



Government of Western Australia
Department of Environment Regulation

Your ref: L8670/2012/1
Our ref: 2012/005317
Enquiries: Bhabesh Das
Phone: 9333 7521
Fax: 9333 7550
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Mr Jamie Burton
Kimberley Freerange Beef Pty Ltd
Unit 5/186 Hampden Road
NEDLANDS WA 6009

Dear Sir

ENVIRONMENTAL PROTECTION ACT 1986 – AMENDMENT TO LICENCE

Licence: L8670/2012/1

**Premises: Kimberley Freerange Gingin Brook Road Abattoir
Lot 71 on Plan 26866 Gingin Brook Road, GINGIN WA 6503**

Further to my letter dated 8 August 2013, please find enclosed your amended *Environmental Protection Act 1986* licence.

If you have any questions or objections relating to the licence, please do not hesitate to contact the enquiries officer above on 9333 7521 for clarification or discussion of any grievances you have.

If you are concerned about, or object to any aspect of the amendment, you may lodge an appeal with the Minister for the Environment within 21 days from the date on which this licence is received. The Office of the Appeals Convenor can be contacted on 6467 5190 to find out the procedure and fee.

Members of the public may also appeal the amendments. The Appeals Registrar at the Office of the Appeals Convenor can be contacted after the closing date of appeals to check whether any appeals were received.

Yours sincerely

Mark Whiteley
Officer delegated under Section 20
of the *Environmental Protection Act 1986*

29 August 2013



LICENCE FOR PRESCRIBED PREMISES *Environmental Protection Act 1986*

LICENCE NUMBER: L8670/2012/1

FILE NUMBER: 2012/005317

LICENSEE

Kimberley Freerange Beef Pty Ltd t/a Kimberley Freerange
Unit 5 / 186 Hampden Road
NEDLANDS WA 6009
ACN: 114756848

PREMISES

Kimberley Freerange Gingin Brook Road Abattoir
Lot 71 on Plan 26866 Gingin Brook Road
MUCKENBURRA WA 6503
(as depicted in Attachment 1)

PRESCRIBED PREMISES CATEGORY

Schedule 1 of the Environmental Protection Regulations 1987

CATEGORY NUMBER	CATEGORY DESCRIPTION	CATEGORY PRODUCTION OR DESIGN CAPACITY	PREMISES PRODUCTION OR DESIGN CAPACITY
15	Abattoir: premises on which animals are slaughtered	1000 tonnes or more per year	Not more than 3000 tonnes per year
55	Livestock saleyard or holding pen: premises on which live animals are held pending their sale, shipment or slaughter	10,000 animals or more per year	Not more than 50,000 animals per year
83	Fellmongering: premises on which animal skins or hides are dried, cured or stored	1000 skins or hides or more per year	Not more than 200,000

CONDITIONS OF LICENCE

Subject to the conditions of licence set out in the attached pages.

Officer delegated under Section 20
of the *Environmental Protection Act 1986*

ISSUE DATE: Thursday, 23 August 2012
COMMENCEMENT DATE: Thursday, 23 August 2012
EXPIRY DATE: Sunday, 22 August 2014
AMENDMENT DATE: Thursday, 29 August 2013

CONDITIONS OF LICENCE

Environmental Protection Act 1986

LICENCE NUMBER: L8670/2012/1

FILE NUMBER: 2012/005317

DEFINITIONS

In these conditions of licence, unless inconsistent with the text or subject matter:

"animal waste" means offal, blood, fat, paunch and bone;

"APHA-AWWA-WEF" means American Public Health Association – American Water Works Association – Water Environment Federation;

"AS/NZS 5667.11" means the Australian Standard AS/NZS 5667.11 *Water Quality – Sampling – Guidance on sampling of groundwaters*;

"Director" means Director, Environmental Regulation Division of the Department of Environment Regulation for and on behalf of the Chief Executive Officer as delegated under Section 20 of the *Environmental Protection Act 1986*; and

"Director" for the purpose of correspondence means-

Regional Leader, Industry Regulation, Swan Region
Department of Environment Regulation
Locked Bag 33 Cloisters Square WA 6850
Telephone: (08) 9333 7510 Facsimile: (08) 9333 7550.

"NATA" means the National Association of Testing Authorities;

"three monthly" means October, January, April and July

GENERAL CONDITIONS

THROUGHPUT

- 1 The licensee shall not process more than 750 goats and sheep per day.

MONITORING AND REPORTING

- 2 The licensee shall submit to the Director, an Annual Environmental Report containing the monitoring data and other collected data required by any condition of this licence. The report shall contain data collected from 1 January to 31 December and the report shall be provided by 1 February in the following calendar year.
- 3 The report required by condition 2 shall include , but not be limited to:
 - (i) number of goats and sheep processed per day;
 - (ii) results of wastewater monitoring in accordance with condition 12(a) of this licence including copies of the laboratory analysis sheets;
 - (iii) cumulative volume of treated wastewater discharged to the irrigation area;
 - (iv) results of groundwater monitoring in accordance with condition 13(a) of this licence including copies of the laboratory sheets;
 - (v) results of soil monitoring in accordance with condition 14(a) of this licence including copies of the laboratory analysis sheets;
 - (vi) identification of monitoring data exceeding conditions of this licence; and
 - (vii) an explanation of the actions taken by the licensee to prevent such exceedances reoccurring.

CONDITIONS OF LICENCE

Environmental Protection Act 1986

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ANNUAL AUDIT COMPLIANCE REPORT

4. The licensee shall by **1 February** in each year, provide to the Director an Annual Audit Compliance Report in the form in attachment 1 to this licence, signed and certified in the manner required by Section C of the form, indicating the extent to which the licensee has complied with the conditions of this licence, and any previous licence issued under Part V of the Act for the Premises, during the period beginning **1 January** the previous year and ending on **31 December** in that year.

EMISSION TO AIR

ODOUR CONTROL

5. The licensee shall ensure that all animal waste material generated on the premises is removed from the premises at the end of each working day.
6. The licensee shall ensure that odour emitted from the premises does not unreasonably interfere with the health, welfare, convenience, comfort or amenity of any person at the sensitive receptors outside the premises boundary.

DISCHARGE TO LAND

WASTEWATER DISCHARGE LIMIT

7. The licensee shall ensure that the wastewater discharged from the wastewater treatment plant to the irrigation area meets the concentration limits for the following parameters as specified:

Irrigation surface area (Ha)	Total Nitrogen limit (mg/litre)	Total phosphorus limit (mg/litre)	5 day Biochemical Oxygen Demand (mg/litre)	Total suspended solids (mg/litre)
20 or more	9	5	120	120

8. The licensee shall ensure that the wastewater discharged from the wastewater treatment plant to the irrigation area (Attachment 3), does not exceed the loading limits specified in Table 1:

Table 1: Wastewater discharge limits

Wastewater Discharge	Loading limit
Nitrogen	140 kg/hectare/year
Phosphorus	10 kg/hectare/year
Biochemical Oxygen Demand	30 kg/hectare/day

FLOW MONITORING

- 9(a) The licensee shall monitor and record the cumulative daily volumes of wastewater being discharged from the processing plant to the wastewater treatment system using a flow meter.
- 9(b) The licensee shall monitor and record the cumulative volumes of treated wastewater being discharged from the wastewater holding tank to the irrigation area using a flow meter.

