 Likelihood of risk event

Based on the applicant's proposed controls, the Delegated Officer has determined that leachate and contaminated stormwater emissions will probably not occur in most circumstances. Therefore, the Delegated Officer considers the likelihood of leachate and contaminated stormwater impacts to the environment to be **unlikely**.

The Delegated Officer considers the likelihood of impacts to human health and beneficial use are **rare**.

3.4.7 Overall rating of leachate and contaminated stormwater risk

The Delegated Officer has compared the consequence and likelihood ratings described above with the risk rating matrix and determined that the overall rating for the risk of leachate emissions from operations is **medium**.

3.4.8 Regulatory controls

The Delegated Officer has determined that the risk event is tolerable and will be subject to regulatory controls.

The Delegated Officer has determined that the controls stated by the applicant are required to control the risk of potential leachate and contaminated stormwater emission impacts to sensitive receptors and will be specified as regulatory controls under the works approval.

If there are any external spills of feedstock or compost due to inadequate management, these are likely to occur on the proposed limestone access track. The Delegated Officer considers it appropriate to include a requirement in the works approval for the immediate clean-up of any external spills if they occur. Any contaminated water resulting from a spill outside the Compost Facility Building is likely to flow into the Rain Water Pond which is designed to collect runoff from access roads around the facility. The Delegated Officer has determined that the Works Approval Holder is required to remove and dispose of contaminated water in the Rain Water Pond to an appropriately authorised facility in the event of contaminated runoff entering the pond, either from:

- contact with any feedstock spills outside of the Compost Facility Building; or
- fire-fighting activities.

Any contaminated, or potentially contaminated, water in the rainwater pond is not permitted to be used on the premise for any purpose.

Monitoring of ambient groundwater quality is required to measure background water quality prior to operations commencing. Ongoing monitoring of groundwater quality and maintenance of infrastructure will be required as part of the works approval to verify the integrity of containment infrastructure and the effectiveness of the Works Approval Holder's management practices.

4. Consultation

Table 4 provides a summary of the consultation undertaken by the department.

Table 4: Consultation

Consultation method	Comments received	Department response
Application advertised on the department's website on 2 April 2024	Refer to Appendix 2	Refer to Appendix 2, Table 6
Community stakeholders advised of proposal on 2 April 2024		
Local Government Authority advised of proposal on 2 April 2024	The Shire of Gingin advised on 24 April 2024 that the information within the works approval application appeared to be consistent with the Development Approval issued by the Regional Joint Development Assessment Panel (RJDAP) on 12 September 2023.	N/A

Consultation method	Comments received	Department response
Department of Health (DOH) advised of proposal on 2 April 2024	DOH replied on 24 April 2024 with the following comment: *"The disposal of wastewater generated on site is required to comply with the Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974.* *All drinking water provided on site must meet the health-related requirements of the Australian Drinking Water Quality Guidelines 2011.* *Any non-drinking water (i.e., water that is not intended or suitable for drinking) must be managed to ensure it cannot be confused with or contaminate the drinking water supply. This requires satisfactory labelling of non-drinking water taps and, depending on system configuration and suitable backflow prevention arrangements in accordance with Australian/New Zealand Standards AS3500 – Plumbing and Drainage."*	This information is provided to the Works Approval Holder to ensure compliance with these requirements.
Department of Fire and Emergency Services (DFES) advised of proposal on 2 April 2024	DFES Land Use Planning advised on 24 April 2024 that Land Use Planning advice was provided to the responsible authority during the planning assessment and was made following a review of the submitted Bushfire Management Plan. A copy of these comments were provided to DWER. Built Environment advised on 22 April 2024 that as the project is only at the Development Approval stage and is outside of the scope of Regulation 18b of the *Building Regulations 2012,* Built Environment is not in a position to comment on the Fire and Emergency Plan (FEMP) at this time. A summary of the comments received from the DFES District Office on 9 May 2024 is provided below: • The FEMP mentions keeping storage of the product at a minimum but does not specify a maximum. • No locations of firefighting equipment or hydrants is provided. • There is no mention of fire mitigation methods such as maintaining firebreaks and asset protection zones. • No evacuation routes or muster point locations are detailed in the FEMP. However, muster points are referred to in the emergency response procedures. • The closest Bushfire Station has been outlined, but not the closest structural brigade (Gingin). It is suggested that both be identified. • Due to the material and large building footprint, consideration should be given for a building sprinkler system.	The District Office comments have been provided to the applicant to address in their FEMP and the Delegated Officer has required the maintenance of a FEMP as a regulatory control within the works approval. Feedstock storage stockpile requirements and location of firefighting equipment have also been specified in the works approval. The Delegated Officer notes that the building plans for the proposed composting facility are required to be provided to DFES Built Environment Branch for assessment as required by Regulation 18B. The Department will seek further advice from DFES at the licence application stage for the ongoing operation of the premises.

