Government of Western Australia
Department of Environment Regulation

Licence

Licence Number	L7308/1998/13
Licence holder	A. Richards Pty Ltd (ACN 008 734 852)
Registered business address	203 Acourt Road JANDAKOT WA 6164
Duration	17/10/2014 to 22/10/2025
Date Amended	16 March 2020
Prescribed Premises	Category 61: Liquid waste facility Category 61A: Solid waste facility Category 67A: Compost manufacturing and soil blending
Premises	Richgro Garden products 203 Acourt Road JANDAKOT WA 6164 Part of Lot 186 on Plan 109038 Certificate of Title Volume 1645 Folio 965 Bound by the coordinates –

Position No.	***Latitude***	***Longitude***
A	**32° 06' 03.71" S**	**115° 53' 43.14" E**
B	**32° 06' 12.07" S**	**115° 53' 59.81" E**
C	**32° 06' 25.10" S**	**115° 53' 48.82" E**
D	**32° 06' 15.78" S**	**115° 53' 32.81" E**

This Licence is granted to the Licence holder, subject to the following conditions, on 16 March 2020, by:

Tracey Hassell
A/Manager – Waste Industries
an officer delegated under section 20 of the Environmental Protection Act 1986 (WA)

Conditions

Environmental compliance

1. The licence holder must comply with the EP Act and all regulations prescribed under the EP Act applicable to the premises, including:

(a) the duties of an occupier under s 61;

(b) the duty to notify the CEO of discharges of waste under s 72; and

(c) not causing, or doing anything that is likely to cause, an offence under the EP Act,

except where the licence holder does something in accordance with a condition which expressly states that a defence under s 74A of the EP Act may be available.

Feedstock controls

2. The licence holder must only accept feedstock materials at the premises if:

(a) it is of a type specified in column 1 of Table 1; and
(b) it meets any specification or quantity limit specified in column 2 of Table 1.

Table 1: Feedstock Table

	Column 1	**Column 2**
	Material	**Specification or quantity limit**
Solid wastes		
1	Green waste	20,000 tonnes/annual period
2	Sawdust	20,000 tonnes/annual period
3	Pine bark	15,000 tonnes/annual period
4	Poultry manure	Combined limit of 10,000 tonnes/annual period
5	Cow manure	
6	Sheep manure	
7	Grain wastes	Combined limit of 10,000 tonnes/annual period
8	Packed and unpackaged solid food wastes	
Liquid wastes		
9	Waste water from animal processing facilities	Combined limit of 25,000 tonnes/annual period
10	Waste from grease traps limited to milk solids	
11	Food and beverage processing wastes	

3. The licence holder must ensure that the following feedstocks are added to the anaerobic digestion process within 48 hours of being received:

(a) Grain wastes;

(b) Solid and liquid food wastes;

(c) Waste water from animal processing facilities;

(d) Waste from grease traps limited to milk solids; and

(e) Unpackaged food and beverage processing wastes.

4. The licence holder must undertake the monitoring and recording:

(a) for inputs and outputs specified in column 1 of Table 2;

(b) for the parameters listed in column 2 of Table 2;

(c) in the units specified in column 3 of Table 2; and

(d) at the frequency specified in column 4 of Table 2.

Table 2: Monitoring and recording of inputs and outputs

	Column 1	**Column 2**	**Column 3**	**Column 4**
	Input/Output	**Parameter**	**Units**	**Frequency**
1	Feedstock Inputs	Material type as detailed in Table 1	Tonnes	• Each load arriving at the Premises; and • The total digestate and green waste mixed per each Compost Batch.
2	Waste Outputs	Waste type as defined in the Landfill Definitions		Each load leaving or rejected from the Premises
3	Other outputs	Digestate from AD plant Compost products produced on-site Mulch products produced on-site Blended soils produced on-site		Each load produced at the Premises; and Each load leaving the Premises.

5. The licence holder must report to the CEO a summary of the results of the monitoring required by condition 4 for the previous annual reporting period by 1 March each year.

Infrastructure and equipment

6. The licence holder must ensure that the infrastructure and equipment specified in column 1 of Table 3, is maintained and operated in good working order and in accordance with the requirements specified in column 2 of Table 3.

Table 3: Infrastructure and equipment controls table

	Column 1	Column 2
	Premises infrastructure and equipment	**Operation details**
	Liquid waste and leachate controls	
1	Asphalt hardstand as depicted on the Premises Map in Schedule 1	• 40mm of asphalt underlain by 400mm limestone and road base; • Surface area of approximately 71,945m^2; • Has a hydraulic conductivity of less than 1 x 10^{-8} m/s; and • Graded to a 1 in 100 fall towards leachate ponds.
2	Limestone hardstand as depicted on the Premises Map in Schedule 1	• 500mm compacted limestone ; • Surface area of approximately 6,825m^2; and • Graded to a 1 in 100 fall towards leachate ponds.
3	Pond 1 as depicted on the Premises Map in Schedule 1	• 7,200m^3 capacity; • Dimensions of 45m x 40m x 4m; and • Lined with 1.5mm HDPE.
4	Pond 2 as depicted on the Premises Map in Schedule 1	• 10,400m^3 capacity; • Dimensions of 65m x 40m x 4m; and • Lined with 1.5mm HDPE.
5	Pond 3 as depicted on the Premises Map in Schedule 1	• 16,000m^3 capacity; • Dimensions of 100m x 40m x 4m; and • Lined with 1.5mm HDPE.
6	Pond 4 as depicted on the Premises Map in Schedule 1	• 24,000 m^3 capacity; • Dimensions of 150m x 40m x 4m; and • Lined with 1.5mm HDPE
7	Groundwater monitoring bores as depicted on the Groundwater Monitoring Bore Map in Schedule 1	• One bore at each of the locations MB1, MB2, MB4, MB6, MB7 and MB11 • Following the installation of groundwater bores as specified in condition 25, one bore at each of the locations MB3, MB5, MB8, MB9 and MB10 Total of 11 bores