CONDITIONS OF LICENCE

Environmental Protection Act 1986

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9(c) The licensee shall ensure that the flow meters used in accordance with condition 9(a) –(b), are calibrated and maintained in accordance with manufacturers specifications.

9(d) The licensee shall ensure that the results of the calibration as stated in condition 9(c) are reported in accordance with condition 2.

WASTEWATER MANAGEMENT

10. The licensee shall implement Wastewater Management Action Plan as depicted in **Attachment 4** by the dates specified, and will notify the Director in writing within seven working days of completing each of the items 1-12 listed.

WASTEWATER TREATMENT SYSTEM MAINTENANCE

11. The licensee shall carry out regular maintenance to the wastewater treatment system by qualified personnel to ensure the system is working as per the design capacity. The record of the maintenance works shall be submitted with the monitoring report in condition 2 of this licence.

MONITORING OF DISCHARGED TREATED WASTEWATER

- 12(a) The licensee shall collect samples of treated wastewater being discharged from the wastewater holding tank to the irrigation area at the water sampling point, at the frequencies stated in Table 2. The licensee shall have these samples analysed for the parameters listed in Table 2.

Table 2: Wastewater monitoring parameters

Parameter to be monitored	Monitoring frequency	Units
Total Nitrogen Total Phosphorus 5-day Biochemical Oxygen Demand Total Dissolved Solids Total suspended solids Total Oil and Grease pH aluminium	3Monthly (October, January, April and July)	mg/L (except for pH and Electrical conductivity)

- 12(b) The licensee shall ensure that all wastewater samples are collected, handled and preserved in accordance with Australian Standard 5667.11.

- 12(c) The licensee shall ensure that all wastewater samples are analysed in a laboratory holding current NATA accreditation for the analyses specified.

- 12(d) The licensee shall ensure that all wastewater samples are analysed in accordance with the current 'Standard Methods for Examination of Water and Wastewater,' APHA-AWWA-WEF.

MONITORING OF GROUNDWATER

- 13(a) The licensee shall collect groundwater samples, at the monitoring sites as depicted in **Attachment 3**, at the frequencies stated and have them analysed for the parameters listed in Table 3:

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Environmental Protection Act 1986

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Table 3: Water monitoring

Monitoring Bores	Parameters to be measured	Sampling Frequency
MB1 MB2 MB3	Total Nitrogen (mg/L) Total Kjeldahl Nitrogen (mg/L) Ammonia (mg/L) Nitrate Nitrogen (mg/L) Nitrite Nitrogen (mg/L) Total Phosphorus (mg/L) Ortho-phosphorus Total Dissolved Solids (mg/L) Electrical Conductivity at 25°C Total Oil and Grease (mg/L) Depth to Groundwater (meters BGL) pH	Six monthly (June and December)

13 (b) The licensee shall ensure that, prior to initial discharge of wastewater to the irrigation area (**Attachment 3**), at least one set of groundwater samples shall be taken from the groundwater monitoring bores referred to in condition 13(a), and analysed in accordance with the parameters specified in condition 13(a) Table 3.

13 (c) The licensee shall ensure that all groundwater samples are collected, handled and preserved in accordance with Australian Standard 5667.11.

13(d) The licensee shall ensure that all groundwater samples are analysed in a laboratory with current NATA accreditation for the analyses specified.

13(e) The licensee shall ensure that all groundwater samples are analysed in accordance with the current "Standard Methods for Examination of Water and Wastewater," APHA-AWWA-WEF.

SOIL MONITORING

14(a) The licensee shall collect composite samples at each depth within each irrigation area, at the monitoring sites and at the frequencies stated and have them analysed for the parameters listed in Table 5:

Table 4: Soil monitoring

Monitoring Sites	Sampling Depth	Parameters to be measured	Sampling Frequency
Composite 1 (S1, S2, S3, S4 and S5) Composite 2 (S6, S7, S8, S9 and S10) Composite 3 (S11, S12, S13 S14 and S15)	0-20 cm and 20-30 cm and 30-45 cm	Total Nitrogen (mg/kg) Ammonia (mg/kg) Total Phosphorus (mg/kg) Ortho-phosphorus (mg/kg) Phosphorus Retention Index Total Dissolved Solids (mg/kg) Salinity (Electrical Conductivity at 25°C) Sodium Adsorption Ratio Magnesium (mg/kg) Calcium (mg/kg) pH	December and June

*See **Attachment 3** for monitoring sites

CONDITIONS OF LICENCE

Environmental Protection Act 1986

LICENCE NUMBER: L8670/2012/1

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14(b) The licensee shall ensure all soil samples, are collected in accordance with Australian Standard 4482.1-2005. 'Guide to the Investigation and Sampling of sites with Potentially Contaminated Soil - Non-volatile and Semi-volatile Compounds'.

14 (c) The licensee shall ensure that all soil samples are analysed in a laboratory with current NATA accreditation for the analyses specified.

14(d) The licensee shall ensure that all soil samples, referred to in condition 14(a), are analysed in accordance with the current Australian Standard 4482.1:2005.

ANIMAL MANURE MANAGEMENT

15(a) The licensee shall ensure that animal manure generated in the lairage area is collected on a daily basis.

15(b) The licensee shall ensure that animal manures generated in the holding area, is collected on a weekly basis.

15(c) The licensee shall ensure that the animal manure, collected in accordance with condition 15(a) and 15(b), is stored within a bunded hardstand area.

15(d) The licensee shall ensure that the animal manure, referred to in condition 15(a) and 15(b), is removed from the site on a weekly basis.

WASTEWATER TREATMENT PLANT SLUDGE

16 The licensee shall ensure that all wastewater treatment plant solid waste, generated as a result of maintenance, repair and desludging, is collected and transported off site to a licensed facility.

SKIN OR HIDE SALTING

17(a) The licensee shall ensure all skin and hide salting is undertaken in the Skin Room.

17(b) The licensee shall ensure that all solid chemical substances (such as salt) are stored in the Skin Room on a impervious concrete hardstand.

17(c) The licensee shall ensure that all salt waste is stored in a concrete bunded area prior to offsite removal.

