

Works Approval

Works approval number	W6213/2019/1			
Works approval holder	A. Richards Pty Ltd			
ACN	008 734 852			
Registered business address	Lot 186 Acourt Road JANDAKOT WA 6164			
DWER file number	DER2018/001569			
Duration	03/07/2019 to 02/07/2022			
Date of Amendment	26/06/2020			
Premises details	Richgro Bannister Composting Facility			
	Lot 68 on Deposited Plan 36563 Certificate of Title Volume 2798 Folio 962 BANNISTER WA 6390			

Prescribed premises category description (Schedule 1, <i>Environmental Protection Regulations 1987</i>)	Assessed production or design capacity
61 – Liquid waste facility	125,000 tonnes per annual period
61A – Solid waste facility	285,000 tonnes per annual period
67A - Compost manufacturing and soil blending	200, 000 tonnes per annual period

This works approval is granted to the works approval holder, subject to the attached conditions, on 26 June 2020, by:

Stephen Checker MANAGER WASTE INDUSTRIES REGULATORY SERVICES

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

Works approval history

Date	Reference number	Summary of changes	
03/07/2019	W6213/2019/1	Works approval granted	
26/06/2020	W6213/2019/1	Revised works approval granted	

Interpretation

In this works approval:

- (a) the words 'including', 'includes' and 'include' in conditions mean "including but not limited to", and similar, as appropriate;
- (b) where any word or phrase is given a defined meaning, any other part of speech or other grammatical form of that word or phrase has a corresponding meaning;
- (c) where tables are used in a condition, each row in a table constitutes a separate condition;
- (d) any reference to an Australian or other standard, guideline or code of practice in this works approval means the version of the standard, guideline or code of practice in force at the time of granting of this works approval and includes any amendments to the standard, guideline or code of practice which may occur from time to time during the course of the works approval;
- (e) unless specified otherwise, any reference to a section of an Act refers to that section of the EP Act; and
- (f) unless specified otherwise, all definitions are in accordance with the EP Act.

NOTE: This works approval requires specific conditions to be met but does not provide any implied authorisation for other emissions, discharges, or activities not specified in this works approval.

Works approval

Construction phase

Infrastructure and equipment

- **1.** The works approval holder must install and undertake the works for the infrastructure:
 - (a) specified in Column 1;
 - (b) to the requirements specified in Column 2; and
 - (c) at the location specified in Column 3

of Table 1 below.

- 2. The works approval holder must not depart from the requirements specified in Column 2 of Table 1 except:
 - (a) where such departure does not increase risks to public health, public amenity or the environment; and
 - (b) all other conditions in this works approval are still satisfied.
- 3. Subject to Condition 2, within 30 days of the completion of the works specified in Column 1 of Table 1, the works approval holder must provide to the CEO a report with photographs confirming each item of infrastructure or component of infrastructure specified in Column 1 of Table 1 below has been constructed with no material defects and to the requirements specified in Column 2.
- 4. The report required by condition 3 shall also include:
 - (a) an engineering certification to verify the construction and permeability of the hardstand composting area (including drains) and the leachate sump; and
 - (b) a liner integrity report from a qualified engineering or geotechnical professional confirming the installation and performance of the Leachate Pond liner in accordance with the requirements specified in Column 2 of Table 1; and
 - (c) GPS coordinates of the required infrastructure.
- **5.** Where a departure from the requirements specified in Column 2 of Table 1 occurs and is of a type allowed by Condition 2, the works approval holder must provide to the CEO a description of, and explanation for, the departure along with the certification required by Condition 2(b).