	Column 1	Column 2
	Premises infrastructure and equipment	**Operation details**
8	Wash Down Bay as depicted on the key infrastructure maps in Schedule 1	• 15mx5m concrete pad raised above bitumen surrounding; • Two interconnected catchment sumps; • Filtration system Ø2200 x 1800 deep storage tank, 100mm wall thickness • 6.217 litre capacity • Tank lid Ø650mm x 200mm thick • Pump system to filter storage shed
9	Clearmake waste pre-treatment system	• CL 1.5 SS • 0.42 litres per second flow rate (max) • Outlet to sump that is interconnected to onsite leachate dam system
	Odour Controls	
10	Pond aeration system	• One subsurface diffuser aerator and snorkel system (Pond 1); • One aerator pump fitted with four aeration units floating on pond surface (Pond 2); • Two aerator pumps, each fitted with four aeration units floating on pond surface (Pond 3); • Two aerator pumps, each fitted with four aeration units floating on pond surface (Pond 4) and • Operational 24 hours a day in ponds.
11	Pond sump and screens	• To prevent solid material entering the ponds; • Five 4.5m x 6m with sediment traps (Three servicing Pond 1, two servicing Pond 2); and • One 4.5m x 15.5m with sediment trap (servicing Pond 3).
12	Receival Hall with odour extraction system as depicted on the Premises Map in Schedule 1	Operated 24 hours a day under negative pressure and consisting of: • Cool room panelling; • Graded concrete flooring to drainage sump connected to mixing tank; • Two automatic closing doors for vehicle access; • Minimum of one pedestrian access door; • Integrated waste macerator, de-packager and separator connected to mixing tank; • Mixing tank with 11m diameter connected to air extraction system; • Three x 3 sided loading bays for waste storage; and • Air extraction system that is directed to the biofilter for the receival hall.

	Column 1	Column 2
	Premises infrastructure and equipment	**Operation details**
13	Biofilter for Receival Hall as depicted on the Premises Map in Schedule 1	Operational 24 hours a day and to be comprised of: • 20m x 13.4m; • 320m^3 spongelite (fossilised sea sponges compromised predominantly of silica) biofilter bed; and • 7m stack.
14	2 x Anaerobic Digestion (AD) tanks as depicted on the Premises Map in Schedule 1	Operational 24 hours a day each with: • 18.7m diameter; • 500m^3 capacity for gas; • Double membrane biodomes; • Pressure detection system; and • Piping to flare and biogas generators.
15	Mixing Tank	11m diameter enclosed tank connected to the odour extraction system within Receival Hall
16	Dosing Tank	11m diameter enclosed tank connected to the odour extraction system within Receival Hall
17	Final tank	11m diameter tank connected to AD tanks
18	Water treatment system as depicted on the Premises Map in Schedule 1	Consisting of: • Sand filtration; • Chlorine dosing unit; and • Pump system between Pond 3 and 4.
19	2 x Generators as depicted on the Premises Map in Schedule 1	Biogas generators each with 1.2MWcapacity and connected to AD plant including: • Heat exchanger; • Associated pipework between the AD tanks and biogas generators; and • 8m exhaust stack.
20	2 x Flare	Enclosed gas flare connected to AD tanks with combustion rate of up to 400m^3/hour
21	Composting shed with odour extraction system as depicted on the Premises Map in Schedule 1	Operated under negative pressure with an air extraction system for odour management consisting of: • 4 concrete floored bays (6m wide, 72m long, 1.8m high with 150mm thick concrete walls); and • Rapid open/close roller doors at the access points.

	Column 1	Column 2
	Premises infrastructure and equipment	**Operation details**
22	2 x Biofilter for composting shed as depicted on the Premises Map in Schedule 1	Each to be comprised of: • 20m x 13.4m; and • 320m^3 spongelite (fossilised sea sponges compromised predominantly of silica) biofilter bed. Operated 24 hours a day when feedstock is being stored or when composting activities are being undertaken inside this shed.
Dust Controls		
23	Irrigation ring main	N/A
24	Fixed and mobile sprinklers	• Operate when visible dust is generated from stockpile surfaces on the premises. • Operate proactively subject to weather forecasting over a 24 hour period • Reticulated sprinklers must be capable of wetting down the entire surface of all stockpiles on the premises that are subject to dust lift-off simultaneously or within a period of thirty minutes. • Spray reach and rate of flow of sprinklers must be sufficient to reach the top of all stockpiles specified above. • Spray reach and rate of flow of sprinklers must be maintained in good working order.
25	Water sprays/sprinklers on green waste grinders	Must be functioning when the equipment is in operation.
26	Water sprays/sprinklers on screener	
27	Water truck with 12,000L capacity	The water cart must be fitted with high volume side and rear spray bars and/or water cannon to ensure complete coverage of stockpiles and roadways and to assist with dust suppression as required.
28	Abstraction bore(s)	Must be maintained in good working order to ensure that an adequate water supply for the reticulation main is available at all times
29	Bagging station as depicted on the Premises Map in Schedule 1	Two bagging plants each consisting of: • Enclosed building; • Hopper; • Conveyor system; • Asphalt floor; and • Dust extraction unit.

	Column 1	Column 2
	Premises infrastructure and equipment	**Operation details**
30	Green waste grinders	• One slow speed Diesel grinder (up to 80m^3/hour) without water sprays; and • One high speed electric grinder (up to 400m3/hour) with water sprays
31	Screeners	• One screener (up to 120m^3/hour) for damp compost stockpiles and products (no water sprays); • One screener (up to 120m^3/hour) for sands and dry products with water sprays

Operational controls

7. The licence holder must only operate the green waste grinder at the location marked 'Grinder location' on the key infrastructure map in Schedule 1, page 28 of this Licence.

8. The licence holder must not operate the green waste grinder between the hours of 7pm and 7am.

9. The licence holder must ensure that the vehicle access doors on the Receival Hall and Composting Shed are only open when vehicle access is required and that the pedestrian door(s) is used for pedestrian access at all other times.

10. The licence holder must ensure that pond water/leachate used for dust suppression and outdoor composting processes is treated through the water treatment system as depicted on the Premises Map in Schedule 1, prior to use.

11. The licence holder must only store and process the materials specified in column 1 of Table 4 in accordance with the requirements specified in column 2 of Table 4.

Table 4: Storage and processing requirements

	Column 1	Column 2
	Material	**Storage and Processing Requirements**
1	Green waste	Stored and pre-treated on Limestone Hardstand as specified in the Premises Layout Map in Schedule 1. Storage is limited to 14 days from date of arrival on the Premises. Pasteurised, composted and matured only on Asphalt Hardstand or in Composting Shed as specified in the Premises Layout Map in Schedule 1.
2	Pine bark	Stored, pasteurised, composted and matured on Asphalt Hardstand as specified in the Premises Layout Map in Schedule 1.
3	Sawdust	Stored, pasteurised, composted and matured on Asphalt Hardstand as specified in the Premises Layout Map in Schedule 1.