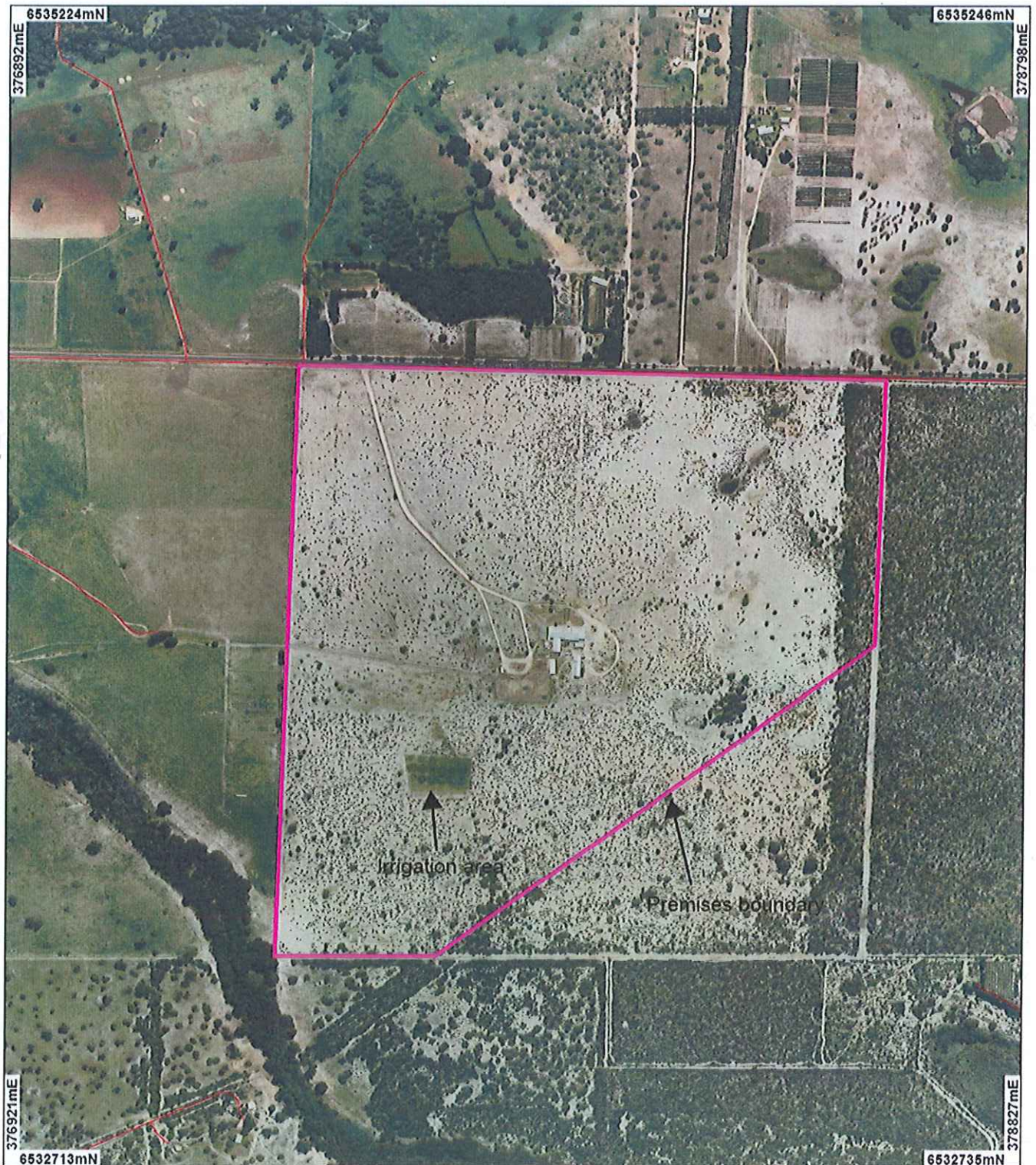
17(d) The licensee shall ensure that all wastewater generated in the Skin Room, is directed to the wastewater treatment plant or disposed offsite by a liquid waste contractor.

ATTACHMENT 1

LICENCE NUMBER: L8670/2012/1

FILE NUMBER: 2012/005317

PLAN OF PREMISES



ATTACHMENT 2

LICENCE NUMBER: L8670/2012/1

FILE NUMBER: 2012/005317

ANNUAL AUDIT COMPLIANCE REPORT

SECTION A **LICENCE DETAILS**

Licence Number:	Licence File Number:
Company Name:	ABN:
Trading as:	
Reporting period: _____ to _____	

STATEMENT OF COMPLIANCE WITH LICENCE CONDITIONS

1. Were all conditions of licence complied with within the reporting period? (please tick the appropriate box)

Yes ☐ Please proceed to Section C
No ☐ Please proceed to Section B

Each page must be initialed by the person(s) who signs Section C of this annual audit compliance report

INITIAL: _____

ATTACHMENT 2

LICENCE NUMBER: L8670/2012/1

FILE NUMBER: 2012/005317

SECTION B - DETAILS OF NON-COMPLIANCE WITH LICENCE CONDITION.

Please use a separate page for each licence condition that was not complied with.

a) Licence condition not complied with?	
b) Date(s) when the non compliance occurred, if applicable?	
c) Was this non compliance reported to DER?	
<input type="checkbox"/> Yes <input type="checkbox"/> Reported to DER verbally Date _____ <input type="checkbox"/> Reported to DER in writing Date _____	<input type="checkbox"/> No
d) Has DER taken, or finalised any action in relation to the non compliance?	
e) Summary of particulars of non compliance, and what was the environmental impact?	
f) If relevant, the precise location where the non compliance occurred (attach map or diagram)	
g) Cause of non compliance	
h) Action taken or that will be taken to mitigate any adverse effects of the non compliance	
i) Action taken or that will be taken to prevent recurrence of the non compliance	

Each page must be initialed by the person(s) who signs Section C of this annual audit compliance report

INITIAL: _____

ATTACHMENT 2

LICENCE NUMBER: L8670/2012/1

FILE NUMBER: 2012/005317

SECTION C - SIGNATURE AND CERTIFICATION

This Annual Audit Compliance Report may only be signed by a person(s) with legal authority to sign it. The ways in which the Annual Audit Compliance Report must be signed and certified, and the people who may sign the statement, are set out below.

Please tick the box next to the category that describes how this Annual Audit Compliance Report is being signed. If you are uncertain about who is entitled to sign or which category to tick, please contact the licensing officer for your premises.

If the licence holder is		The Annual Audit Compliance Report must be signed and certified:
an individual	<input type="checkbox"/> <input type="checkbox"/>	by the individual licence holder, or by a person approved in writing by the Chief Executive Officer of the Department of Environment Regulation to sign on the licensee's behalf.
A firm or other unincorporated company	<input type="checkbox"/> <input type="checkbox"/>	by the principal executive officer of the licensee; or by a person with authority to sign on the licensee's behalf who is approved in writing by the Chief Executive Officer of the Department of Environment Regulation.
A corporation	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	by affixing the common seal of the licensee in accordance with the Corporations Act 2001; or by two directors of the licensee; or by a director and a company secretary of the licensee, or if the licensee is a proprietary company that has a sole director who is also the sole company secretary – by that director, or by the principal executive officer of the licensee; or by a person with authority to sign on the licensee's behalf who is approved in writing by the Chief Executive Officer of the Department of Environment Regulation.
A public authority (other than a local government)	<input type="checkbox"/> <input type="checkbox"/>	by the principal executive officer of the licensee; or by a person with authority to sign on the licensee's behalf who is approved in writing by the Chief Executive Officer of the Department of Environment Regulation.
a local government	<input type="checkbox"/> <input type="checkbox"/>	by the chief executive officer of the licensee; or by affixing the seal of the local government.

It is an offence under section 112 of the *Environmental Protection Act 1986* for a person to give information on this form that to their knowledge is false or misleading in a material particular. There is a maximum penalty of \$50,000 for an individual or body corporate.

I/We declare that the information in this annual audit compliance report is correct and not false or misleading in a material particular.

