



# Licence

## *Environmental Protection Act 1986, Part V*

**Licensee:** Carbunup PTY LTD

**Licence:** L8989/2016/1

**Registered office:** Naturalist Management Services  
 5 Fairbairn Road  
 BUSSELTON WA 6280

**ACN:** 085 745 697

**Premises address:** 6635 Bussell Highway  
 CARBUNUP WA 6280  
 Being Lot 3 on Plan 22024 and Lot 105 on Plan 400462  
 as depicted in Schedule 1

**Issue date:** 6 December 2016

**Commencement date:** 12 December 2016

**Expiry date:** 11 December 2036

**Prescribed premises category**

Schedule 1 of the *Environmental Protection Regulations 1987*

Category number	Category description	Category production or design capacity	Approved Premises production or design capacity
25	Alcoholic beverage manufacturing: premises on which an alcoholic beverage is manufactured and from which liquid waste is or is to be discharged onto land or into waters	350 kilolitres or more per year	840 kilolitres per year

**Conditions**

This Licence is subject to the conditions set out in the attached pages.

Date signed: 12 December 2016

.....  
 Jonathan Bailes  
 A/Senior Manager – Industry Regulation (Process Industries)

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



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## Introduction

This Introduction is not part of the Licence conditions.

### DER's industry licensing role

The Department of Environment Regulation (DER) is a government department for the state of Western Australia in the portfolio of the Minister for Environment. DER's purpose is to advise on and implement strategies for a healthy environment for the benefit of all current and future Western Australians.

DER has responsibilities under Part V of the *Environmental Protection Act 1986* (the Act) for the licensing of prescribed premises. Through this process DER regulates to prevent, control and abate pollution and environmental harm to conserve and protect the environment. DER also monitors and audits compliance with works approvals and licence conditions, takes enforcement action as appropriate and develops and implements licensing and industry regulation policy.

### Licence requirements

This Licence is issued under Part V of the Act. Conditions contained within the Licence relate to the prevention, reduction or control of emissions and discharges to the environment and to the monitoring and reporting of them.

Where other statutory instruments impose obligations on the Premises/Licensee the intention is not to replicate them in the licence conditions. You should therefore ensure that you are aware of all your statutory obligations under the Act and any other statutory instrument. Legislation can be accessed through the State Law Publisher website using the following link:

<http://www.slp.wa.gov.au/legislation/statutes.nsf/default.html>

For your Premises relevant statutory instruments include but are not limited to obligations under the:

- *Environmental Protection (Unauthorised Discharges) Regulations 2004* – these Regulations make it an offence to discharge certain materials such as contaminated stormwater into the environment other than in the circumstances set out in the Regulations.
- *Environmental Protection (Controlled Waste) Regulations 2004* - these Regulations place obligations on you if you produce, accept, transport or dispose of controlled waste.
- *Environmental Protection (Noise) Regulations 1997* – these Regulations require noise emissions from the Premises to comply with the assigned noise levels set out in the Regulations.

You must comply with your licence. Non-compliance with your licence is an offence and strict penalties exist for those who do not comply.

Licence holders are also reminded of the requirements of section 53 of the Act which places restrictions on making certain changes to prescribed premises unless the changes are in accordance with a works approval, licence, closure notice or environmental protection notice.



**Licence fees**

If you have a licence that is issued for more than one year, you are required to pay an annual licence fee prior to the anniversary date of issue of your licence. Non-payment of annual licence fees will result in your licence ceasing to have effect meaning that it will no longer be valid and you will need to apply for a new licence for your Premises.

**Ministerial conditions**

If your Premises have been assessed under Part IV of the Act, you may have had conditions imposed by the Minister for Environment. You are required to comply with any conditions imposed by the Minister.

**Premises description and Licence summary**

Credaro Family Estate Winery (the Licensee) owns and operates a wine processing facility (Carbunup Pty Ltd) located at Lots 3 and 105 Bussell Highway, Carbunup (the Premises). The Premises is situated within the municipality of the City of Busselton and is bordered by rural properties to the west, east and south, and the Bussell Highway to the north.