Table 1: Infrastructure requirements table

Infrastructure/ Equipment	Site plan reference	
Hardstand Composting Area	 Consisting of a minimum 250 mm thick granular base course layer with an asphalt seal to achieve a permeability of less than 1 x 10⁻⁹ m/s Graded to a drainage system capable of collecting all stormwater and run-off from the hardstand and directing it to the Leachate Pond. 	Sealed Composting Hardstand as depicted in Figure 1 in Schedule 1

Infrastructure/ Equipment	Requirements (design and construction)	Site plan reference
Leachate Pond	 Consisting of compacted subgrade and 2 mm HDPE geomembrane. Liner, joins and connecting pipework to be impervious and free from punctures, tears, leaks and defects. Capable of containing a minimum of 22,080 kL of liquid while maintaining a 300mm freeboard (total capacity of a minimum of 23, 400 kL). Located in the area depicted as Leachate Pond in Figure 1 in Schedule 1. 	Leachate Pond as depicted in Figure 1 in Schedule 1 and Figure 4, Schedule 2.
Leachate Sump	 Constructed between the hardstand and the leachate pond, and along the western boundary of the hardstand. Constructed of reinforced concrete to achieve a permeability of less than 1 x 10⁻⁹ m/s. 	N/A
Stormwater Drainage System and Stormwater Dam	 Capable of preventing stormwater from entering the hardstand processing area and diverting uncontaminated stormwater to the Stormwater Dam. Stormwater Dam to be located in the area depicted in Figure 1 in Schedule 1. 	Stormwater Dam as depicted in Figure 1 in Schedule 1.
Four groundwater monitoring wells	 Located in the areas marked 1, 2, 3 and 4 in Figure 2 in Schedule 1. Monitoring bores to be constructed in accordance with specifications set out in Schedule 3, Table 9 	Figure 2 in Schedule 1.

6. The works approval holder must install and undertake the works for the equipment:

- (a) specified in Column 1;
- (b) to the requirements specified in Column 2; and
- (c) at the location specified in Column 3.

of Table 2 below.

- 7. The works approval holder must not depart from the requirements specified in Column 2 of Table 2 except:
 - (a) where such departure does not increase risks to public health, public amenity, or the environment; and
 - (b) all other conditions in this works approval are still satisfied.
- 8. Subject to Condition 7, within 30 days of the completion of the works specified in Column 1 of Table 2, the works approval holder must provide to the CEO a report with photographs confirming each item of infrastructure or component of infrastructure specified in Column 1 of Table 2 below has been constructed with no material defects and to the requirements specified in Column 2.

Infrastructure/ Equipment	Requirements (design and construction)	Site plan reference
Mechanical evaporator	 Two Aqua Control Evolution[™] Series: 1/2 HP Floating Fountains to be installed within leachate pond. Operated between 07:00 and 17:00 only Operated in a manner which prevents visible overspray of water droplets beyond the leachate pond surface. Maintained and serviced in accordance with the manufacturer's specifications. 	Leachate Pond as depicted in Figure 1 in Schedule
Operational Equipment for the purpose of processing, grinding, shredding, screening and storing of waste/feedstock	 Mobilisation of equipment similar in size and power to an 'Edge 622 Trommel' and Edge FTS Mulch Master, wheel loaders and excavators. To be located on the sealed Composting Hardstand area Sprinkler system to be installed to minimise dust emissions from screening or shredding activities 	On the sealed Composting Hardstand as depicted in Figure 1 in Schedule 1
 Free standing liquid waste storage tank Up to 6 FibreFurn flexi-N Tanks Individual tank capacity of 60,000l 		On the sealed Composting Hardstand as depicted in Figure 1 in Schedule 1
 Feedstock bays Constructed of reinforced concrete to achieve a permeability of less than 1 x 10⁻⁹ m/s Bunded to prevent overflow 		On the sealed Composting Hardstand as depicted in Figure 1 in Schedule 1

 Table 2: Equipment requirements table

9. The works approval holder must within 60 days of the groundwater monitoring wells being constructed, submit to the CEO, a well construction report which assesses compliance with the requirements of Condition 1 and includes any documentation required to be produced in relation to bore construction as detailed in the *National Environment Protection (Assessment of Site Contamination) Measure 1999* (as amended).