SIGNATURE: _____

SIGNATURE: _____

NAME: (printed) _____

NAME: (printed) _____

POSITION: _____

POSITION: _____

DATE: ____/____/____

DATE: ____/____/____

SEAL (if signing under seal)

ATTACHMENT 3

LICENCE NUMBER: L8670/2012/1

FILE NUMBER: 2012/005317

Irrigation Area



Action Plan:

Action	Comments	Timeframe
1	Reduce effluent outflow from abattoir to Biomax system to <20kL/day (prior to commissioning new storage/evaporation dams).	September 2013
2	To meet Action 1, lodge an Application for Approval of a Recycled Water Scheme with the Department of Health	August 2013
3	Update and finalise Wastewater Management Strategy with monitoring, servicing, contingency, roles and responsibilities etc	September 2013
4	Construct Recycled Water Scheme	September 2013
5	To meet Action 1, divert flows from the viscera and laundry to the approved Recycled Water Scheme, separating these flows from the waste stream to the Biomax system.	Upon commissioning Recycled Water Scheme.
6	Install paired groundwater monitoring bores, establish baseline pre-commissioning groundwater conditions up-gradient and down-gradient of Dams 1 & 2	Prior to commissioning Dams 1 & 2
7	Pump out accumulated rainfall from the existing lined (but as yet uncommissioned) Dams 1 & 2.	Prior to commissioning Dams 1 & 2
8	Commission Dams 1 & 2	September 2013
9	Install HDPE liner and obtain engineering certification for Dam 3 and forward to DEC.	September 2013

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Action Plan:

10	Commission Dam 3	Ensure DEC approval is in place and Biomax outflow to dams is <20kL/day of operation. Pump out accumulated rainfall and infiltrate prior to filling.	November 2013
11	Prepare and implement an Environmental Management System for the abattoir to meet site operational requirements	Standardize operating procedures to meet compliance and audit reporting requirements	September 2013
12	Continue to monitor outflows from the Biomax system to the dams and prepare quarterly monitoring reports.	Validate Biomax outflows are achieving ~14kL/day of operation target	On-going

Jack Burton


02.08.13



LICENCE NUMBER: L8670/2012/1
LICENCE FILE NUMBER: 2012/005317
APPLICATION DATE: 27/07/2012
EXPIRY DATE: 26/08/2014

PREMISES DETAILS

LICENSEE

Kimberley Freerange Beef Pty Ltd t/a Kimberley Freerange
Unit 5 / 186 Hampden Road
NEDLANDS WA 6009
ACN:114 756 848

PREMISES

Kimberley Freerange Gingin Brook Road Abattoir
Lot 71 on Plan 26866 Gingin Brook Road
MUCKENBURRA WA 6503
(As depicted in Attachment 1)

PRESCRIBED PREMISES CATEGORY

Table 1: Prescribed premises category

Category number*	Category Description*	Category Production or Design Capacity*	Premises Production or Design Capacity [#]	Premises Fee Component**
15	Abattoir: premises on which animals are slaughtered	1000 tonnes or more per year	Not more than 3000 tonnes per year	More than 5000 but not more than 50,000 tonnes per year
55	Livestock saleyard or holding pen: premises on which live animals are held pending their sale, shipment or slaughter	10,000 animals or more per year	Not more than 50,000 animals per year	Not more than 50,000 animals per year
83	Fellmongering: premises on which animal skins or hides are dried, cured or stored	1000 skins or hides or more per year	Not more than 200,000	Not applicable

* From Schedule 1 of the Environmental Protection Regulations 1987

[#] From application

** From Schedule 4 of the Environmental Protection Regulations 1987

This Environmental Assessment Report (EAR) has been drafted for the purposes of detailing information on the management and mitigation of emissions and discharges from the prescribed premises. The objective of the EAR is to provide a risk assessment of emissions and discharges, and information on the management of other activities occurring onsite which are not related to the control of emissions and discharges from the prescribed premises activity. This does not restrict the Department of Environment Regulation (DER) to assessing only those emissions and discharges generated from the activities that cause the premises to become prescribed premises.



Basis of Assessment

The Kimberley Freerange Gingin Brook Road Abattoir (Gingin abattoir), which has been assessed as "prescribed premises" under category number 15 and 55, within Schedule 1 of the Environmental Protection Regulations 1987.

- Category 15: Abattoir; premises on which animals are slaughtered.
- Category 55: Livestock saleyard or holding pen: premises on which live animals are held pending their sale, shipment or slaughter.
- Category 83: Fellmongering: premises on which animal skins or hides are dried, cured or stored.

The company will source sheep and goats directly from farms, the Muchea livestock centre and Katanning saleyards. The processing of sheep and goats will include slaughtering, dressing and boning of carcasses. The company will process 187,000 goats and sheep per year with 250 days of operation per year.

Sheep and goat will be transported to the premises by truck. Each truck will carry approximately 480 to 500 head, depending on average weight. The animals will be directed straight to the lairage where they will be held for a minimum of four hours before being slaughtered or into the yards where they will be fed, watered and held until they are ready for processing.

The Abattoir operation will generate not more than 200,000 skins. The skins will be salted in a dedicated shed and transported off site every week.

The annual throughput will be 5625 tonnes based on 750 animals per day of average weight 30 kg for 250 days operation.

It should be noted that the proposed premises was licensed by DER for ostriches abattoir in 2002. The facility was designed to produce 10 tonnes of processed ostrich meat per week and yearly throughput was approximately 572 tonnes of ostrich. The abattoir was designed for dry process and the hydraulic and organic load was considered to be significantly low compared to other abattoirs.

Accordingly, the wastewater system was designed and constructed with a maximum capacity of 11,000 litres per week. The characteristics of the wastewater from the abattoir was BOD5 of 300 mg/l, TSS of 170 mg/l, TN of 185 mg/l and TP of 12mg/l.

In 2004, the activities of the premises has been changed from ostrich to sheep and goats. Since then the wastewater system was not performing as expected because the system could not cope with the high load of wastewater from the abattoir. The capacity of wastewater treatment system was limited to approximately 29,000 litres. The operation ceased on 23 November 2010 due to the liquidation of the previous business owner.

1.0 BACKGROUND

1.1 GENERAL COMPANY DESCRIPTION

Kimberley Freerange Beef Pty Ltd (KFB), established in 2005, is a company whose main business activity is meat production. KFB is a wholly owned subsidiary of Yee Pastoral Company Pty Ltd (YPC). YPC, established in 2000, is primarily engaged in the production of freerange beef, lamb and goats. Its core activities are extensive land holdings in the Kimberley and the Goldfields of Western Australia; a beef cattle herd in excess of 55,000 head; an irrigated Kimberley fodder crop and feedlot facility which provides for stockpiling and finishing cattle prior to processing; sheep and goat flocks in the Midwest and Goldfields; an AQIS licensed export cattle facility; fodder crop sales; transport; tourism and a



sandalwood plantation. YPC and KFB have professional and experienced management teams led by Jack Burton and Mervyn Key. Part of the vision of YPC is to reduce the reliance of the business on the live export trade by processing cattle in the Kimberley. This will have benefit for the Kimberley cattle industry as cattle that do not meet specifications for live export can be processed locally. YPC has constructed a small pilot abattoir to service Yeeda's requirements which will commence operations in August 2012.

1.2 LOCATION OF PREMISES

The premises comprises Lot 71 on Plan 26866 is located approximately 20km West of Gingin on the Gingin Brook Road. The land title is freehold and is approximately 137.03ha in extent. The abattoir is sited in the centre of the property (as depicted in Attachment 1). The abattoir site is at least 520m from any of the four boundaries of the property. The boundary with the closest proximity is the eastern boundary at 52m (measured from the centre of the plant), with that of the most distant boundary being 700m.