Consultation method	Comments received	Department response
Department of Biodiversity, Conservation and Attractions (DBCA) advised of proposal on 15 April 2024, with a request for advice sent to the Species and Communities Branch on 29 May 2024.	The Species and Communities Branch provided advice on 27 June 2024 in relation to the proximity of the premises to Threatened Ecological Communities in the area. A review of available information indicated that the area where the mushroom composting facility was proposed to be located did not represent the Banksia Woodlands of the Swan Coastal Plain TEC. However, it was recommended that larger areas of intact native vegetation on the premises be retained as they are considered high conservation value. As this TEC is Commonwealth listed, DBCA cannot provide advice in relation to impacts under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The applicant should note that a person who proposes to take an action that will have, or is likely to have, a significant impact on a federally listed threatened community must refer that action to the Federal Minister for a decision on whether assessment and approval is required under the EPBC Act. It is the applicant's responsibility to determine whether such approval is required. The EPBC Act referral process is outlined in detail on the Commonwealth Department's website at https://www.dcceew.gov.au/environment/epbc/approvals.	This advice is provided to the Works Approval Holder to ensure that they do not conduct any activities that will, or are likely to, have a significant impact on a threatened ecological community.
Gravity Discovery Centre advised of proposal on 18 April 2024	Response received on 18 April 2024 with the following concerns: • The Observatory is well known for showcasing dark skies and has a current application with the International Dark Sky Association to be recognized as an International Dark Sky Reserve. For this application to be successful we need to continue to be able to guarantee the sky quality. There is a risk that the Mushroom Composting Facility would operate lighting that may interfere with our operations. • The Gravity Discovery Centre and Observatory has occupied this site for over twenty years and is committed to protecting the surrounding environment. We understand the importance of the water table below us and the threats to maintaining healthy water levels. We believe that there may be a threat, both to maintaining the quality and quantity of the water table if a mushroom composting facility is to be established. • Finally, we understand from the application that there may be a considerable amount of noise involved and this would significantly impact the operations of the Gravity Discovery Centre and Observatory.	Please refer to Section 3.4 for the detailed risk assessment for contaminated stormwater and leachate which discusses potential impacts to ground water quality. A response to other concerns has been provided in Appendix 2, Table 6.

Consultation method	Comments received	Department response
UWA was advised of the proposal on 19 April 2024	UWA provided the following comments on 7 May 2024: • Light generated from the mushroom composting facility must be in compliance with the WAPC Dark Sky and Astrotourism position statement. It should be noted that the Zadko Observatory and the Gingin Gravity Precinct (GGP) is within ~2.3 km from the composting facility. A dark sky is critical to UWA's scientific research and studies undertaken at the GGP. • Based on the information received, UWA is concerned there was no statement or information regarding the light generation or spill as a result of the compost manufacturing facility proposed. It is recommended that a Lighting Management Plan be conditioned as part of the development to ensure that all lighting is in compliance with the WAPC Dark Sky and Astrotourism position statement and to eliminate light spill where possible given its close proximity to the GGP.	Please see DWER response in Appendix 2, Table 6.
Applicant was provided with draft documents on 26 August 2024	The applicant provided comments on the drafts on 17 September 2024. Refer to Appendix 1	Refer to Appendix 1

5. Conclusion

Based on the assessment in this decision report, the Delegated Officer has determined that a works approval will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

In consideration of the approach set out in the Organics Recycling Guideline (DWER, 2022), the Delegated Officer has determined that the design and construction of the enclosed composting facility, including indoor delivery and storage of feedstocks, enclosed composting tunnels, indoor collection of leachate and containment of leachate in tanks, and indoor loading of compost product at the premises, can achieve the better practice benchmark for the purposes of Part V of the EP Act.

The Works Approval Holder should seek advice from the department's Native Vegetation Regulation Branch prior to undertaking any clearing of native vegetation at the premises. It is noted that an exemption may apply under Regulation 5, Item 1 of the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* for clearing undertaken to lawfully construct a building or structure on the premises. The *Guideline: Native vegetation clearing referrals* should be considered to determine whether the clearing referral process is applicable for the clearing activities.