Time Limited Operations

- **10.** The works approval holder may only commence time limited operations once the report required by Condition 3 has been submitted by the works approval holder.
- **11.** The works approval holder may conduct time limited operations:
 - (a) For a period not exceeding 180 calendar days from the day the works approval holder meets the requirements of condition 10 for that item of infrastructure; or

- (b) Until such time as a prescribed premises licence is granted in accordance with Part V of the *Environmental Protection Act 1986*, and only where this occurs prior to the time period specified in sub provision (a).
- **12.** The works approval holder must submit to the CEO a report on the time limited operations within 60 calendar days of the completion date of time limited operations.
- **13.** The works approval holder must ensure the report required by condition 12 includes the following:
 - (a) a summary of the time limited operations, including timeframes and amount of waste processed;
 - (b) a review of the works approval holder's performance and compliance against the conditions of this works approval; and
 - (c) where they have not been met, measures proposed to meet the manufacturer's design specifications and the conditions of this works approval, together with timeframes for implementing the proposed measures.
- **14.** The works approval holder shall ensure an adequate water supply, and a means of distribution, be provided at all times to extinguish a fire at any part of the premises.
- **15.** In the event of a fire₁ on the premises, the works approval holder shall advise the CEO of the fire by the end of the following working day after which the fire was discovered.

Note 1: Spot fires which have been extinguished within one hour of being discovered are not required to be reported.

- **16.** The works approval holder shall ensure that green waste stockpiles are maintained at:
 - (a) a maximum length of 50 m; and
 - (b) a maximum width of 10 m; and
 - (c) a maximum height of 5 m.
- **17.** The works approval holder shall maintain:
 - (a) a minimum 10 m separation between parallel green waste stockpiles; and
 - (b) a minimum 10 m separation between adjoining green waste stockpiles; and
 - (c) a minimum 30 m low-fuel buffer between green waste stockpiles and surrounding vegetation (plantation and native vegetation).
- **18.** The works approval holder must manage the compost windrows such that:
 - (a) Windrows are made up of blended materials and turned after the 30th and 44th day of windrow construction;
 - (b) The core temperature of the composting windrows is maintained between 55°C and 65 °C for a period of at least two consecutive weeks, with at least two measurements being taken per week, at least three days apart;
 - (c) Moisture level in the composting piles is maintained between 40 to 65 percent;
 - (d) An input nutrient balance (carbon: nitrogen ratio) of 25:1 to 35:1 is to be achieved when forming windrows;
 - (e) Windrows shall not exceed three metres high, six metres wide and 120 metres long; and

(f) Windrows are separated by at least 0.5 metres of clear ground.

Dust and odour management

- **19.** The works approval holder must ensure that dust emitted from the premises does not unreasonably interfere with the health, welfare, convenience, comfort or amenity of any person who is not on the premises.
- **20.** The works approval holder shall ensure that odour emitted from the premises does not unreasonably interfere with the health, welfare, convenience, comfort or amenity of any person who is not on the premises.

Feedstock controls

- **21.** The works approval holder shall only accept and process feedstock materials at the premises if:
 - (a) It is of a type listed in Table 3Error! Reference source not found.; and
 - (b) The quantity accepted is below any quantity limit listed in Table 3 for that feedstock type; and
 - (c) It meets the acceptance specification listed in Table 3 for that feedstock type.

Table 3: Feedstock table

Prescribed premises category	Waste Type	Quantity limit (tonnes per annual period)	Acceptance specification
61	Food & beverage processing wastes	25,000	Tankered to premises by licensed controlled waste carrier
	Anaerobic waste digestate	40,000	
	Waste from grease traps	20,0000	
	Animal effluent and residues	40,000	
67A	Green waste	100,000	 Uncontaminated shredded and unshredded green waste from land clearing, timber harvesting, verge collections and lopping contractors
	Biosolids	50,000	Solid, stabilised biosolids from licensed wastewater treatment plants
	Manures	30,000	Solid waste only

Prescribed premises category	Waste Type	Quantity limit (tonnes per annual period)	Acceptance specification
	Sawdust	40,000	 Sawdust from raw timbers which have not been treated or coated with preserving agents, biocides, fire retardants, paint, adhesives or binders
	Pine bark	15,000	None
	Acid sulfate soil/potential acid sulfate soil	10,000	 Limited to naturally occurring peaty acid sulfate soils from land development and excavation activities
	Animal mortalities and animal processing waste	20,000	 Excludes tissue, carcasses or other waste arising from animals used for laboratory investigation or for medical or veterinary research
	Sand	20.000	Clean, uncontaminated sand sourced from approved sand quarries
61A	Green waste	20,000	 Uncontaminated shredded and unshredded green waste from land clearing, timber harvesting, verge collections and lopping contractors
			 Stockpile heights to be maintained below a maximum of 5 m in height.