The nearest residence to the abattoir is approximately 750m from the plant in a north easterly direction. This is within the 500m to 1000m buffer distance recommended in Environmental Protection Authority's Guidance for the Assessment of Environmental Factors No.3 "Separation Distances between Industrial and Sensitive Land Uses 2005" for abattoirs with no rendering facilities on site. The closest surface water to the abattoir is the Quinn Brook which is approximately 850m at its closest point to the centre of the abattoir and approximately 500m from the centre of the irrigated area for the disposal of waste water. Lot 71 Gingin Brook Road is zoned Rural under Shire's current Town Planning Scheme No. 8.

The vertical distance to the groundwater table at the site is approximately 17m. Soils on the property are made up predominantly of Pleistocene Bassendean Sands (GSWA, Urban Geology Sheet 1935II and 2035III, 1975). These sands are pale grey to white, well drained, moderately well sorted and of Aeolian origin. The soils are generally highly permeable with potential for erosion also being high.

1.3 PROCESS DESCRIPTION

The abattoir consists of the following:

- a main building for processing of sheep and goats;
- covered lairage where animals are held prior to slaughter;
- animals holding yards;
- a workshop;
- a waste water processing system;
- irrigation area and
- a hide shed.

Sheep and goats will be sourced directly from farms, from the Muchea Livestock Centre and Katanning saleyards. Sheep and goats will be delivered to the abattoir in livestock transport vehicles and unloaded at the ramp. Each truck will carry approximately 480 to 500 head, depending on average weight. They will then either be directed straight to the lairage, with an impervious hardstand, where they will be held for a minimum of four hours before being slaughtered or into the yards where they will be fed, watered and held until they are ready for processing. The maximum time that stock will be held in the yards on feed and water is anticipated to be 72 hours. Considering the short holding time of the animals in the open, environmental issues are considered to insignificant. The lairage can hold approximately 700 head of sheep and goats under cover. Sheep and goats will be transported in livestock vehicles with approximately 3 to 4 vehicle movements per day delivering stock at peak production times where up to 1000 sheep and



goats will be processed on a daily basis. The average weight (live weight) of sheep to be processed is in the region of 40kg per head, and goat in the region of 20kg per head.

The processing of sheep and goats will include slaughtering, dressing and boning of carcasses before chilling. A proportion (75%) will be sent out as carcasses and 25% deboned to produce primal cuts which are packed in boxes. Initially there will be limited freezing of any processed meat. The slaughter production rate will be up to a maximum of 750 head in an 8 hour shift. The chiller has a capacity of two day's kill in the three chiller rooms. The slaughter floor will be capable of processing up to 125 head per hour. The total number of sheep and goats to be processed annually, based on 750 animals per day, with 250 days of operation is 187,500 head. With an average HSCW1 of 14.5kg, the total HSCW processed through the plant will be 2718 tons. The live weight of the animals processed through the plant would be 5625 tons.

Skins will be salted on site in the purpose built hide shed and removed on a weekly basis by a contractor.

All offal, fat, paunch and bone will be placed in an unsealed skip bin which will be covered with shade cloth to prevent fly infestation prior to being removed daily from the site. This process of removing this animal waste from site will ensure the minimisation of odours. There will be no on-site rendering.

Blood waste will be collected and pumped into a sealed tank from where it will be collected by a contractor and removed from site. Every attempt will be made to minimise the amount of blood that is contained in the waste water. This will be achieved by collecting the blood separately from the wastewater. This separation is achieved by animals being bled into a separate drainage system, with blood going directly into the blood tank. This has a marked significance on reducing the BOD loadings entering the wastewater system.

The cleaning regime is regulated by the DAFF Biosecurity (formerly AQIS) Approved Arrangement, which is approved for each abattoir. The purpose of the Approved Arrangement is to clearly describe those processes and practices which, when correctly applied by the occupier, will underpin AQIS certification of meat and meat products for export. Included in the Approved Arrangement are washdown protocols and good hygiene practices. The practices adopted for the cleaning of the abattoir and lairage will, as far as practicable, use methods that minimise water usage. However the procedures dictated by DAFF Biosecurity cannot be compromised.

The abattoir will be washed down daily after each shift. The only chemicals that will be used are those as approved by DAFF Biosecurity.

The lairage will be cleaned daily. Manure will be removed. The lairage will be washed down on a weekly basis, or as required by Biosecurity Australia. The washing will take place with different areas being washed each day. In the initial stages, this waste water would enter the water treatment facility, but effectively being spread over the week due to the process of washing 1/5th of the lairage area each day. This will allow the water treatment system not to be overloaded. At a later stage, a sump, prefabricated pump chamber and tank may be installed to allow for the lairage water to be diluted and irrigated.

The wastewater treatment system comprises the following:



Anerobic section.

The anaerobic section consists of two circular tanks of 2.3 m diameter with a water depth of 1.815m. The total capacity of anaerobic section is 14,950 L. The anaerobic tanks have 250 square metre of growth media to prevent washout of bacteria during peak flows.

Aerobic section

The tree- stage aerobic chamber accommodated in two circular tanks of 2.3m diameter and water depth of 1.690m and has a total capacity of 13,920 L. the system requires an air supply 22.22 m³/h at 120kPa. The compressor at the processing plant will supply the required air. A growth media of 225square metre surface area aid in enhanced nitrification and prevention of bacterial washout during peak flows.

Clarifiers

The treatment plant has been provided with clarifiers with a total surface area of 8.237 square metre by means of two circular tanks, each with 2.3 m diameter. The clarifiers have fully hoppers bottoms with 55 degree slope for gravity separation of biomass.

Disinfection section

The plant has a built in disinfection section if treated water is to be used for low grade application like car wash and wash down the yard.

Pumpout storage

The treated effluent will be pumped out to an above ground holding tank of 22 cubic metre capacity.

The final product will be stored in chillers before being transported from site in chiller trucks, destined either for the domestic or the export market.

The flow chart for the operation is shown below in figure 1. The site plan is shown as depicted in **Attachment 2**.

The proponent has committed to upgrade the wastewater treatment system in stages in accordance with the **Attachment 3**, which includes but not limited to the following:

- reduce effluent outflow from abattoir to Biomax system to <20kL/day prior to commissioning new storage/evaporation dams;
- lodge an application for approval of a Recycled Water Scheme with the Department of Health;
- update and finalise wastewater management Strategy with monitoring, servicing, contingency, roles and responsibilities;
- construct recycled water scheme;
- divert flows from the viscera and laundry to the approved recycled water scheme separating these flows from the waste stream to Biomax system;
- install groundwater monitoring bores;
- install HDPE liner and obtain engineering certification for Dam 3; and
- prepare and implement an Environmental management System for the abattoir to meet site operational requirements.