The works approval authorises the construction, commissioning and time limited operation of the proposed infrastructure. A licence application will be required for the continued operation of the premises, which will include a further risk assessment. The risk assessment will take into account information obtained during commissioning of the premises.

References

1. Australian and New Zealand Environment and Conservation Council and Agriculture and Resource Management Council of Australia and New Zealand (ANZECC & ARMCANZ) 2000, *Australian and New Zealand Guidelines for Fresh and Marine Water Quality Paper 4 National Water Quality Management Strategy*, Canberra.
2. Department of Environment and Conservation (DEC) 2007, *Framework for mapping, classification and evaluation of wetlands in Western Australia*, Perth, Western Australia
3. Department of Environment Regulation (DER) 2015a, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
4. DER 2015b, *Guideline: Identification and investigation of acid sulfate soil and acidic landscapes*, Perth, Western Australia.
5. Department of Water and Environmental Regulation (DWER) 2019, *Guideline: Odour emissions*, Perth, Western Australia.
6. DWER 2024, *Environmental management of groundwater from the Gnangara Mound groundwater resources*, Joondalup, Western Australia
7. DWER 2020a, *Guideline: Environmental Siting*, Perth, Western Australia.
8. DWER 2020b, *Guideline: Risk Assessments*, Perth, Western Australia.
9. DWER 2022, *Guideline: Better practice organics recycling*, Perth, Western Australia.
10. Environmental Protection Authority Victoria 2021, *Management and storage of combustible recyclable and waste materials – guideline*, Melbourne, Victoria.
11. JBS&G 2023, *Odour and Emissions Impact Assessment Report*, unpublished report commissioned by the applicant.
12. National Health and Medical Research Council and Natural Resource Management Ministerial Council (NHMRC & NRMMC) 2011, *Australian Drinking Water Guidelines Paper 6 National Water Quality Management Strategy*, Version 3.8 (updates September 2022), Commonwealth of Australia, Canberra.

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

Table 5: Summary of applicant's comments

Condition/Section/Page no.	Summary of applicant's comment	Department's response
Draft Licence		
Condition 3, Table 1, Row 1	The building dimensions have changed slightly from approximately 60 m x 90 m to 57 m x 95 m. The total floor area of approximately 5,400 m^2 remains unchanged. Request for condition wording to be changed as follows: *The composting facility building must be designed and constructed in accordance with Figure 4, Figure 5, and Figure 6 in Schedule 1, meeting the following specifications:* *b. a total floor area of approximately 5,400 m^2* ~~*(60 m x 90 m)*~~ ***(56.8 m x 95 m).***	The condition has been amended as requested.
Condition 21, Table 4, Row 2	Request to amend the process limits and/or specifications for feedstock preparation and composting to change the moisture content of material undergoing composting from 45-65% to 65-75%, which is required for the process. A moisture content within the higher range will not result in oversaturation, anaerobic conditions or excessive leachate generation. *e. The moisture content of material undergoing composting must be maintained between* ~~*45-65%*~~ ***65-75%****.* The applicant provided additional information and reference material on 19 September 2024 to support the request for a higher moisture content. The higher moisture content is required at the end of the Phase 1 process to ensure that there is sufficient water in the material for the subsequent composting processes. A moisture content of 75% is considered optimal to achieve the substrate quality target and is standard for the mushroom composting Industry. The moisture content will be retained in the compost substrate, which has a high absorbency. The direct application of water to the feedstocks will be carefully controlled (i.e. by wetting and mixing to an appropriate solid-to-liquid ratio. Any excess leachate will be collected and re-used in the process noting that all composting activity takes place within the enclosed building with graded concrete floor. Anaerobic conditions will be avoided through process monitoring, turning, and mixing as required to ensure that target conditions are met.	The Delegated Officer considers the applicant's request to be reasonable and has resolved to amend the required moisture content to 65-75% as requested. The previously specified moisture content of 45-65% relates to standard composting and not mushroom composting.