	Column 1	Column 2
	Material	**Storage and Processing Requirements**
4	Manures	Stored within an enclosed building at all times prior to bagging operations and/or limited use within the composting process for nutrient content purposes
5	Grains and solid food waste	Waste may only to be stored and pre-treated within Receival Hall as specified in the Premises Layout Map in Schedule 1 when the biofilter serving the AD Plant is in operation and prior to waste entering the mixing tank.
6	Waste water from animal processing facilities	Waste to be unloaded directly from tanker into the mixing tank. Waste may only be to stored and pre-treated within the enclosed mixing tank and dosing tank when the biofilter serving the AD Plant is in operation and prior to processing in the enclosed AD tanks as specified in the Premises Layout Map in Schedule 1
7	Grease trap waste limited to milk solids	
8	Vegetable and food processing liquid wastes	
9	Digestate from on-site Anaerobic Digestion plant	Stored within the final AD tank prior to reuse on-site or removal off-site.

12. The licence holder must maintain a freeboard of at least 300mm within all ponds at all times.

13. The licence holder must maintain at least one metre of leachate or stormwater within all ponds between July and November in each year.

14. The licence holder must ensure that:

(a) the asphalt hardstand areas are maintained and clearance between windrows is maintained to enable leachate or seasonal rainfall to flow to leachate ponds 1, 2 or 3.

(b) leachate does not pool on open hardstand areas and that the hardstand is graded to convey flow of leachate from the hardstand into leachate ponds 1, 2 or 3.

15. The licence holder must manage the outdoor 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 ºC and 65 ºC 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 per cent;

(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.

16. The licence holder must manage the indoor compost windrows such that:

(a) Windrows are turned within the indoor compost sheds initially and again at four weeks;

(b) The core temperature of the composting pile is maintained between 55 ºC and 65 ºC 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 per cent;

(d) An input nutrient balance (carbon: nitrogen ratio) of 25:1 to 35:1 is to be achieved when forming windrows;

(e) Digestate from the AD Plant is only blended with feedstock within the indoor composting sheds. The application of digestate to feedstock is via dedicated pipework and blended by mobile plant;

(f) Green waste blended with digestate must only be moved from the enclosed vessel and into the composting shed when the biofilter serving the composting shed is operational;

(g) For each compost batch, a maximum of 486.1 tonnes of digestate is blended with a minimum of 595.24 tonnes of green waste within the composting shed;

(h) Compost is only moved outside of the composting shed once the criteria specified in condition 17 have been met.

17. The licence holder must ensure that the following requirements are met before the digestate blended compost is moved outside the composting shed:

(a) Initial blending of green waste with digestate occurred a minimum of four weeks prior;

(b) The compost meets a level of at least 4.5 on the Solvita Compost Maturity Index; and

(c) Following pasteurisation of the compost, the temperature, oxygen and moisture levels of each indoor compost windrow are monitored and results recorded and have remained stable across three consecutive measurements.

18. The licence holder must ensure that temperature, oxygen and moisture levels of each indoor compost windrow are monitored twice weekly and results recorded and maintained.

19. The licence holder is to undertake the product testing in accordance with the requirements of column 1 of Table 5, within the timeframe specified in column 2 of Table 5.

Table 5: Product assessment

	Column 1	Column 2
	Requirement	**Timeframe**
1	The licence holder shall complete a report that assesses all compost and blended soils produced at the premises against the processes and product parameters specified in AS 4454.	Report to be provided to the CEO within six months from 20 March 2018.
2	Where the processes and product parameters deviate from AS 4454, the licence holder must provide evidence, with reference to testing regimes and controls, to demonstrate how it meets suitability for end use.	

20. The licence holder must manage the power generators in a manner that air emissions do not exceed the emissions limits specified in column 5 of Table 8.

Groundwater monitoring and actions

21. The licence holder must undertake groundwater monitoring:

(a) for the parameters specified in column 1 of Table 6;

(b) at the locations specified in column 2 of Table 6;

(c) at the frequency specified in column 4 of Table 6;

(d) using the methods specified in column 5 and column 6 of Table 6.

Table 6: Ground water monitoring

Column 1 Parameter	Column 2 Location as shown on Site Plan	Column 3 Groundwater Action Criteria	Column 4 Frequency	Column 5 Sample	Column 6 Method
Standing water level[1]	MB1 to MB11	N/A	Bores MB1, MB2, MB4, MB6, MB7 and MB11: Quarterly (January, April, July and October) for the first four sampling rounds and then bi-annually. Bores MB3, MB5, MB8, MB9 and MB10: Following construction and installation of the requirements in condition 36, Quarterly (January, April, July and October), for the first four sampling rounds and then bi-annually.	In-field measurement	AS 5667.1 AS 5667.11
Temperature[1]					
Electrical conductivity[1]					
pH[1]					
Redox potential[1]					
Biological oxygen demand (BOD)				Spot Sample	
Chemical oxygen demand (COD)					
Total dissolved solids (TDS)					
Nitrate + nitrite (as nitrogen)					
Ammonia nitrogen	MB1 to MB11	5 mg/L	Bores MB1, MB2, MB4, MB6, MB7 and MB11: Quarterly (January, April, July and October) for the first four sampling rounds and then bi-annually. Bores MB3, MB5, MB8, MB9 and MB10: Following construction and installation of the requirements in condition 36, Quarterly (January, April, July and October), for the first four sampling rounds and then bi-annually.	In-field measurement	AS 5667.1 AS 5667.11
Total nitrogen		5 mg/L			
Total phosphorus		N/A			
Total organic carbon		N/A			
Bicarbonate + Carbonate					
Arsenic					
Calcium					
Chloride					
Iron					
Magnesium					
Potassium					
Sodium					
Sulfate					
Manganese					

Note 1: Condition 40 does not apply to in-field parameters

22. The licence holder must report to the CEO the results of the monitoring required by condition 21 for the previous annual reporting period by 1 March each year containing the following information:

(a) An interpretive summary and assessment of ambient groundwater quality monitoring results against relevant assessment levels for water as published in the Contaminated Sites Guidelines; and

(b) An interpretive summary and assessment of ambient groundwater quality monitoring results against previous monitoring results. Trend graphs shall be provided in support of this assessment.

23. In the event that groundwater action criteria as specified in Table 6 are exceeded, the licence holder is required to resample the bore(s) that showed the exceedance within two weeks of the exceedance being identified and sample for all of the parameters listed in column 1 of Table 6.

24. If the results from the resampling round specified in condition 23 show that the groundwater action criteria are still being exceeded, the licence holder is required to:

(a) immediately, upon receipt of the exceedance, notify the CEO in writing and include the following information:

(i) date of the exceedance;

(ii) bore location where the exceedance(s) were identified; and

(iii) laboratory analysis data.

(b) upon immediately receiving the sampling results for the monitoring described above in part (a) of this condition, undertake an investigation to determine the source of the exceedance; and

(c) provide the resampling data and findings of the investigation into the source of the exceedance within one month of the resampling event.