The Premises consists of a vineyard, wine processing facility, wastewater treatment system, and approximately 27ha of grassed paddocks. Grapes for wine processing are produced on the Applicant's vineyards, and additional grapes are sourced from other vines in the region.

The facility has a current production capacity of 1,200 tonnes per year, with wastewater processed through a wastewater treatment system. In 2013, a Works Approval (W5390/2013) was issued by DER for the construction of a new wastewater treatment system at the Premises. Construction works have since been completed, and the Applicant has applied for a licence to operate the wastewater treatment system.

The Licensee has upgraded the existing wastewater treatment in order to accommodate a maximum production throughput of 840kL per year. The upgrade has improved the treatment of wastewater by increasing the storage capacity and improving the treatment capability by providing aeration and clarification.

The wastewater treatment system is designed to treat up to 16kL per day of winery wastewater. The system comprises of:

- Wastewater collection;
- Pre-treatment (pH correction and aeration);
- Primary treatment (aeration); and
- Secondary treatment (aeration, flocculation, and clarification);

The treated wastewater is irrigated to a 26ha irrigation area comprised of grassed paddocks. Irrigation occurs via an automated travelling cannon spray system positioned within the irrigation area. The irrigation area is vegetated and is located approximately 500m from the nearest sensitive residential receptor (Carbunup townsite) and approximately 350m from the nearest watercourse (Carbunup River).

Sludge from the wastewater treatment system is manually extracted and dewatered in one of two geo-bags. This occurs several times a week during vintage and less frequently throughout the remainder of the year. The dewatered effluent is pumped back to the wastewater treatment system while the spadeable sludge is added to the marc which is applied to land (paddock and vineyards) owned by the Licensee.

The main discharge of waste from the Premises is the irrigation of treated wastewater to land. Other potential minor emissions are noise, odour, and solid wastes.

<b>Instrument log</b>		
<b>Instrument</b>	<b>Issued</b>	<b>Description</b>
L8989/2016/1	01/12/2016	New licence for prescribed premises



## Severance

It is the intent of these Licence conditions that they shall operate so that, if a condition or a part of a condition is beyond the power of this Licence to impose, or is otherwise *ultra vires* or invalid, that condition or part of a condition shall be severed and the remainder of these conditions shall nevertheless be valid to the extent that they are within the power of this Licence to impose and are not otherwise *ultra vires* or invalid.

## END OF INTRODUCTION

# Licence conditions

## 1 General

### 1.1 Interpretation

1.1.1 In the Licence, definitions from the *Environmental Protection Act 1986* apply unless the contrary intention appears.

1.1.2 For the purposes of this Licence, unless the contrary intention appears:

**'Act'** means the *Environmental Protection Act 1986*;

**'Annual Audit Compliance Report'** means a report in a format approved by the CEO as presented by the Licensee or as specified by the CEO from time to time and published on the Department's website;

**'Annual Period'** means a 12 month period commencing from 1 January until 31 December;

**'AS/NZS 5667.1'** means the Australian Standard AS/NZS 5667.1 *Water Quality – Sampling – Guidance of the Design of sampling programs, sampling techniques and the preservation and handling of samples*;

**'AS/NZS 5667.10'** means the Australian Standard AS/NZS 5667.10 *Water Quality – Sampling – Guidance on sampling of waste waters*;

**'averaging period'** means the time over which a limit is measured or a monitoring result is obtained;

**'CEO'** means Chief Executive Officer of the Department of Environment Regulation;

**'CEO'** for the purpose of correspondence means:

Chief Executive Officer  
Department Div.3 Pt.V EP Act  
Locked Bag 33  
CLOISTERS SQUARE WA 6850  
Email: [info@der.wa.gov.au](mailto:info@der.wa.gov.au)

**'Department'** means the department established under s.35 of the Public Sector Management Act 1994 and designated as responsible for the administration of Division 3 Part V of the *Environmental Protection Act 1986*;