22. The works approval holder shall ensure that where feedstock does not meet the specifications set out in condition 21 it is removed from the premises by the delivery vehicle or, where that is not possible, stored in a segregated storage area or vessel and removed to an appropriately authorised facility as soon as practicable.

Monitoring

23. The works approval holder shall undertake process monitoring requirements outlined in Table 4 in accordance with the specifications outlined in that table.

 Table 4: process monitoring requirements

Monitoring point	Process description	Parameter	Unit of measureme nt	Frequency	Method
Compost windrows	Harvest Quest composting	Internal temperature	°C	At least twot imes per week	None specified
process Moisture % content		%	Weekly	Non specified	

Monitoring point	Process description	Parameter	Unit of measureme nt	Frequency	Method
		Product quality testing	-	As per AS4454	In accordance with AS4454
Mulch, potting mix and blended	Grinding/shr edding, grading and	Internal temperature	°C	At least two times per week	None specified
stockpiles	biending	Moisture content	%	Weekly	None specified
		Product quality testing	-	As per AS3743 or AS4419	In accordance with AS3743 or AS4419

- 24. The works approval holder shall ensure that all testing of compost, mulches and blended soil products are undertaken in accordance with AS4454, AS3743 or AS4419.
- **25.** The works approval holder shall ensure that products are classified according to the product specification and end use(s) as determined by the physical and chemical quality specifications outlined in AS4454, AS3743 or AS4419, prior to distribution or sale to customers.

Records and reporting

- **26.** The works approval holder shall record the details of any complaints received by the works approval holder (whether received directly from a complainant or forwarded to them by the Department or another party) relating to its obligations under this works approval and its compliance with Part V of the EP Act at the premises, any alleged emissions from the premises, and any action taken by the works approval holder in response to the complaint. Details of recorded complaints must include:
 - (a) an accurate record of the concerns or issues raised, for example a copy of any written complaint or a written note of any verbal complaints made;
 - (b) the name and contact details of the complainant, if provided by the complainant;
 - (c) the date and time of the complaint; and
 - (d) the complete details and dates of any action taken by the works approval holder to investigate or respond to any complaint.
- **27.** The works approval holder shall undertake input and output monitoring and data recording:
 - (a) For all inputs and outputs specified in Table 5:
 - (b) For the parameters listed in Table 5;
 - (c) In the units of measurement specified in Table 5; and
 - (d) At the frequency specified in Table 5.

	Table	5:	Monitoring	of	inputs	and	outputs
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Input/output	Parameter	Unit of measurement	Frequency
Feedstock inputs	 Feedstocks listed in Error! Reference source not found. 	Tonnes	Each load arriving at the premises
Product outputs	 Compost products produced onsite Mulch products produced onsite Blended soils produced onsite 		Each load leaving the premises
Other outputs	 Rejected feedstocks Collected feedstock contaminants 		Each load removed from the premises

28. The works approval holder must maintain accurate books including the following records, information, reports and data required by this works approval:

- (a) reports and data in relation to the works
- (b) input and output monitoring during time limited operations; and
- (c) complaints recorded under condition 26 of this works approval;

In addition, the books must:

- (d) be legible;
- (e) if amended, be amended in such a manner that the original and subsequent amendments remain legible or are capable of retrieval;
- (f) be retained for at least 3 years from the date the books were made;
- (g) be available to be produced to an Inspector or the CEO.

Definitions

In this works approval, the terms in Table 6 have the meanings defined.