Pond monitoring and actions

25. The licence holder must undertake pond monitoring:

(a) for the parameters specified in column 1 of Table 7;

(b) at the locations specified in column 2 of Table 7;

(c) at the frequency specified in column 4 of Table 7; and

(d) using the methods specified in column 5 and Column 6 of Table 7.

Table 7: Pond monitoring

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Parameter	**Location as shown on Premises Layout Map**	**Pond Action Criteria**	**Frequency**	**Sample**	**Method**
pH[2]	Pond 1 Pond 2 Pond 3 Pond 4	N/A	Quarterly (January, April, July and October)	In-field measurement	AS 5667.1 AS 5667.10
Temperature[2]					
Biological oxygen demand (BOD_5)	Pond 1 Pond 2 Pond 3	N/A	Quarterly (January, April, July and October)	Spot Sample	AS 5667.1 AS 5667.10

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Parameter	**Location as shown on Premises Layout Map**	**Pond Action Criteria**	**Frequency**	**Sample**	**Method**
Volume of sludge[2]	Pond 4	30% of pond capacity	Annually	N/A	None specified

Note 2: Condition 40 does not apply to in-field parameters or sludge volume

26. The licence holder must ensure that if monitoring undertaken in accordance with condition 25 demonstrates the volume of sludge exceeds the pond action criterion, action is taken to desludge the pond within two months.

27. Prior to the ponds being desludged in accordance with condition 26 above, the licence holder must submit to the CEO a Pond Desludging Management Plan that describes the methods proposed to undertake the desludging activities and addresses what actions or other measures will be undertaken to mitigate odour and leachate emissions during this activity.

28. The licence holder must report to the CEO, by 1 March each year, the results of the monitoring required by condition 25 for the previous annual period.

29. The licence holder must ensure that at all times, no mosquito larvae are present within Ponds 1 to 4 and all sumps associated with these ponds.

Air emissions monitoring and actions

30. The licence holder must undertake air emissions monitoring at standard temperature and pressure and under normal operating conditions:

(a) for the parameters specified in column 1 of Table 8;

(b) at the locations specified in column 2 of Table 8;

(c) at the frequency specified in column 4 of Table 8; and

(d) using the methods specified in column 6 and Column 7 of Table 8.

Table 8: Air emissions monitoring

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7
Parameter	**Location**	**Units**	**Frequency**	**Emission Limits**	**Sample**	**Method**
Sulphur dioxide	Generator Stacks	mg/m^3	Annually	350 mg/m^3	Stack test (minimum 30 minute average)	USEPA Method 6C
Oxides of nitrogen (NOx as NO_2)	Generator Stacks		Annually	600 mg/m^3		USEPA Method 7E
Carbon monoxide				1000 mg/m^3		USEPA Method 10
Total volatile organic compounds				1000 mg/m^3		USEPA Method 18
Non methane volatile organic compounds				75 mg/m^3		
Odour concentration		ou.m^3/s		N/A		Table 11: AS4323.3
Stack temperature		ºC		Between 145 and 300 ºC		None specified
Stack flowrate		m^3/min		Minimum of 70 m^3/min		USEPA Method 2

31. The licence holder must record the dates and durations that the flare servicing the AD plant is used within each annual period and provide this information to the CEO by 1 March each year.

32. The licence holder must report to the CEO, by 1 March each year, the results of the monitoring required by condition 30 for the previous annual period.

Specified Actions

33. The licence holder must test the seepage rate or integrity of the ponds:

(a) for one of the parameters specified in column 1 of Table 9;

(b) at the locations specified in column 2 of Table 9;

(c) by the completion date specified in column 4 of Table 9; and

(d) using the method specified in column 5 and column 6 of Table 9 for the chosen parameter.

Table 9: Pond seepage rate and integrity testing requirements

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Parameter	**Location as shown on Premises Layout Map**	**Liner Action Criterion**	**Completion date**	**Test**	**Method**
Seepage rate (mm/day and m/s) **or** Liner integrity testing	Pond 1 Pond 2 Pond 3 Pond 4	Permeability of equal to or less than 1 x 10^{-9} m/s	To be undertaken in February 2018	Overnight water balance test	Ham and Baum, 2009
			Two months from 20 March 2018	Electrical testing of liner integrity	ASTM D7007

34. The licence holder must, within one month from the completion of either parameter listed in column 1 of Table 9, provide a report to the CEO outlining the results of the testing specified in condition 33 and if the results indicate that the hydraulic conductivity of any pond listed in column 2 of Table 9 is greater than the liner action criterion in column 3 of Table 9, include an upgrade plan for those ponds to ensure they meet the Liner Action Criterion.

35. The licence holder is to undertake the hydraulic conductivity testing in accordance with the requirements of column 1 of Table 10, within the timeframe specified in column 2 of Table 10.

Table 10: Hydraulic conductivity testing requirements

	Column 1	Column 2
	Requirement	**Timeframe**
1	The licence holder shall complete a report that assesses the hydraulic conductivity of the Limestone Hardstand.	Hydraulic conductivity testing to be completed within three months of 20 March 2018 and report to be provided to the CEO within one month of the testing being completed.

36. The licence holder is to undertake the installation of groundwater monitoring bores in accordance with the requirements of column 1 of Table 11, in accordance with the construction requirements listed in column 2 of Table 11, and within the timeframe specified in column 3 of Table 11.

Table 11: Infrastructure construction requirements

	Column 1	Column 2	Column 3
	Infrastructure	**Requirements (Design and Construction)**	**Timeframe**
1	Construction of groundwater monitoring bores	• Construction of five groundwater monitoring bores at the locations marked MB3, MB5, MB8, MB9 and MB10 on the Groundwater Monitoring Bore Map in Schedule 1; • Constructed according to the ASTM D5092-04(2010)e1 Standard practice for design and installation of groundwater monitoring wells; • Constructed with a screened interval from the water table to a depth of approximately 3m below the water table; and • Logged as per AS1726-1993 for the unified classification system for soils	Must be constructed and operational within three months from 20 March 2018.

37. Prior to the use of digestate in the composting shed at the premises, the licence holder is to undertake the actions specified in column 1 of Table 12, in accordance with the requirements listed in column 2 of Table 12, and within the timeframe specified in column 3 of Table 12.