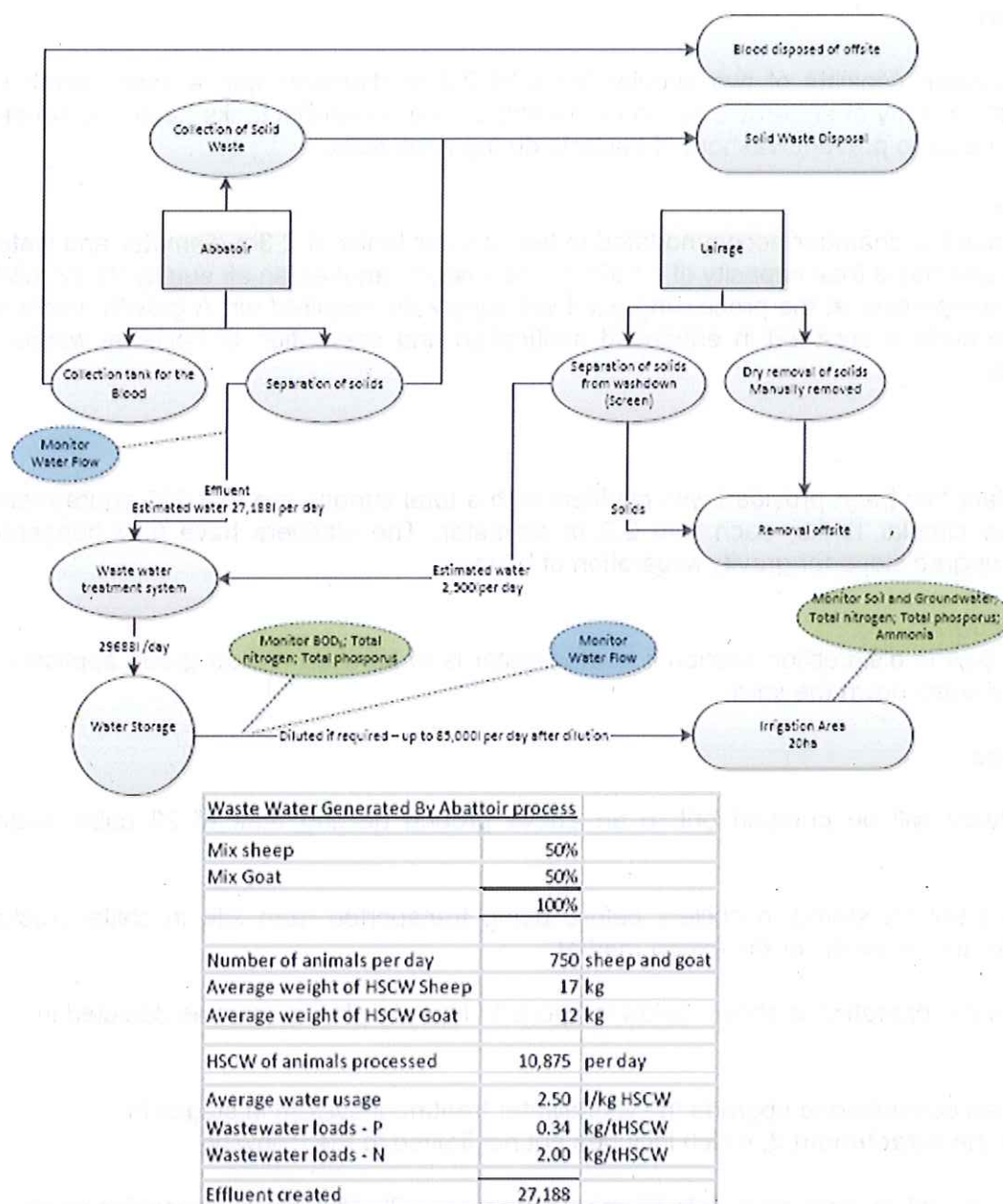


Figure 1: Process flow diagram of Lot 71 Gingin Brook Road abattoir

1.4 REGULATORY CONTEXT

1.4.1 Part IV Environmental Protection Act 1986, Environmental Impact Assessment

The premises has not been assessed under Part IV of the Act.

1.4.2 Part V Environmental Protection Act 1986, Environmental Management

This premises has been assessed as a prescribed premises; under Category 15: abattoir category 55: Livestock saleyard or holding pen and category 83: Fellmongering within Schedule 1 of the *Environmental Protection Regulations 1987*.

Other relevant legislation includes:

- *Environmental Protection (Unauthorised Discharges) Regulations 2004*.
- *Environmental Protection (Controlled Waste) Regulations 2004*



- *Environmental Protection (Noise) Regulations 1997.*
- *Landfill Waste Classification and Waste Definitions 1996 (As amended)*

1.4.3 Rights in Water Irrigation Act 1914

The property owners hold a Groundwater Licence (GWL156950) under the *Rights in Water Irrigation Act 1914*. Licence number GWL allocates groundwater from the Lot 71 on Plan 26866 superficial Swan aquifer to the property per year. This licence entitles abstraction for abattoir purposes and irrigation up to 0.5 ha lawns and gardens.

1.4.4 Local Government Authority

The premises is located within the Shire of Gingin. The applicant has obtained an approval from the Shire of Gingin

2.0 STAKEHOLDER AND COMMUNITY CONSULTATION

SUBMISSIONS RECEIVED DURING 21 DAY PUBLIC COMMENT PERIOD

The Application for Licence details for this facility were advertised in the West Australian newspaper on 13 August 2012 for a period of 7 days as a means of advising stakeholders and to seek public comments. No submissions were received.

3.0 EMISSIONS AND DISCHARGES RISK ASSESSMENT

DER considers that conditions should focus on regulating emissions and discharges of significance. Where appropriate, emissions and discharges which are not significant should be managed and regulated by other legislative tools or management mechanisms.

The following section assesses the environmental risk of potential emissions from the Gingin abattoir. In order to determine the site's appropriate environmental regulation, an emissions and discharges risk assessment was conducted of the Gingin abattoir using the environmental risk matrix outlined in Appendix B. The results of this are summarised in Table 2.



Table 2: Risk assessment and regulatory response summary table

Risk factor	Significance of emissions	Socio-Political Context of Each Regulated Emission	Risk Assessment	DER Regulation (EP Act - Part V)	EAR Reference	Other management (legislation, tools, agencies)
Air emissions						
Dust emissions	1. Insignificant. Vehicle movements to deliver live stock is likely to generate dust emissions	Low. Nearest residence is at approximately 750 m away	E - No regulation, other management mechanisms	LIC - No	N/A	UD Regulations, Code of Practice EMP or EMS
Odour emissions	4. Significant. Abattoirs generate odour emissions from a number sources (wastewater, offals, blood, bone, hide etc.) It is proposed that wastewater tanks will be covered, offals, blood and bone bins will be covered, blood waste will be collected and pumped into sealed tank for removal by a contractor	Medium high. Nearest resident may be impacted	B - licence conditions are required	LIC - Standard odour conditions and removal of solid waste offsite within specified timeframes		Code of Practice, State Guidelines, EMP or EMS
Noise emissions	1. Insignificant. The operation has the potential to cause noise emissions. The operating hours will be limited from 6.00 am to 4.00 pm	Low. Nearest residence is at approximately 750 m away	E - No regulation, other management mechanisms	LIC - No		EP Noise Regulations, Code of Practice, EMP or EMS
Light emissions	N/A - The premises will not be operating at night time therefore there are no expected light emissions	N/A	N/A	LIC - No		DER, EMP or EMS, General provisions of the EP Act