Table 6: Definitions

Term	Definition
AS3743	means the Australian Standard AS 3743-2003 Potting mixes
AS4419	means the Australian Standard AS 4419:2018 Soils for Landscaping and Garden Use
AS 4454	means the Australian Standard AS 4454 Compost, soil conditioners and mulches
Biosolids	Sludge from a wastewater treatment plant that has undergone further treatment to reduce disease causing pathogens and volatile organic matter significantly, resulting in a stabilised material suitable for beneficial use. Does not include industrial and food processing sludges
books	has the same meaning given to that term under the EP Act.
CEO	means Chief Executive Officer.
	CEO for the purposes of notification means:
	Director General Department administering the <i>Environmental Protection Act</i> <i>1986</i> Locked Bag 10 Joondalup DC WA 6919
	info@dwer.wa.gov.au
compost	An organic material that has undergone controlled aerobic and thermophilic biological transformation through the composting process to achieve pasteurisation and reduce phytotoxic compounds, and achieved a specified level of maturity for compost
condition	means a condition to which this Works Approval is subject under s.62 of the EP Act.
Department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> and designated as responsible for the administration of Part V Division 3 of the EP Act.

Term	Definition		
	means a request for Books or other sources of information to be produced, made by an Inspector or the CEO to the Works Approval Holder in writing and sent to the Works Approval's address for notifications, as described at the front of this Works Approval, in relation to:		
Department request	 (a) compliance with the EP Act or this Works Approval; (b) the Books or other sources of information maintained in accordance with this Works Approval; or 		
	(c) the Books or other sources of information relating to Emissions from the Premises.		
digestate	Decomposed feedstock generated as a product of anaerobic digestion comprising slow degradable, stable organic components such as lignin, nitrogen and phosphorus in various forms, inorganic salts containing phosphate, ammonium, potassium and other minerals.		
discharge	has the same meaning given to that term under the EP Act.		
DWER	Department of Water and Environmental Regulation		
emission	has the same meaning given to that term under the EP Act.		
environmental harm	has the same meaning given to that term under the EP Act.		
EP Act	Environmental Protection Act 1986 (WA).		
EP Regulations	Environmental Protection Regulations 1987 (WA).		
feedstock	means the organic and inorganic material used in the compost and blended soil manufacturing processes and listed in Table 3		
green waste	biodegradable waste comprising plants and their component parts such as flower cuttings, hedge trimmings, branches, grass, leaves, plants, seeds, shrub and tree loppings, tree trunks, tree stumps and similar materials and includes any mixture of those materials		
implementation agreement or decision	has the same meaning given to that term under the EP Act.		
inspector	means an inspector appointed by the CEO in accordance with s.88 of the EP Act.		
material environmental harm	has the same meaning given to that term under the EP Act.		
pollution	has the same meaning given to that term under the EP Act.		

Term	Definition
premises	refers to the premises to which this Works Approval applies, as specified at the front of this Works Approval and as shown on the map in Schedule 1 to this Works Approval.
prescribed premises	has the same meaning given to that term under the EP Act.
serious environmental harm	has the same meaning given to that term under the EP Act.
unreasonable emission	has the same meaning given to that term under the EP Act.
waste	has the same meaning given to that term under the EP Act.
works	refers to the Works described in Schedule 2, at the locations shown in Schedule 1 of this Works Approval to be carried out at the Premises, subject to the Conditions.
works approval	refers to this document, which evidences the grant of the works approval by the CEO under section 54 of the EP Act, subject to the conditions.
works approval holder	refers to the occupier of the premises being the person to whom this works approval has been granted, as specified at the front of this works approval.

END OF CONDITIONS

Schedule 1: Maps

Premises maps



Figure 1: Premises layout



Figure 2: Groundwater Monitoring Bore Locations

The blue triangles represent the works approval holder's proposed bore locations, and the numbers 1-4 represent the Departments preferred locations for bore placement. Final bore placement is to be determined following site investigations.

Premises boundary

The Premises boundary is defined by the coordinates in Table 7 and depicted in Figure 3 below.

Table 7: Premises boundary coordinates

Easting	Northing
443844.399	6396685.842
444193.107	6396685.924
444385.990	6396571.315
444386.044	6396296.036
443844.374	6396296.096



Figure 3: Premises boundary

Schedule 2: Works

At the time of assessment, emissions and discharges from the works listed in Table 8 were considered in the determination of the risk and related Conditions for the Works Approval.