Table 12: Biofilter requirements

	Column 1	Column 2	Column 3
	Actions	**Requirements**	**Timeframe**
1	Independent assessment and commissioning of the composting shed and composting shed biofilters	Visual inspection to ensure the composting shed and the composting shed biofilters are: • free of tears or gaps that may lead to the release of air emissions; and that the composting shed biofilters are: • free of water pooling at base of biofilter; • free of fungi, mould or similar organisms. Determination of the air exchange rate for the composting shed. Achievement of negative pressure within the composting shed. Inoculation (re-seeding) of the biofilter media. Biofilters are fully operational and fit for purpose by including, but not being limited to, monitoring the back	Must be undertaken within two months from 20 March 2018 with the results/findings of the assessment and commissioning provided one month later including a description and dates of all actions undertaken and testing results to confirm that the requirements have been achieved. The licence holder must notify the CEO in writing within 48 hours of the requirements being completed.

	Column 1	Column 2	Column 3
	Actions	**Requirements**	**Timeframe**
		pressure of the biofilter, and monitoring the air velocity in the dust entering the biofilter.	

38. The licence holder must notify the CEO in writing within 24 hours of the first batch of indoor composting commencing.

Emissions

39. The licence holder must not cause any emissions from the premises except for general emissions described in column 1, subject to the exclusions, limitations or requirements specified in column 2, of Table 13.

If the licence holder proves that it has acted in accordance with this condition, it may be a defence under s 74A of the EP Act to proceedings for offences under the EP Act (including offences under section 56).

Table 13: Authorised Emissions Table

Column 1	Column 2
Emission Type	**Exclusions/Limitations/Requirements**
Specified emissions	
Leachate and liquid waste emissions	Subject to compliance with conditions 2, 6, 10 to 29, and 33 to 37.
Odour emissions	Subject to compliance with conditions 2, 3, 6, 9, 10, 11, 14, 15, 16, 17, 18 and 38.
Dust emissions	Subject to compliance with conditions 2, 6, 15, 16 and 18.
Noise emissions	Subject to compliance with conditions 2, 5, 6, 7 and 8.
Point source emissions to air	Subject to compliance with conditions 4, 6, 21 and 30 to 32
General Emissions	
Emissions which: • arise from the activities on the premises through matters set out in, or incidental to the matters set out in, the general description in Schedule 2.	Emissions excluded from general emissions are: • unreasonable emissions; or • emissions that result in, or are likely to result in, pollution, material environmental harm or serious environmental harm; or • discharges of waste in circumstances likely to cause pollution; or • emissions that result, or are likely to result in, the discharge or abandonment of waste in water to which the public has access; or • emissions or discharges which do not comply with an Approved Policy; or

Column 1	Column 2
Emission Type	**Exclusions/Limitations/Requirements**
	• Emissions or discharges which do not comply with prescribed standard; or • Emissions or discharges which do not comply with the conditions in an implementation agreement or decision; or • Emissions or discharges the subject of offences under regulations prescribed under the EP Act, including materials discharged under the *Environmental Protection (Unauthorised Discharges) Regulations 2004*.

Information

40. The licence holder must ensure that all laboratory samples taken in accordance with Conditions 21, 25 and 30 are submitted to and tested by a laboratory with current NATA accreditation for the parameters being measured unless indicated otherwise in the relevant table.

41. The licence holder must maintain accurate and auditable records in relation to the calculation of fees payable in respect of this licence.

42. If an emission that is not a general emission occurs on the premises, then the licence holder must:

(a) investigate why the emission occurred;

(b) take all reasonable steps to prevent the emission occurring again;

(c) record the details of the investigation and all steps taken; and

(d) provide a copy of the record to the CEO within 21 days of the date the Licence holder became aware of the emission occurring.

43. The licence holder must record the number and details of any complaints received by the licence holder relating to the premises, and any action taken by the licence holder in response to the complaint. Details of 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 of the complaint; and

(d) the details and dates of the actions taken by the Licence holder in response to the complaints.

44. The licence holder must submit to the CEO within 90 days after the anniversary date, a compliance report indicating the extent to which the licence holder has complied with the conditions in this licence for the annual period.

45. The licence holder must comply with a CEO request, within 7 days from the date of the CEO request or such other period specified in the CEO request.

Definitions and Interpretation

Definitions

In this Licence, the following terms have the following meanings:

AD means Anaerobic Digestion.

Anniversary date means 1 January of each year.

Annual period means a 12 month period commencing from 1 November until 31 October in the following year.

Approved policy has the same meaning given to that term under the EP Act.

AS AS4323.3 means the Australian Standard AS AS4323.3: Stationary source emissions Determination of odour concentration by dynamic olfactometry.

AS 5667.1 means the Australian Standard AS 5667.1: Water Quality – Sampling – Guidance of the Design of sampling programs, sampling techniques and the preservation and handling of samples.

AS 5667.10 means the Australian Standard AS 5667.10: Water Quality – Sampling – Guidance on sampling of waste waters.

AS 5667.11 means the Australian Standard AS 5667.11: Water Quality – Sampling – Guidance on sampling of groundwaters.

CEO for the purposes of notification means:

Director General
Department administering the *Environmental Protection Act 1986*
Locked Bag 10
Joondalup DC WA 6919

info@dwer.wa.gov.au

CEO Request means a request made by the CEO to the licence holder in writing, sent to the licence holder's address for notifications, as described at the front of this licence, in relation to:

(a) information, records or reports in relation to specific matters in connection with this licence including in relation to compliance with any conditions and the calculation of fees (whether or not a breach of condition or the EP Act is suspected); or

(b) reporting, records or administrative matters:

  (i) which apply to all licences granted under the EP Act; or

  (ii) which apply to specified categories of licences within which this licence falls.

Compliance report means a report in a format approved by the CEO as presented by the Licence holder or as specified by the CEO from time to time.

Compost batch means a full compost cycle undertaken for one windrow.

Compost cycle means the composting process involving the acceptance of green waste into the Composting Shed and the initial mixing and pasteurisation phases undertaken to reach compost stability, prior to removal outside;

Composted product means the material generated through the process of composting at the premises.

Compost stability is subject to the requirements of condition 18 being met.

Condition means a condition to which this licence is subject under s 62 of the EP Act.

Department means the department established under s.35 of the Public Sector Management Act and designated as responsible for the administration of Division 3 Part V of the Environmental Protection Act 1986;

Digestate means the untreated liquid waste produced from the biodegradation of feedstock within an Anaerobic Digestion plant.

Discharge has the same meaning given to that term under the EP Act.

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 means the Environmental Protection Act 1986 (WA).

EP Regulations means the Environmental Protection Regulations 1987 (WA).

General description means the description of activities and operations carried out on the Premises as set out in Schedule 2 of this licence.

General emission has the meaning set out in Condition 27 of this licence.

Green waste means waste that originates from untreated trees or plants.

Implementation agreement or decision has the same meaning given to that term under the EP Act.