**'lees'** means the material which accumulates in the bottom of grape juice or wine fermentation tanks;

**'Licence'** means this Licence numbered L8989/2016/1 and issued under the Act;

**'Licensee'** means the person or organisation named as Licensee on page 1 of the Licence;

**'marc'** means the remains of grapes or other fruit that have been pressed for winemaking;



**'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;

**'Premises'** means the area defined in the Premises Map in Schedule 1 and listed as the Premises address on page 1 of the Licence;

**'Schedule 1'** means Schedule 1 of this Licence unless otherwise stated;

**'Schedule 2'** means Schedule 2 of this Licence unless otherwise stated;

**'spot sample'** means a discrete sample representative at the time and place at which the sample is taken;

**'treated wastewater'** means wastewater that has been treated by the wastewater treatment system;

**'usual working day'** means 0800 – 1700 hours, Monday to Friday excluding public holidays in Western Australia; and

**'wastewater treatment system'** means the system for treating wastewater at the Premises which comprises of screens, collection sumps, settling tanks, aeration tanks, flocculation tanks, clarifier tanks, etc.

1.1.3 Any reference to an Australian or other standard in the Licence means the relevant parts of the standard in force from time to time during the term of this Licence.

1.1.4 Any reference to a guideline or code of practice in the Licence means the version of that guideline or code of practice in force from time to time, and shall include any amendments or replacements to that guideline or code of practice made during the term of this Licence.

## **1.2 Premises operation**

1.2.1 The Licensee must ensure that all wastewaters generated from alcoholic beverage manufacturing operations including wash down water, by-products wastewater, and contaminated runoff are directed to the wastewater treatment system.

1.2.2 The Licensee must ensure that waste material is only stored and/or treated within vessels or compounds provided with the infrastructure detailed in Table 1.2.1.



<b>Table 1.2.1: Containment infrastructure</b>		
<b>Storage vessel or compound</b>	<b>Material</b>	<b>Infrastructure requirements</b>
Solids screening	Wastewater, marc, lees, and other organic solid wastes	Stainless steel baskets
Wastewater drains	Wastewater	Concrete lined
Wastewater collection sump		Concrete lined, 7kL capacity
Settled wastewater sump		Concrete lined, 7kL capacity
pH Mixing and Aeration Tank		Above ground Polyethylene storage tank, 40kL capacity
Aeration Tank		Above ground Polyethylene storage tank, 40kL capacity
Flocculent and Aeration Tank		Above ground Polyethylene storage tank, 40kL capacity
Primary Clarifier		Above ground Polyethylene storage tank, 30kL capacity
Secondary Clarifier		Above ground Polyethylene storage tank, 5kL capacity
Sludge dewatering bags	Sludge	2 x Geo-bags contained in concrete sump; dewatered wastewater pumped back to Flocculent and Aeration Tank
Solid waste storage area	Marc, lees, dried sludge	Stored on concrete hardstand with connection to the wastewater treatment system

1.2.3 The Licensee must ensure that where wastes produced on the Premises are not taken off-site for lawful use or disposal; they are managed in accordance with the requirements in Table 1.2.2.

<b>Table 1.2.2: Management of Waste</b>		
<b>Waste type</b>	<b>Disposal strategy</b>	<b>Operational requirements</b>
Treated wastewater	Irrigation	<p>The Licensee must ensure irrigation meets the following requirements:</p> <ul style="list-style-type: none"> <li>(i) irrigation does not occur within 50m of a surface water body;</li> <li>(ii) irrigation does not occur in areas where the water table rises to within 2m of the surface during the irrigation period;</li> <li>(iii) treated wastewater is evenly distributed over the irrigation area;</li> <li>(iv) no soil erosion occurs;</li> <li>(v) irrigation does not occur on land that is waterlogged;</li> <li>(vi) vegetation cover is maintained over the wastewater irrigation areas; and</li> <li>(vii) no irrigation generated runoff, spray drift, or discharge occurs beyond the boundary of the Premises.</li> </ul>



## 2 Emissions

### 2.1 Emissions to land

2.1.1 The Licensee must ensure that where waste is emitted to land from the emission points in Table 2.1.1 and identified on the map of emission points in Schedule 1 it is done so in accordance with the conditions of this licence.