Condition/Section/Page no.	Summary of applicant's comment	Department's response
Condition 30, Table 7, Row 1	Request to amend the frequency of monitoring of the moisture content in the pre-wetting phase to 'when material is turned or moved' as it is not practical to monitor daily.	The Delegated Officer considers it appropriate for monitoring to occur at the beginning of the process, when material is turned and at the end of the process. Therefore, the condition wording has been changed to *"each time the material is placed, turned or moved*".
Condition 30, Table 7, Row 4	Request to amend the frequency of monitoring of the quality of the mushroom compost final product to clarify the sampling rate is one composite sample per 1,000 tonnes of product and not each batch.	The condition wording has been amended to remove *"each batch"* to clarify that the minimum rate of sampling is one composite sample per 1,000 tonnes in accordance with AS 4454.
Draft Decision Report		
Page 4, Section 3.1.1, Table 1, Row 5	The first bullet point notes that proposed controls for dust include: • *Coverage of feedstock materials and finished product during transport.* Straw bales are not covered when delivered to the site. The straw presents minimal risk of dust emissions.	Noted. Applicant control amended to clarify that all feedstocks apart from clean straw will be covered during transport.
Pages 5, 6 and 7, Section 3.1.1, Table 1	Amend references to moisture content range from 40-65% to 65-75% (pp.5 and 7) and that moisture content will be maintained below 75% not 65% (p.6). Refer to comment against condition 21 for further detail.	Applicant controls amended as requested.
Page 33, Table 6, Row 12	Clarify that all water from the Rain Water Pond will be used first before the groundwater allocation is used.	This has been clarified as requested.

Appendix 2: Summary of community stakeholder submissions

DWER received 5 submissions opposing the proposed facility as part of the public consultation process. The submissions highlighted the collective concerns of Neergabby and Muckenburra residents. DWER has removed any personal identifying references within the submissions and summarised the concerns relevant to this application, however, has maintained the integrity of the concerns of the submitter.

Table 6: Community stakeholder submissions

Concern or comment	Department's response
Importation of contaminated hazardous/noxious waste All submitters were concerned with the transportation and use of feedstocks onsite (such as chicken manure) with the potential to produce odours, carry pest infestations, and contaminate the environment. One submitter was concerned with the use of soiled stable bedding onsite.	The only feedstocks approved to be accepted at the facility are chicken manure, canola seed, gypsum, and clean straw. Soiled stable bedding was not proposed or authorised under the works approval to be accepted at the premises. Potential emissions of concern associated with feedstocks authorised to be received at the premises are discussed further in this table.
Potential impacts to surface and groundwater quality The proposed mushroom composting facility is located in close proximity to the Quin Brook, Gingin Brook, and several conservation category wetlands. The site is within the recharge zone of the Superficial and Leederville water aquifers. The Superficial, Leederville and Yarragadee aquifers all interconnect in the area, and therefore, there are fears that pollution of groundwater with nitrates from the proposed facility may affect all these water sources. The proposal also poses a risk to the Priority 1 Public Drinking Water Source Area (PDWSA), the Gnangara Underground Water Pollution Control Area located to the south. The Gnangara groundwater system provides water to the Perth metropolitan area for drinking, agriculture and irrigation of gardens, parks, and ovals. Submitters are concerned that the application contains the proposal that "*"treated" water could be pumped and used as "surface irrigation" on other parts of the site. The hydrophobic sands in this region will immediately cause this to drain into the groundwater and will add high levels of contaminants. However well treated this highly noxious nitrate and microbial waste leachate is, it will always add contaminants to the pure groundwaters in this location*." Access to mains water is unavailable in the communities of Neergabby and Muckenburra, with properties relying on groundwater bores as their sole water source. Pollution of the groundwater will leave the community without a reliable water supply. Groundwater pollution has occurred from the use of poultry manure previously in intensive horticulture at Sovereign Hill. This resulted in the installation of a pipeline from the Guilderton bore to supply clean water as local bores were no longer fit for use. Examples of groundwater contamination at Woodridge and Redfield Park were also provided. The wetlands in the area support a range of habitats for flora and fauna necessary for ecological functioning. Contamination of surface and groundwater is likely to negatively affect ecological communities, creating disturbances to important ecosystems.	The Delegated Officer acknowledges submitter's concerns and recognises the importance of ensuring that tight controls are in place to prevent contaminated water and leachate from entering the environment. Storage of all feedstocks, excluding clean straw, has been conditioned in the works approval to only occur within the composting facility building. All composting operations must also occur within the composting facility building, with the compost process occurring in enclosed composting tunnels. The compost facility building is required to be fully enclosed with a concrete floor with perimeter drainage swales and drains to collect any leachate internally for storage in "goody water" tanks. These goody water tanks are also located within the compost facility building. Therefore, production and containment of leachate should only occur within the compost facility building, significantly reducing any risk of it entering the environment. Leachate from goody water tanks is only permitted to be re-used for the pre-wetting of straw which takes place in a concrete bunker within the compost facility building. The applicant has not requested the re-use of leachate for any other purpose and the re-use of leachate is not permitted for any other purpose under the works approval. Goody water tanks are required to be fitted with high-level alarms to prevent an overflow from the tanks occurring. Section 3.4 of this Decision Report provides a detailed risk assessment for contaminated stormwater and leachate.
Stable Fly/Fly breeding Submitters expressed concerns regarding fly breeding, in particular Stable Fly (*Stomoxys calcitrans*), at the proposed facility due to chicken manure being used as a feedstock. Stable Fly is a serious pest of livestock and can detrimentally impact livestock industries and communities. The area where the facility is proposed is prone to Stable Fly infestations. It was mentioned that vegetable waste has been managed well recently by local growers, resulting in a reduction in Stable Fly in the area. However, Stable Fly eggs and larvae may be brought into the facility in the chicken manure, or an infestation may occur during processing, with exportation of an infestation in the compost which will have serious widespread consequences.	The Delegated Officer acknowledges submitter's concerns regarding Stable Fly and the consequences of Stable Fly breeding. Stable Fly are managed under the requirements of the *Biosecurity and Agricultural Management (Stable Fly) Management Plan 2019*. Chicken manure will be delivered to the premises covered and unloaded inside the compost facility building for storage and composting. Feedstocks are proposed to reach 80°C in the first phase of composting which is proposed to kill any eggs/larvae which may be present in the manure. Composting will take place within enclosed tunnels and the finished product loaded from the tunnels for transport. Therefore, finished product should not contain any live pests. The works approval also conditions that external openings, including vents, are to be fly screened to prevent the entry of flies and pests. The Delegated Officer considers these controls adequate to manage flies, including Stable Flies, at the premises.