Landfill definitions means the document titled “Landfill Waste Classification and Waste Definitions 1996” published by the Chief Executive Officer of the Department of Environment as amended from time to time.

Leachate means liquid released by or water that has percolated through waste and which contains some of its constituents.

Licence refers to this document, which evidences the grant of licence by the CEO under s 57 of the EP Act, subject to the conditions.

Licence holder refers to the occupier of the premises being the person to whom this licence has been granted, as specified at the front of this licence.

Material environmental harm has the same meaning given to that term under the EP Act.

NATA means the National Association of testing Authorities, Australia.

NATA accredited means in relation to the analysis of a sample that the laboratory is NATA accredited for the specified analysis at the time of the analysis.

Overnight water balance test refers to the formula $S=[(Dt2-Dt1)-\sum E] / (t2-t1)$ where S is the average seepage rate (mm/d); Dt2 and Dt1 are the relative liquid levels of the pond at the ending and beginning of the test, respectively (mm); $\sum E$ is the cumulative evaporation (mm); and t2 and t1 are the ending and beginning times of the test, respectively (d).

Pasteurisation means the process whereby organic materials are treated to significantly reduce the numbers of plant and animal pathogens and plant propagules.

Pollution has the same meaning given to that term under the EP Act.

Premises refers to the premises to which this licence applies, as specified at the front of this licence and as shown on the map in Schedule 1 to this licence.

Quarterly means the four inclusive periods from 1 January to 31 March, 1 April to 30 June, 1 July to 30 September, and 1 October to 31 December in each year.

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.

USEPA Method 2 means the document titled Method 2 - Determination of Stack Gas Velocity and Volumetric Flow Rate (Type S Pitot Tube) published by the United Stated Environmental Protection Agency.

USEPA Method 6C means the document titled Method 6C - Determination of Sulfur Dioxide Emissions from Stationary Sources (Instrumental Analyzer Procedure) published by the United Stated Environmental Protection Agency.

USEPA Method 7E means the document titled Method 7E - Determination of Nitrogen Oxides Emissions from Stationary Sources (Instrumental Analyzer Procedure) published by the United Stated Environmental Protection Agency.

USEPA Method 10 means the document titled Method 10 - Determination of Carbon Monoxide Emissions from Stationary Sources published by the United Stated Environmental Protection Agency.

USEPA Method 18 means the document titled Method 18 - Measurement of Gaseous Organic Compound Emissions by Gas Chromatography published by the United Stated Environmental Protection Agency.

Waste has the same meaning given to that term under the EP Act.

Interpretation

In this licence:

(a) the words ‘including’, ‘includes’ and ‘include’ will be read as if followed by the words ‘without limitation’;

(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; and

(d) any reference to an Australian or other standard, guideline or code of practice in this licence means the version of the standard, guideline or code of practice in force at the time of granting of this licence and includes any amendments to the standard, guideline or code of practice which may occur from time to time during the course of the licence.