Risk factor	Significance of emissions	Socio-Political Context of Each Regulated Emission	Risk Assessment	DER Regulation (EP Act - Part V)	EAR Reference	Other management (legislation, tools, agencies)
Discharges to water	N/A There are no direct discharges to water or groundwater from the premises	N/A	N/A	N/A		UD Regulations, Code of Practice EMP or EMS
Discharges to land	4. Significant. The wastewater treatment system is not designed for sheep and goat abattoir. It is uncertain whether it will be capable of treating wastewater in terms of BOD, TSS and nutrients without upgrade to the system. The proponent has committed to upgrade the wastewater system in stages. The proponent advises that the discharges will meet DER's load limits (140kg/ha/year for Total Nitrogen, 10kg/ha/year for phosphorus and 30kg/ha/day for Biochemical Oxygen Demand. Groundwater will be monitored to ensure groundwater is not impacted by irrigation or operation activities.	Some interest from the community. Nearest resident is approximately 750m away	B – Licence conditions	LIC – Licence conditions for monitoring of effluent, limits on nutrient loading rates, commitments to upgrade WWTP and irrigation area incorporated into the licence and groundwater monitoring	Appendix A Section 1.1	UD Regulations, Code of Practice EMP or EMS
Solid / liquid wastes	2 Significant. Solid waste will be generated in the lairage, holding pens and processing plant. The solid wastes generated in the processing plant are mostly offal, fat, paunch and bone. The solid wastes will be taken off site by a licensed Contractor. Skins will be cured by salting within a dedicated	Low. Nearest resident is approximately 750m away	C – licence conditions	LIC - Yes	Appendix A Section 1.1	Controlled Waste Regs, EMS



Risk factor	Significance of emissions	Socio-Political Context of Each Regulated Emission	Risk Assessment	DER Regulation (EP Act - Part V)	EAR Reference	Other management (legislation, tools, agencies)
	shed and taken away weekly.					
Hydrocarbon/ chemical storage	N/A	N/A	N/A	N/A		Dangerous Goods storage licence and relevant legislation (DOCEP), EMS
Native vegetation clearing	N/A	N/A	N/A	N/A		Clearing permit pending (DMP), EMS
Contaminated site identification	N/A	N/A	N/A	-N/A		Contaminated Sites Branch (DER), Tenement Conditions and Closure Plan (DOIR), EMS

4.0 GENERAL SUMMARY AND COMMENTS

The premises was previously licensed by DER for ostrich abattoir in 2002. The wastewater system was designed and constructed with a maximum capacity of 11,000 litres per week. The characteristics of wastewater from the abattoir was BOD5 of 300 mg/l, TSS of 170 mg/l, TN of 185 mg/l and TP of 12mg/l.

In 2004, the activities of the premises have been changed from ostrich to sheep and goats. Since then the wastewater system was not performing as expected because the system could not cope with the high load of wastewater from the abattoir. The capacity of wastewater treatment system was limited to approximately 29,000 litres. The operation has been ceased on 23 November 2010 due to the liquidation of the previous business owner.

Kimberley Freerange Beef Pty Ltd, new owner of the premises has applied for a licence to operate the abattoir for goats and sheep processing. This assessment is done on the basis of 750 goats and sheep per day. The throughput may be increased at a later day on the basis of the performance of the wastewater treatment system. It is recommended that a licence condition be included for the construction of a winter storage pond to hold all effluent generated over the winter period.

Licence conditions have been drafted as appropriate. The premises is considered to be a medium high priority. The licence can be issued for a period of three years.

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AMENDMENT: 29/08/2013



APPENDIX A: EMISSIONS AND DISCHARGES OF SIGNIFICANCE

1.1 DISCHARGES TO LAND

The abattoir operation will generate approximately 28,000 litres effluent which will be filtered and directed to the Biomax wastewater treatment system. The wastewater system has been designed and constructed to cater for an average flow of 7000L/d of wastewater with a maximum allowable peak loading to the system of 10,000 L/d.

Primary treatment

Wastewater from the abattoir and the lairage is passed through a filtration system consisting of a screen with an aperture size of 0.5 mm where the majority of the solids will be removed.

Secondary treatment

The effluent is then directed to the wastewater treatment system consisting of seven below ground anaerobic/aerobic treatment chambers in series, which will remove nutrients, organics and pathogens. The system is a fairly low maintenance system compared to other treatment plants for similar application, utilising both anaerobic and aerobic process followed by clarification and disinfection.

The following Table describes the design input and water quality which the system is capable of treating to the following criteria

Table 3: Wastewater Treatment Design Criteria

Parameter	Input water quality
Flow	7kL/day ave (10kL/day peak)
BOD5	400mg/L
Total suspended solids	170 mg/L
Total nitrogen	185 mg/L
Total Phosphorus	12 mg/L

The proponent has advised that the wastewater treatment system will be upgraded in accordance with the documentation "A review of wastewater treatment plant & nutrient removal system for Gingin Abattoir, Lot 71 on Plan 26866 Gingin Brook Road, Gingin WA 6053, August 2012" prepared by Environmental Engineers International Pty Ltd The upgrade will be completed as per the **Attachment 3**.

The upgraded plant will be capable of treating wastewater to the following criteria:

Table 4: Wastewater Treatment Design Criteria

Parameter	Input water quality
Flow	1.81m ³ /h over 24 hours
BOD5	80 to 120 mg/L
Total suspended solids	100 to 120 mg/L
Total nitrogen	50 to 70 mg/L
Total Phosphorus	0.6 mg/L

Irrigation

Treated wastewater will be directed to a 30m³ holding tank, diluted and then pumped to the designated irrigation area within the premises. The site currently has an irrigation area of 3.54 Ha of Rhodes grass. The irrigated area will be expanded by another 20 Ha within four weeks of commencement of operation. The expansion does not require a clearing



permit. The treated water will be irrigated by a sprinkler system. The discharges from the system to land are proposed to meet the following loading rates :

Wastewater discharge	Predicted loading rate	Loading limit
Nitrogen		140 kg/hectare/annum (WQPN 22 July 2008)
Phosphorus		10 kg/hectare/annum (WQPN 22 July 2008)
Biochemical Oxygen demand		30 kg/hectare/annum

DISCHARGES TO LAND RISK ASSESSMENT

The application of high load of nutrients has the potential to cause groundwater contamination. The treated wastewater should be evenly distributed over the irrigation area to vegetate Rhodes grass and other vegetation to accept nutrients in treated wastewater. The nitrogen concentration in the treated wastewater should be 9 mg/litre as per the WQPN 22 July 2008 prior to its discharge.

RECOMMENDED STRATEGY FOR MANAGING DISCHARGES TO LAND

The issue of land discharges requires regulation. The following strategies should be adopted:

- Monitoring of wastewater quality at the inlet of the wastewater treatment system;
- Monitoring of treated wastewater at the outlet of the wastewater treatment system prior to irrigation;
- Groundwater monitoring; and
- Soil sampling and monitoring

1.8 SOLID/LIQUID WASTE

The processing plant will generate significant volume of solid wastes (offals, fat, paunch and bone). The lairage areas will generate solid waste. All solid waste from the processing plant will be collected in skip bins and transported away by a licensed transporter under Environmental Protection (Controlled Waste) regulations 2004. All blood, body fluids and viscera will be transported off site daily to a licensed rendering plant.

SOLID/LIQUID WASTE RISK ASSESSMENT

Solid wastes stated above have the potential cause of odour emissions, which may lead to public complaints.

RECOMMENDED STRATEGY FOR MANAGING SOLID/LIQUID WASTES

The following strategies are to be adopted:

- Transport all solid wastes off site daily by a licensed transporter to a licensed premises;
- Transport all liquid wastes off site by licensed transporter to a licensed rendering premises.