Concern or comment	Department's response
Fire All submitters were concerned with the fire risks associated with composting facilities due to their nature, and the elevated fire risk presented by the proposal due to its location within a bushfire prone area. The proposed premises is adjacent to Quin Brook peatlands and several swamp areas. There are concerns that a fire in these peat beds will be difficult to extinguish and will allow a fire to easily spread to the Gingin Brook and beyond. The bushland adjacent to the site abuts a large number of residences, rural housing estates and local towns. A fire at the facility may travel long distances in a short time, having detrimental effects to the area. It will also put the neighbouring DBCA managed Gnangara-Moore River State Forest at risk. Submitters commented on composting being an activity that is prone to deep-seated fires as the materials used in the composting process have the potential to self-heat. Compost fires are also difficult to extinguish as it is difficult for water to penetrate the compost bed. Extinguishing fires at composting facilities is known to require significant water sources such as intervention by water-bombing helicopters and the use of construction machinery. Rapid mobilisation of fire-fighting equipment is of great importance. It was noted that there is no readily available water resource near the proposed site for firefighting. It was mentioned that many accidents occur outside of normal working hours and as a result of inappropriate practices such as insufficient mixing of waste containing very dry straw, insufficient temperature and moisture control, and insufficient aeration. Concerns were also raised regarding the contamination of waterways in the event of a fire, from large volumes of firefighting wash-water being unable to be contained.	Please refer to the risk assessment for smoke, fire embers and firefighting wash water in Section 3.2, Table 3, of this Decision Report for further information on the regulatory controls which have been placed in the works approval.
Odour emissions and air quality All submitters were concerned with odours from the operations of the proposed facility due to the use of chicken manure in the composting process and believed the basis of the original odour report and 1 km buffer distance to sensitive receptors to be inadequate. Submitters highlighted that the area had diurnal cyclical wind patterns that occur along the Western Australian coast, capable of distributing odour over large distances. Independent dispersion modelling was requested to accurately assess the amenity impacts on surrounding residential properties. One submission mentioned the current Lion Mushrooms mushroom growing sheds in Mariginiup and odour complaints resulting from the transportation of compost to the property. A condition on the Development Approval to prevent odours was that the compost was required to be transported in sealed containers to reduce odours. There are concerns that the constant movement of raw poultry manure in and mushroom compost out of the facility will cause odour impacts to a great number of local residents. Another submission referenced odour impacts from mushroom composting facilities such as Te Mata Mushroom Company in New Zealand.	Please refer to the detailed risk assessment for odour in Section 3.3 of this Decision Report.
Traffic dangers The entrance to the proposed premises at the Military Road and Chitna Road intersection is dangerous. Frequent movement of trucks in and out of the facility will create greater traffic dangers.	The assessment of impacts to road/traffic safety is not regulated by DWER under Part V of the EP Act. These concerns should be directed to the Shire of Gingin. A new entrance to the facility has been conditioned in the works approval. However, relocation of the entrance relates to the protection of a wetland and road/traffic safety has not been assessed by DWER.
Location of composting facility Submitters commented on the proposed site for the mushroom composting facility being surrounded by small holdings and "lifestyle blocks". The General Rural Zone was not intended for industry and submitters believe that the mushroom composting facility is incompatible with the area. There are concerns that granting a works approval for a mushroom composting facility in the area could set a precedent which will be used to pressure more industry in the area. All submissions commented on the composting hub north of Gingin in Boonanarring as being a more appropriate area for the mushroom compost facility. This is due to the hub already being designated for this purpose and its location being removed from sensitive water sources.	DWER does not have regulatory remit over this concern. The location of the mushroom composting facility is a planning matter that should be raised with the relevant governing bodies (i.e. Department of Planning, Lands and Heritage, Western Australian Planning Commission and the Shire of Gingin).