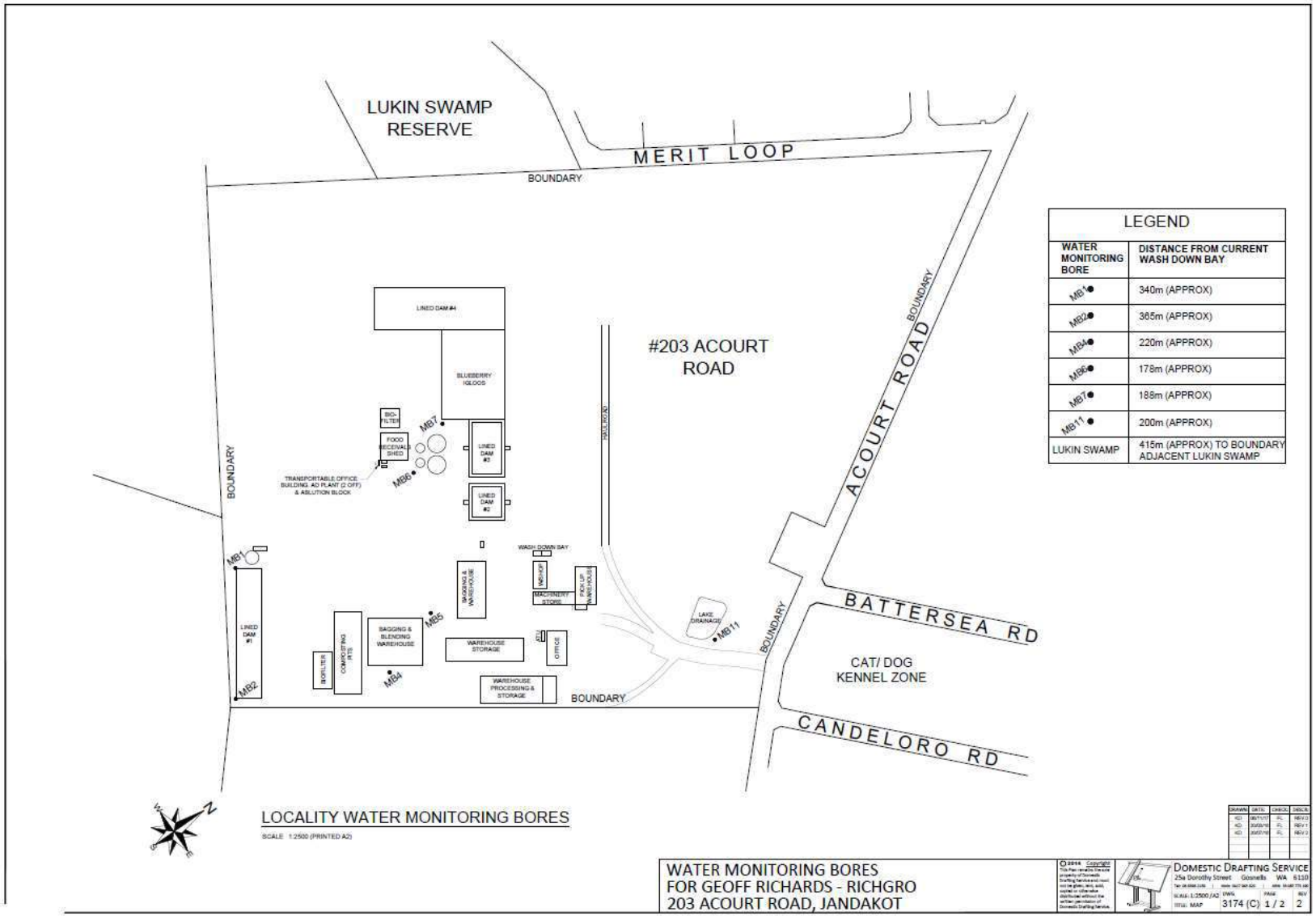
Schedule 1: Maps

Premises Map

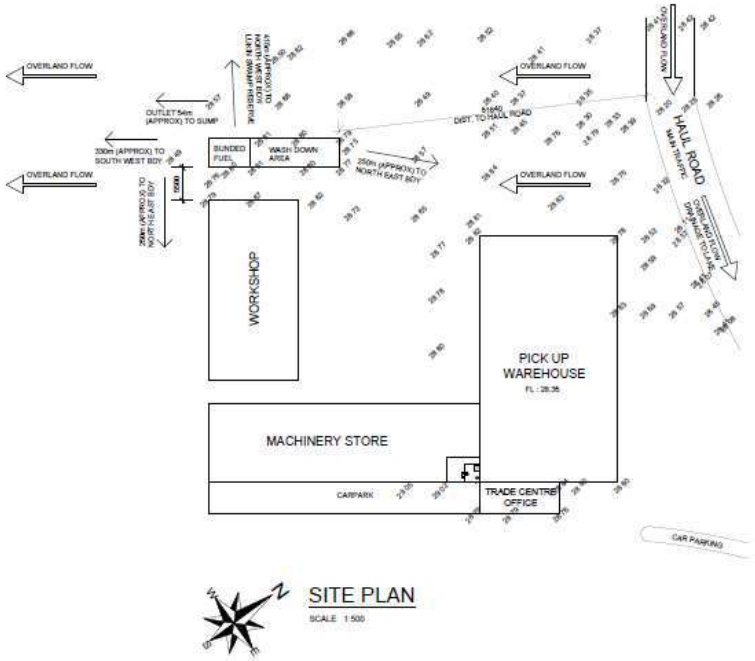
The premises is shown in the map below. The pink line depicts the boundary to the premises. The yellow numbers refer to the GPS coordinates specified on page 1 of the licence.


Limestone hardstand
Generators
AD tanks
Asphalt hardstand

Key infrastructure is depicted in the maps below.

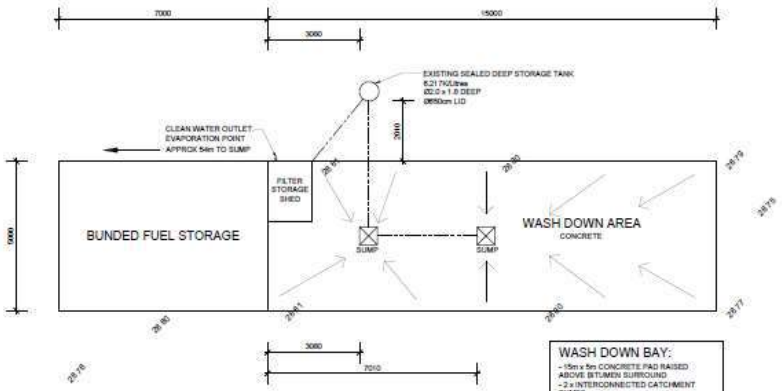


Licence: L7308/1998/13
File No: 2010/008321



SITE PLAN

SCALE 1:500



EXISTING WASH DOWN BAY

SCALE 1:100

NOTE!!!
APPARATUS CONSTRUCTED IN 2007 FOR DISPOSAL OF LIQUID WASTE VIA TREATMENT FILTER

WASH DOWN BAY:
- 15m x 5m CONCRETE PAD RAISED ABOVE BITUMEN SURROUND
- 2 x INTERCONNECTED CATCHMENT SUMPS
- FILTRATION SYSTEM TO Ø2200 x 1800 DEEP STORAGE TANK, 100mm WALL THICKNESS, FULLY ENCLOSED
- 6.217 LITRE CAPACITY
- TANK LID Ø950mm x 200mm THICK
- PUMP SYSTEM TO FILTER STORAGE SHED

FILTER STORAGE SHED:
- CLEARMAKE WATER TREATMENT RECYCLING SYSTEM SPECIFICS TO REMOVAL OF GREASE, DIESEL, FUEL RESIDUES LEAVING CLEAN WATER (CLEARMAKE MODEL CL 1.5 SS
- OIL, WATER, SOLIDS SEPARATOR DEVICE)
- SLUDGE & OIL SKIMMER OFF TAKE ARE DISPOSED BY APPROVED WASTE DISPOSAL ORGANISATION

CLEARMAKE WASTE PRETREATMENT SYSTEM:
- CL 1.5 SS
- 0.42 LISEC FLOW RATE (MAX)
- OUTLET TO SUMP & INTERCONNECTED TO ONSITE LEACHATE DAM SYSTEM