Table 8: Authorised Works

Works	Specifications/Drawings
Hardstand Composting Area construction	 Sealed Composting Hardstand as depicted in Figure 1 in Schedule 1 Minimum 250 mm thick granular base course layer with an asphalt seal to achieve a permeability of less than 1 x 10⁻⁹ m/s
Leachate Pond construction	 Leachate Pond as depicted in Figure 1 in Schedule 1 and Figure 4 of Schedule 2 Constructed and lined with 2 mm HDPE geomembrane to achieve a permeability of less than 1 x 10⁻⁹ m/s.
Leachate Sump construction	• Constructed of reinforced concrete to achieve a permeability of less than 1 x 10 ⁻⁹ m/s.
Stormwater Drainage System and Stormwater Dam construction	Stormwater Dam as depicted in Figure 1 in Schedule 1
Construction of groundwater monitoring wells	• In locations depicted in Figure 2 in Schedule 1 and in accordance with Design and construction requirements set out in Schedule 3, Table 9
Free standing liquid waste storage tank installation	 6 FibreFurn flexi-N Tanks with a capacity of 60,000 I Located on the sealed composting hardstand as depicted in Figure 1 in Schedule 1
Feedstock bay construction	 Constructed of reinforced concrete to achieve a permeability of less than 1 x 10-9 m/s Bunded to prevent feedstock overflow Located on the sealed composting hardstand as depicted in Figure 1 in Schedule 1

Operational Equipment for the purpose of processing, shredding, screening and storing of waste/feedstock	•	Mobilisation and commissioning of equipment similar in size and power to an 'Edge 622 Trommel' and Edge FTS Mulch Master, wheel loaders and excavators on Hardstand Composting Area
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Figure 4: Leachate pond schematic

Site layout The infrastructure and equipment are set out on the Premises in accordance with the site layout specified on the Premises map (Figure 1) in Schedule 1.

Schedule 3: Groundwater monitoring well construction

Table A.	Infractoriations	a a matru atlan	re au l're meete		manifaring walls
Table 9	Intrastructure	construction	requirements	– arounawater	monitoring weils
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Infrastructure	Design and construction requirements	Timeframe	
Construction of groundwater monitoring wells	<u>Well design and construction</u> : designed and constructed according to ASTM D5092/D5092M-16; Standard practice for design and installation of groundwater monitoring wells.	Must be constructed, developed	
	Siting and screening intervals determined on drilling with the final location and intervals chosen such that any groundwater impacts due to seepage, liner failure or run-off from operational areas can be detected (i.e. mounding or changes in groundwater quality). Well screens must target the part, or parts, of the aquifer most likely to be affected by contamination. Where temporary/seasonal perched features are present, wells must be nested and the perched features individually screened.	(purged) and determined to be operational within 90 days from the date of this revised works approval	
	Logging of borehole: soil samples must be collected and logged during the installation of the monitoring wells; a record of the geology encountered during drilling should be described and classified in accordance with the Australian Standard Geotechnical Site Investigations AS 1726. Any observations of staining/odours or other indications of contamination must be included in the bore log.		
	<u>Well construction log:</u> well construction details must be documented within a well construction log to demonstrate compliance with ASTM D5092/D5092M-16. The construction logs shall include elevations of the top of casing position to be used as the reference point for water-level measurements, and the elevations of the ground surface protective installations.		
	<u>Well Development:</u> all installed monitoring wells must be developed after drilling to remove fine sand, silt, clay and any drilling mud residues from around the well screen to ensure the hydraulic functioning of the well. A detailed record should be kept of well development activities and included in the well construction log.		
	Installation survey: the vertical (top of casing) and horizontal position of each monitoring well must be surveyed and subsequently mapped by a suitably qualified surveyor.		
	Well network map: a well location map (using aerial image overlay) must be prepared and include the location of all monitoring wells in the monitoring network and their respective identification numbers.		