Emission point reference and location on map of emission points in Schedule 1	Description	Source including abatement
L1	Treated wastewater irrigation area	Winery wastewater treated in the waste water treatment system

## 3 Monitoring

### 3.1 General monitoring

3.1.1 The licensee must ensure that:

- (a) all water samples are collected and preserved in accordance with AS/NZS 5667.1;
- (b) all wastewater sampling is conducted in accordance with AS/NZS 5667.10; and
- (c) all laboratory samples are submitted to and tested by a laboratory with current NATA accreditation for the parameters being measured unless indicated otherwise in the relevant table.

3.1.2 The Licensee must ensure that monthly monitoring is undertaken at least 15 days apart.

3.1.3 The Licensee must ensure that all monitoring equipment used on the Premises to comply with the conditions of this Licence is calibrated in accordance with the manufacturer's specifications.

3.1.4 The Licensee must, where the requirements for calibration cannot be practicably met, or a discrepancy exists in the interpretation of the requirements, bring these issues to the attention of the CEO accompanied with a report comprising details of any modifications to the methods.

### 3.2 Monitoring of emissions to land

3.2.1 The Licensee must undertake the monitoring in Table 3.2.1 according to the specifications in that table.

Monitoring point reference	Parameter	Units	Averaging period	Frequency
Discharge point from wastewater treatment system	Volumetric flow rate (cumulative)	m <sup>3</sup> /day	Daily	Continuous
	pH <sup>1</sup>	-	Monthly when irrigating	Spot sample
	Total biochemical oxygen demand (5-day BOD)	mg/l		
	Total dissolved solids (TDS)			
	Total nitrogen (TN)			
Total phosphorus (TP)				

Note 1: In-field non-NATA accredited analysis permitted



## 4 Information

### 4.1 Records

- 4.1.1 All information and records required by the Licence must:
- (a) be legible;
  - (b) if amended, be amended in such a way that the original and subsequent amendments remain legible or are capable of retrieval;
  - (c) except for records listed in 5.1.1(d) be retained for at least 6 years from the date the records were made or until the expiry of the Licence or any subsequent licence; and
  - (d) for those following records, be retained until the expiry of the Licence and any subsequent licence:
    - (i) off-site environmental effects; or
    - (ii) matters which affect the condition of the land or waters.
- 4.1.2 The Licensee must submit to the CEO within 90 days after the end of the Annual Period, an Annual Audit Compliance Report indicating the extent to which the Licensee has complied with the Conditions in this Licence for the Annual Period.
- 4.1.3 The Licensee must implement a complaints management system that as a minimum records the number and details of complaints received concerning the environmental impact of the activities undertaken at the Premises and any action taken in response to the complaint.

### 4.2 Reporting

- 4.2.1 The Licensee must submit to the CEO an Annual Environmental Report within 30 calendar days after the end of the Annual Period. The report shall contain the information listed in Table 4.2.1 in the format or form specified in that table.

<b>Table 4.2.1: Annual Environmental Report</b>		
<b>Condition or table (if relevant)</b>	<b>Parameter</b>	<b>Format or form</b>
-	Summary of any failure or malfunction of any pollution control equipment and any environmental incidents that have occurred during the annual period and any action taken	None specified
Table 3.2.1	Monitoring of emissions to land	Tabular and graphical presentation including an assessment of the information against previous monitoring results
	Contaminant loading to land of parameters (total annual loading kg/ha/yr for nitrogen and phosphorus, average daily loading kg/ha/day for BOD).	
4.1.3	Complaints summary	None specified