DRAWN	DATE	CHECK	DESCR.
KD	06/11/07	FL	REV 0
KD	20/03/08	FL	REV 1
KD	23/07/08	FL	REV 2

EXISTING WASTE WATER TREATMENT SYSTEM
FOR GEOFF RICHARDS - RICHGRO
203 ACOURT ROAD, JANDAKOT

DOMESTIC DRAFTING SERVICE
25a Dorothy Street Gosnells WA 6110

SCALE: NOTED/ A2 | DWG: 3174 (C) | PAGE: 2 / 2 | REV: 2

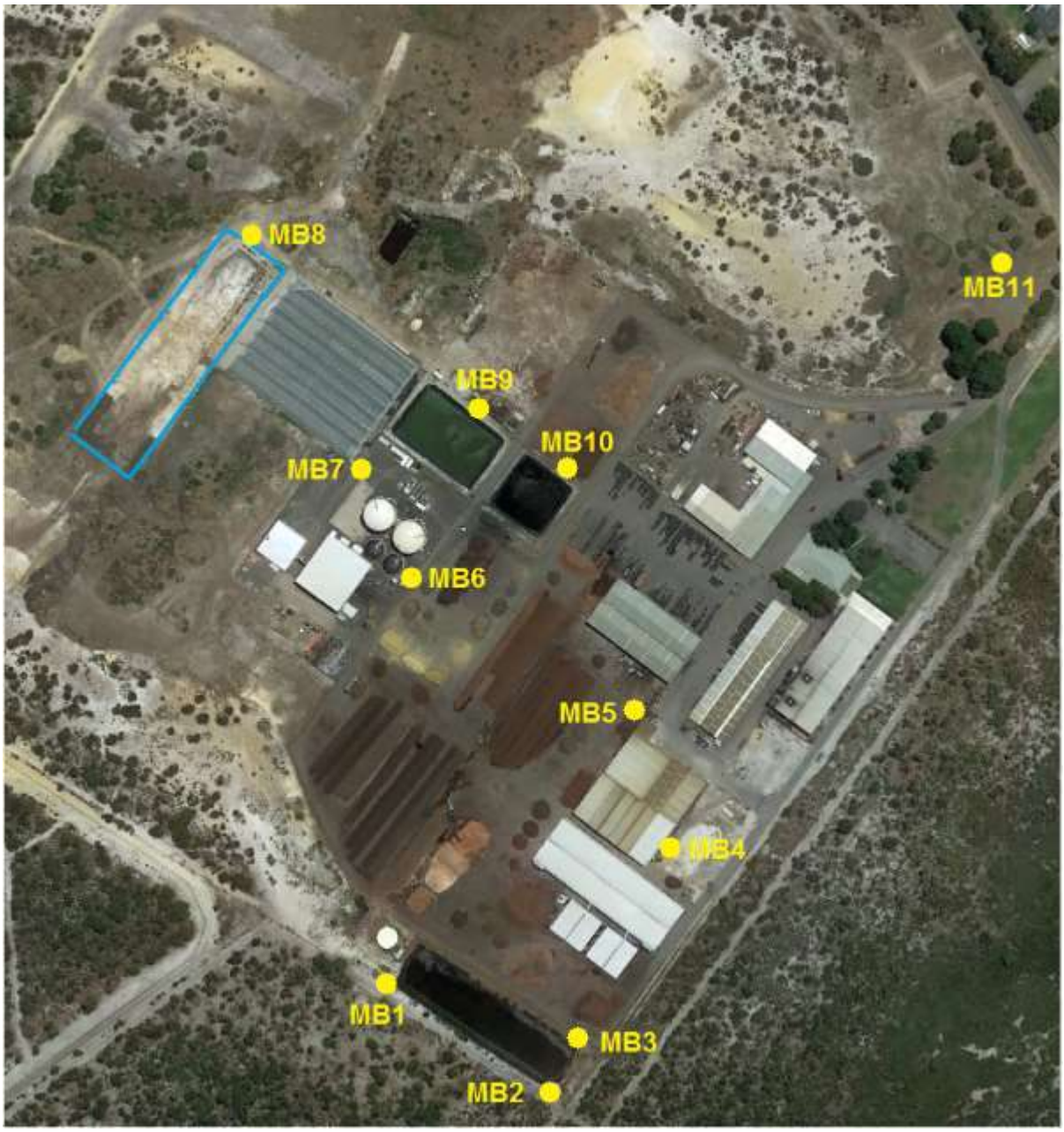
TITLE: SITE

Licence: L7308/1998/13
File No: 2010/008321

Licence: L7308/1998/13
File No: 2010/008321

Groundwater Monitoring Bore Map

The location of the groundwater monitoring bores referred to in conditions 6 and 21 are shown in the map below.



Schedule 2: General Description

At the time of assessment, the following activities and operations were considered in the determination of the risk and related conditions for the premises.

The licence holder produces compost, blended soils and mulches for the purpose of supplying to wholesale clients. The Licence holder also operates an Anaerobic Digestion (AD) facility which converts liquid and solid wastes to biogas which is captured for energy generation, and results in a digestate by-product.

The premises accepts green waste, sawdust, pine bark, and a small amount of manure for the outdoor composting operations; manures for the bagging operations; and grain wastes, solid food waste, waste water from animal processing facilities (K100), wastes from grease traps (limited to milk solids) (K110), and liquid food and beverage processing wastes (K200) as part of the AD facility operations.

The workflow at the premises is summarised below:

AD facility

- Controlled wastes K100, K110 and K200 are received onsite and unloaded directly from the tanker to the mixing tank associated with the AD plant.
- Solid food wastes are directed from the storage bays within the Receival Hall to the food shredder where they are macerated and then directed to the mixing tank.
- Liquid and macerated solid waste within the mixing tank are pumped into the dosing tank where bacteria and microbes are mixed with the wastes are fed in even amounts into the two AD tanks.
- Within the AD tanks, wastes are broken down by micro-organisms in the absence of oxygen to produce biogas (predominantly methane and carbon dioxide) and digestate.
- The biogas is directed to one of two generators where it is used as a fuel to generate electricity.
- The electricity generated is used on the premises with the surplus exported to the electricity grid.
- A portion of the digestate generated onsite is authorised to be applied to green waste windrows for moisture and nutrient content within the composting shed.

Outdoor composting

- The licence holder produces three main streams of compost on site: a green waste compost, a pine bark compost and a finer sawdust based compost.
- Composting of green waste, pine bark and sawdust is undertaken outside in uncovered windrows.
- Green waste received on site is processed in grinders to produce base material. This base material then forms the basis of the green waste compost stream. Pine bark and sawdust are also graded.
- The ground green waste, pine bark and sawdust are all mixed with a small volume of manure and formed into separate windrows to reflect the different compost streams.
- Moisture is added to the compost mixture to promote decomposition of material by micro-organisms. Threated leachate and storm water from the leachate ponds or bore water is applied to the windrows.
- Compost windrow mixes are turned and additional water added as required by windrow turner to promote aeration.
- Harvest Quest compost windrow mixtures shall not be turned or water added during the first four weeks.
- The temperature of the windrows is allowed to increase to 55ºC to allow

pasteurisation to occur. This is where plant propagules and pathogens are reduced. Monitoring results are recorded over a period of at least two weeks.
- After pasteurisation, the compost undergoes the maturation stage, whereby the compost is left to rest prior to being sold to customers in a bagged or bulk form.
- Blended soils are produced on the asphalt hardstand. The blended soils are comprised of the feedstocks, final products and additional soils stored onsite, depending on what product is being produced.
- Final products are bagged onsite in the bagging station and stored outside on pallets or within a storage warehouse prior to being sold onto wholesale clients.

Indoor composting

- Digestate is applied to feedstock (green waste, pine bark, sawdust) within the composting shed while biofilters are operational.
- The mixed product is placed into a composting bay and covered with a layer of Harvest Quest compost to form a mass of compost.
- The compost mass is maintained at a minimum of 55oC for a period of at least two consecutive weeks.
- Moisture levels are maintained between 40-65 per cent W/W.
- Once the compost has achieved biological stability and has remained in the composting shed for a minimum of four weeks, the compost is moved outside for maturation.

Infrastructure and equipment

The Infrastructure and equipment situated on the premises are listed in Table 3 of condition 6.

Site layout

The infrastructure and equipment are set out on the premises in accordance with the site layout specified on the premises Maps in Schedule 1.

Throughput

In the 2018 reporting period the premises accepted 37,239 tonnes of waste (a combination of biosolids, coarse green waste, sawdust, food waste, manure and fill sand) and produced 9,839 tonnes of compost soil conditioner and 19,155 tonnes of mulches.