Concern or comment	Department's response
Non-compliance with conditions Submitters have apprehensions regarding whether the applicant will comply with the conditions of the works approval if it is granted. It was highlighted that Lion Mushrooms expanded their mushroom farm in Mariginiup without the required approvals from the City of Wanneroo and there are concerns that the same could occur at Lots 800 and 801 Military Road, Muckenburra. Submitters also mentioned that composting is a notoriously difficult business to ensure compliance and queried how and which government agencies would ensure compliance with works approval conditions.	DWER has an Assurance Branch that carries out inspections of prescribed premises for compliance with conditions placed on works approvals and licences. The works approval also contains reporting requirements which require the Works Approval Holder to demonstrate to DWER that they have complied with the conditions of the instrument. The works approval authorises the construction of the facility, environmental commissioning, and time-limited operations only. Ongoing operation of the premises will require a Licence Application and another assessment process. Further information on DWER's licensing process can be found in the *Guideline: Industry Guide to Licensing*.
Impacts to the Australian International Gravitational Observatory and the Willow Brook Farm Caravan Park Submitters highlighted that any pollution from the proposed composting facility would likely affect the Australian International Gravitational Observatory (AIGO) and impact on visitors to the site. It was also raised that the Willow Brook Farm Caravan Park would also be negatively impacted. The tourist potential to the area may be affected due to the composting facility and its potential emissions.	The Gravity Discovery Centre has provided comment on the proposed development (please see response in Table 4). Concern regarding negative affects to tourist potential falls outside of DWER's regulatory scope. Potential emissions from the premises have been assessed in Table 3 and regulatory controls for these emissions placed as conditions on the works approval where required.
Noise emissions The Gravity Discovery Centre submitted concerns regarding potential noise impacts from proposed activities.	Noise emissions from the premises during construction and operation are required to comply with the *Environmental Protection (Noise) Regulations 1997*. The works approval requires the works approval holder to submit a Construction and Environmental Management Plan (CEMP) to the Department prior to construction activities commencing which provides mitigation and management measures for noise emissions. Sources of noise on the premises during operation would be use of mobile and fixed machinery and transport vehicles. Machinery for composting operations will be located in an enclosed shed, with loading and unloading of materials also occurring in the shed to mitigate noise emissions. Hours of operation are limited to between 7.00am to 5.00pm Monday to Friday, and 7.00 am to 12.00pm on a Saturday. Due to the distance from the Gravity Discovery Centre to the proposed facility being approximately 2.5 km, the Gravity Discovery Centre is unlikely to be affected by noise from the facility.
Light spill The Gravity Discovery Centre and UWA submitted concerns regarding light spill from the premises and its potential impacts on scientific research and studies undertaken at the Gingin Gravity Precinct.	Following this feedback, the applicant was requested to provide a written statement or information on how light pollution will be eliminated to ensure that all lighting is compliant with the WAPC Dark Sky and Astrotourism position statement. Please refer to the applicant controls for light spill in Section 3.1.1, Table 1. Operating hours are specified as a control in the works approval and nighttime operations are not permitted. Light spill is regulated through the development approval (ref: DAP/23/02467) for the project and therefore, the Delegated Officer does not consider it necessary to specify additional regulatory controls for lighting.
Impacts on water table levels The Gravity Discovery Centre submitted concerns regarding potential impacts to the water table from proposed activities.	The applicant proposes to transfer the existing groundwater licence for Lot 801 into their name to draw groundwater for composting activities. The existing groundwater licence is for 44,950 kL. The applicant has advised that approximately 5,113 kL of water will be required for the composting process per year and all water for from the Rain Water Pond will be used first prior to the groundwater allocation being used. All mapped water resources in this zone (Beermullah Superficial, SA3 Leederville and SA3 Yarragadee North) are fully allocated and consequently, DWER, will not grant licences for additional volumes from the allocation pool. Therefore, this should ensure that groundwater levels are not affected.