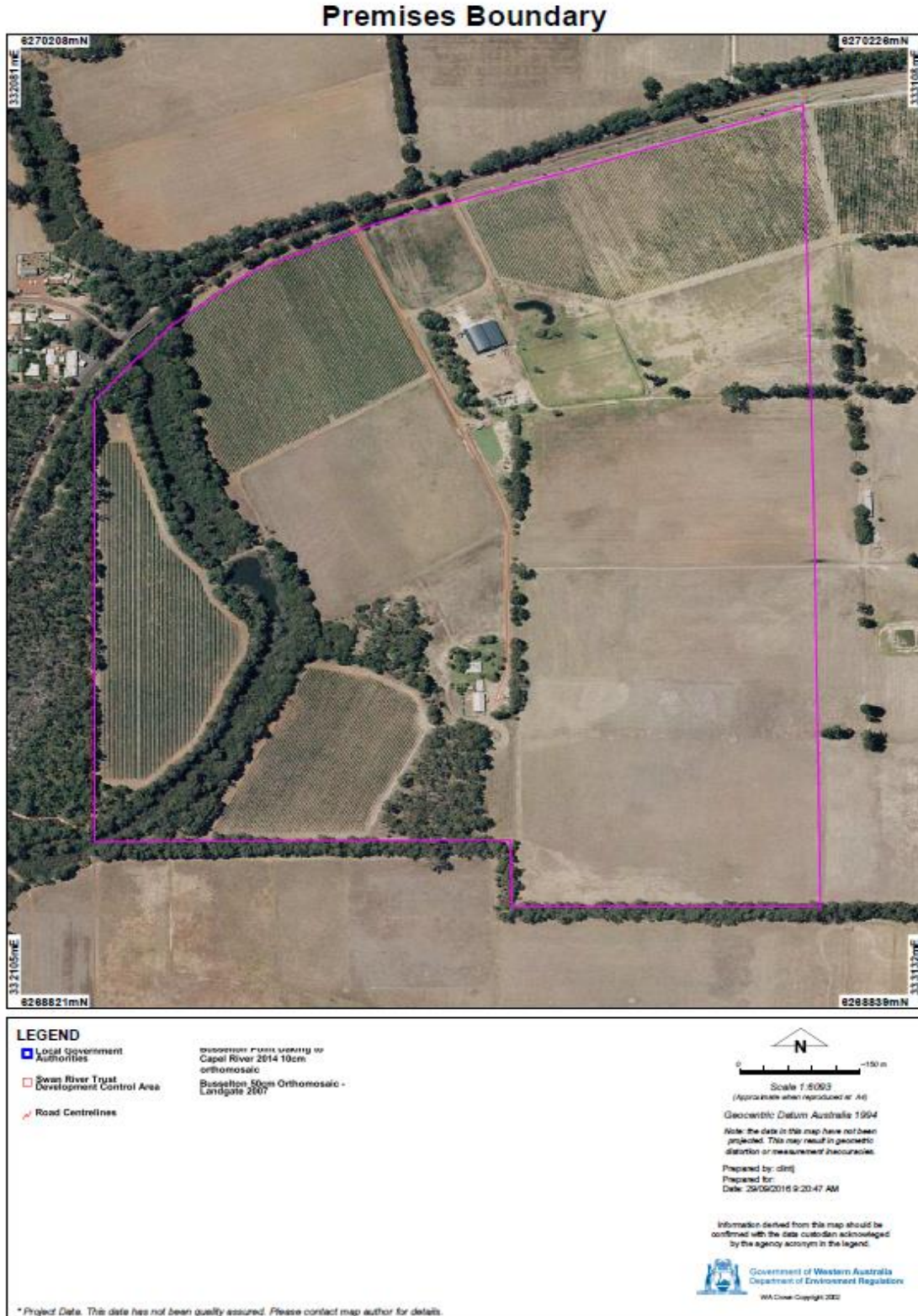




# Schedule 1: Maps

## Premises Map

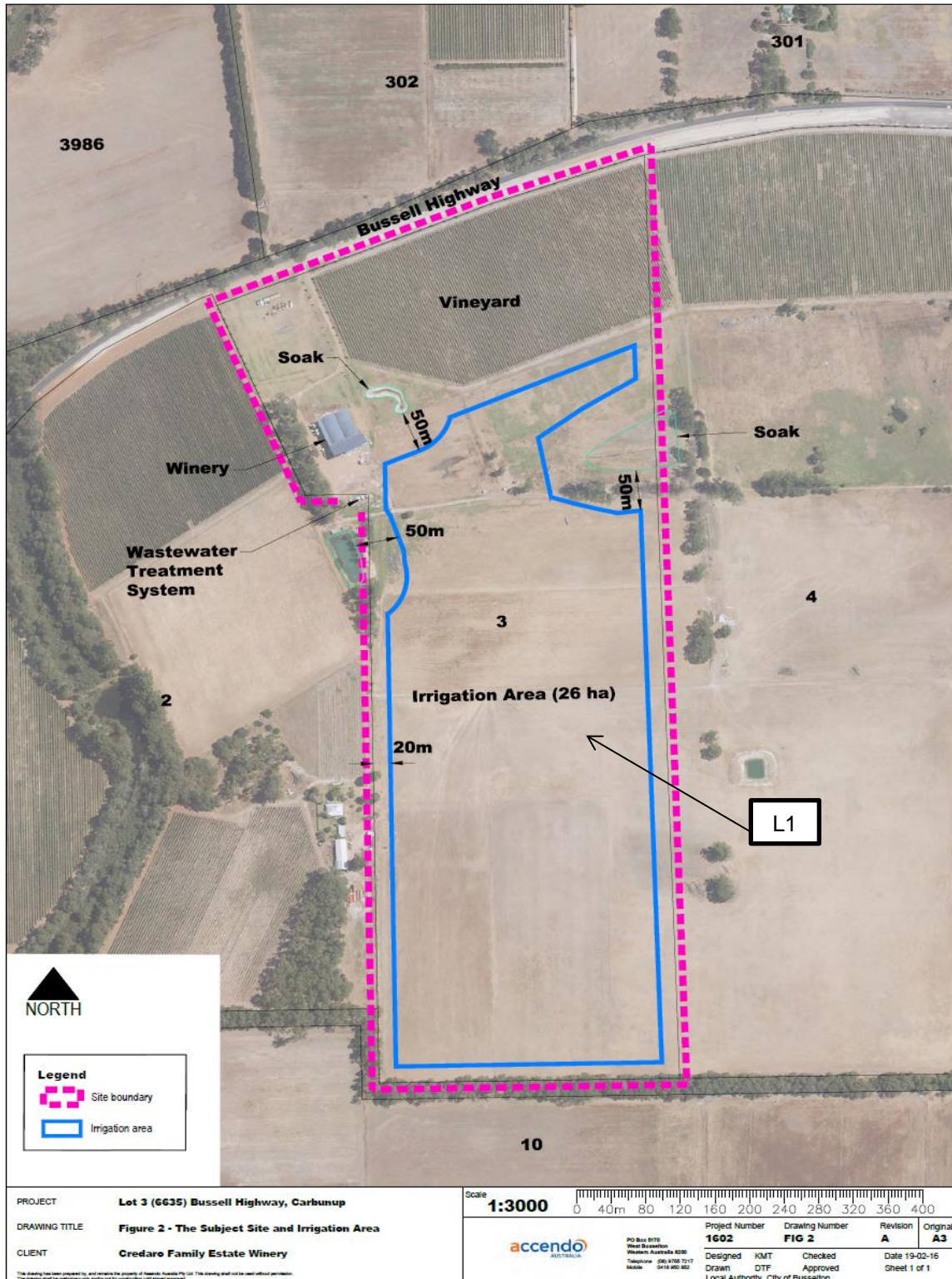
The Premises are shown on the map below. The pink line depicts the Premises boundary.