APPENDIX B: EMISSIONS AND DISCHARGES RISK ASSESSMENT MATRIX

Table 3: Measures of Significance of Emissions

Emissions as a percentage of the relevant emission or ambient standard		Worst Case Operating Conditions (95 th Percentile)			
		>100%	50 – 100%	20 – 50%	<20%*
Normal Operating Conditions (50 th)	>100%	5	N/A	N/A	N/A
	50 – 100%	4	3	N/A	N/A
	20 – 50%	4	3	2	N/A
	<20%*	3	3	2	1

*For reliable technology, this figure could increase to 30%

Table 4: Socio-Political Context of Each Regulated Emission

		Relative proximity of the interested party with regards to the emission				
		Immediately Adjacent	Adjacent	Nearby	Distant	Isolated
Level of Community Interest or Concern*	5	High	High	Medium High	Medium	Low
	4	High	High	Medium High	Medium	Low
	3	Medium High	Medium High	Medium	Low	No
	2	Low	Low	Low	Low	No
	1	No	No	No	No	No

Note: These examples are not exclusive and professional judgement is needed to evaluate each specific case

*This is determined by DER using the DER "Officer's Guide to Emissions and Discharges Risk Assessment" May 2006.

Table 5: Emissions Risk Reduction Matrix

		Significance of Emissions				
		5	4	3	2	1
Socio-Political Context	High	A	A	B	C	D
	Medium High	A	A	B	C	D
	Medium	A	B	B	D	E
	Low	A	B	C	D	E
	No	B	C	D	E	E

PRIORITY MATRIX ACTION DESCRIPTORS

A = Do not allow (fix)

B = licence condition (setting limits + EMPs - short timeframes)(setting targets optional)

C = licence condition (setting targets + EMPs - longer timeframes)

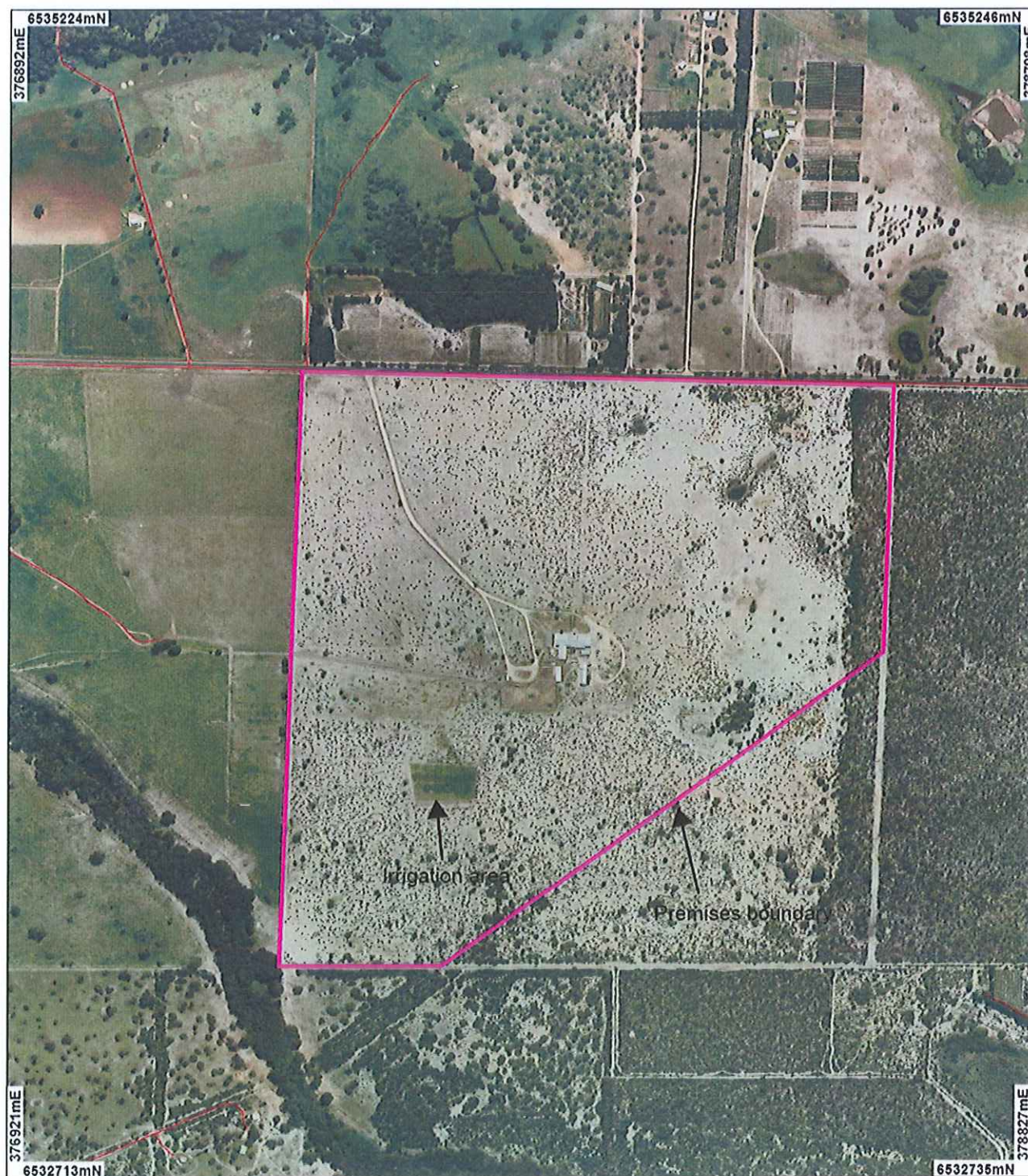
D = EIPs, other management mechanisms/licence conditions (monitoring/reporting)/other regulatory tools

E = No regulation, other management mechanisms

Note: The above matrix is taken from the DER "Officer's Guide to Emissions and Discharges Risk Assessment" May 2006.



ATTACHMENT-1



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Attachment – 3 Action Plan

Action Plan:

Action	Comments	Timeframe
1	Reduce effluent outflow from abattoir to Biomax system to <20kL/day (prior to commissioning new storage/evaporation dams).	September 2013
2	To meet Action 1, lodge an Application for Approval of a Recycled Water Scheme with the Department of Health	August 2013
3	Update and finalise Wastewater Management Strategy with monitoring, servicing, contingency, roles and responsibilities etc	September 2013
4	Construct Recycled Water Scheme	September 2013
5	To meet Action 1, divert flows from the viscera and laundry to the approved Recycled Water Scheme, separating these flows from the waste stream to the Biomax system.	Upon commissioning Recycled Water Scheme.
6	Install paired groundwater monitoring bores, establish baseline pre-commissioning groundwater conditions up-gradient and down-gradient of Dams 1 & 2	Prior to commissioning Dams 1 & 2
7	Pump out accumulated rainfall from the existing lined (but as yet uncommissioned) Dams 1 & 2.	Prior to commissioning Dams 1 & 2
8	Commission Dams 1 & 2	September 2013
9	Install HDPE liner and obtain engineering certification for Dam 3 and forward to DEC.	September 2013



Action Plan:

10	Commission Dam 3	Ensure DEC approval is in place and Biomax outflow to dams is <20kL/day of operation. Pump out accumulated rainfall and infiltrate prior to filling.	November 2013
11	Prepare and implement an Environmental Management System for the abattoir to meet site operational requirements	Standardize operating procedures to meet compliance and audit reporting requirements	September 2013
12	Continue to monitor outflows from the Biomax system to the dams and prepare quarterly monitoring reports.	Validate Biomax outflows are achieving ~14kL/day of operation target	On-going

Jack Burton

02.08.13