Appendix 3: Application validation summary

SECTION 1: APPLICATION SUMMARY (as updated from validation checklist)		
Application type		
Works approval	☒	
Date application received		7 September 2023
Applicant and premises details		
Applicant name/s (full legal name/s)		Van Tiep Doan, Thi Chinh Duong, Van Phu Doan
Premises name		Lion Mushrooms
Premises location		Lots 800 and 801 Military Road, Muckenburra
Local Government Authority		Shire of Gingin
Application documents		
HPCM file reference number:		DER2018/001042-9
Key application documents (additional to application form):		*Mushroom Composting Facility Lion Mushrooms - Works Approval Application – Supporting Document (JBS&G 2023)*
Scope of application/assessment		
Summary of proposed activities or changes to existing operations.		*Works approval* Construction of a mushroom composting facility to manufacture up to 5,590 tonnes of mushroom compost per year. The facility will pasteurise compostable organic waste and microbiologically transform them under aerobic and thermophilic conditions. The fresh compost will be inoculated with mushroom spawn ready for use as a growing media for mushroom production at the applicant's mushroom farm.

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

Table 1: Prescribed premises categories

Prescribed premises category and description	Proposed production capacity
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.	5, 590 tonnes per year

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 ☐ No ☒	Referral decision No: Managed under Part V ☒ Assessed under Part IV ☐
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes ☐ No ☒	Ministerial statement No: N/A EPA Report No: N/A
Has the proposal been referred and/or assessed under the EPBC Act?	Yes ☐ No ☒	Reference No: N/A
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes ☒ No ☐	Certificate of title ☒ General lease ☐ Expiry: Mining lease / tenement ☐ Expiry: Other evidence ☐ Expiry:
Has the applicant obtained all relevant planning approvals?	Yes ☒ No ☐ N/A ☐	Application was lodged on 13/03/2023 and approved by JDAP on 12/09/2024 (JDAP Ref: DAP/23/02467; LG Ref: P2520 – BLD 7595)

SECTION 1: APPLICATION SUMMARY (as updated from validation checklist)		
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes ☐ No ☒	CPS No: N/A
Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes ☐ No ☒	Application reference No: N/A Licence/permit No: N/A
Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes ☐ No ☒	There is an existing Groundwater Licence for Lot 801 Military Road (GWL 150925) The applicant proposed to transfer this licence across to their name to draw groundwater for composting purposes.
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes ☐ No ☒	No discharge of waste. However, premises is located in a designated area. Name: Moore River and certain Tributaries and Gingin Groundwater Area Type: Proclaimed Surface Water Area and Proclaimed Groundwater Area Has Regulatory Services (Water) been consulted? Yes ☒ No ☐ N/A ☐ (through CTS DWERDG740/23) Regional office: Swan Avon
Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes ☐ No ☒	The Priority 1 PDWSA Gnangara Underground Water Pollution Control Area is located 1.8 km to the south of the premises.
Is the Premises subject to any other Acts or subsidiary regulations (e.g. *Dangerous Goods Safety Act 2004, Environmental Protection (Controlled Waste) Regulations 2004, State Agreement Act xxxx*)	Yes ☒ No ☐	*Environmental Protection (Noise) Regulations 1997, Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974* (for toilets required for workers)
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes ☐ No ☒	
Is the Premises subject to any EPP requirements?	Yes ☐ No ☒	
Is the Premises a known or suspected contaminated site under the *Contaminated Sites Act 2003*?	Yes ☐ No ☒	Classification: N/A Date of classification: N/A