### Map of Emission Points

The location of the emission point defined in Table 2.1.1 is shown below.





# Decision Document

## *Environmental Protection Act 1986, Part V*

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**Proponent:** Carbunup PTY LTD

**Licence:** L8989/2016/1

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**Registered office:** Naturalist Management Services  
5 Fairbairn Road  
BUSSELTON WA 6280

**ACN:** 085 745 697

**Premises address:** 6635 Bussell Highway  
CARBUNUP WA 6280  
Being Lot 3 on Plan 22024 and Lot 105 on Plan 400462

**Issue date:** 6 December 2016

**Commencement date:** 12 December 2016

**Expiry date:** 11 December 2036

### **Decision**

Based on the assessment detailed in this document the Department of Environment Regulation (DER) has decided to issue a licence. DER considers that in reaching this decision, it has taken into account all relevant considerations and legal requirements and that the Licence and its conditions will ensure that an appropriate level of environmental protection is provided.

Decision Document authorised by:

Jonathan Bailes  
Delegated Officer



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## 1 Purpose of this Document

This decision document explains how DER has assessed and determined the application and provides a record of DER's decision-making process and how relevant factors have been taken into account. Stakeholders should note that this document is limited to DER's assessment and decision making under Part V of the *Environmental Protection Act 1986*. Other approvals may be required for the proposal, and it is the proponent's responsibility to ensure they have all relevant approvals for their Premises.



## 2 Administrative summary

Administrative details		
Application type	Works Approval <input type="checkbox"/>	
	New Licence <input checked="" type="checkbox"/>	
	Licence amendment <input type="checkbox"/>	
	Works Approval amendment <input type="checkbox"/>	
Activities that cause the premises to become prescribed premises	<b>Category number(s)</b>	<b>Assessed design capacity</b>
	25	840 kL per year
Application verified	Date: 02/08/2016	
Application fee paid	Date: 08/09/2016	
Works Approval has been complied with	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/> N/A <input type="checkbox"/>
Compliance Certificate received	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/> N/A <input type="checkbox"/>
Commercial-in-confidence claim	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Commercial-in-confidence claim outcome	No	
Is the proposal a Major Resource Project?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the <i>Environmental Protection Act 1986</i> ?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
		Referral decision No: Managed under Part V <input type="checkbox"/> Assessed under Part IV <input type="checkbox"/>
Is the proposal subject to Ministerial Conditions?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
		Ministerial statement No: EPA Report No:
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the <i>Environmental Protection Act 1986</i> )?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
	Department of Water consulted Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Is the Premises within an Environmental Protection Policy (EPP) Area	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Is the Premises subject to any EPP requirements?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>



### 3 Executive summary of proposal

Credaro Family Estate Winery (the Applicant) owns and operates a wine processing facility (Carbunup Pty Ltd) located at Lots 3 and 105 Bussell Highway, Carbunup (the Premises). The Premises is situated within the municipality of the City of Busselton and is bordered by rural properties to the west, east and south, with the Bussell Highway to the north.

The Premises consists of a vineyard, wine processing facility, wastewater treatment system, and approximately 27ha of grassed paddocks. Grapes for wine processing are produced on the Applicant's vineyards, and additional grapes are sourced from other vines in the region.

The facility has a current production capacity of 1,200 tonnes per year, with wastewater processed through a wastewater treatment system. In 2013, a Works Approval (W5390/2013) was issued by DER for the construction of a new wastewater treatment system at the Premises. Construction works have since been completed, and the Applicant has applied for a licence to operate the wastewater treatment system.

The Applicant has upgraded the existing wastewater treatment in order to accommodate a maximum production throughput of 840kL per year. The upgrade has improved the treatment of wastewater by increasing the storage capacity and improving the treatment capability by providing aeration and clarification.

The wastewater treatment system is designed to treat up to 16kL per day of winery wastewater. The system comprises of:

- Wastewater collection;
- Pre-treatment (pH correction and aeration);
- Primary treatment (aeration); and
- Secondary treatment (aeration, flocculation, and clarification);

A diagrammatic representation of the wastewater treatment system is shown in Appendix B.

The treated wastewater is irrigated to a 26ha irrigation area comprised of grassed paddocks. Irrigation occurs via an automated travelling cannon spray system positioned within the irrigation area. The irrigation area is vegetated and is located approximately 500m from the nearest sensitive residential receptor (Carbunup townsite) and approximately 350m from the nearest watercourse (Carbunup River).

Sludge from the wastewater treatment system is manually extracted and dewatered in one of two geo-bags. This occurs several times a week during vintage and less frequently throughout the remainder of the year. The dewatered effluent is pumped back to the wastewater treatment system while the spadeable sludge is added to the marc which is applied to land (paddock and vineyards) owned by the Applicant.

The main discharge of waste from the Premises is the irrigation of treated wastewater to land. Other potential minor emissions are noise, odour, and solid wastes.

This assessment was also informed by a visit to the premises carried out by the Delegated Officer and a Licensing Officer on 8 September 2016.



## 4 Decision table

All applications are assessed in line with the *Environmental Protection Act 1986*, the *Environmental Protection Regulations 1987* and DER's Operational Procedure on Assessing Emissions and Discharges from Prescribed Premises. Where other references have been used in making the decision, they are detailed in the decision document.

<b>DECISION TABLE</b>			
<b>Works Approval / Licence section</b>	<b>Condition number W = Works Approval L= Licence</b>	<b>Justification (including risk description &amp; decision methodology where relevant)</b>	<b>Reference documents</b>
<b>Emissions to land including monitoring</b>	L1.2.1 – L1.2.3 L2.1.1 L3.1.1 – L3.2.1	See Appendix A	DER Guidance Statement: Regulatory Principles  DER Guidance Statement: Setting Conditions
<b>Noise</b>	N/A	Potential emission: Noise associated with winery and wastewater treatment plant operations. Potential receptors: Residences in Carburnup (500m). Potential pathway: Air. Potential impacts: Amenity. Material risk: No. Reasoning: The Delegated Officer considers that there are no major noise sources on the site and the separation distance is sufficient to prevent an impact from occurring. The <i>Environmental Protection (Noise) Regulations 1997</i> apply to the Premises.	<i>Environmental Protection (Noise) Regulations 1997</i>  <i>Environmental Protection Act 1986</i>



<b>DECISION TABLE</b>			
<b>Works Approval / Licence section</b>	<b>Condition number W = Works Approval L= Licence</b>	<b>Justification (including risk description &amp; decision methodology where relevant)</b>	<b>Reference documents</b>
<b>Odour</b>	N/A	Potential emission: Odour associated with winery and wastewater treatment plant operations, including waste storage and discharge. Potential receptors: Residences in Carburnup (500m). Potential pathway: Air. Potential impacts: Amenity. Material risk: No. Reasoning: The Delegated Officer considers that the separation distance is sufficient to prevent an impact from occurring. The general provisions of the <i>Environmental Protection Act 1986</i> apply to the Premises.	<i>Environmental Protection Act 1986</i>
<b>Information</b>	L4.1.1 – L4.2.1	Conditions regarding information and records and reporting have been included in the licence. These conditions are valid and are necessary administration and reporting requirements to ensure compliance.	DER Guidance Statement: Setting Conditions
<b>Licence Duration</b>	N/A	The licence has been issued for a 20 year period.	DER Guidance Statement : Licence Duration





## 5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
19/09/2016	Application advertised in West Australian (or other relevant newspaper)	The application was advertised for a period of 21 days. No comments were received.	None applicable
20/09/2016	City of Busselton sent copy of application for comment	The City of Busselton has no issues/comment with the application.	None applicable
18/11/016	Proponent sent a copy of draft instrument	The proponent verified that the solid wastes (marc, lees, dried sludge) are stored on concrete hardstand connected to the wastewater treatment system.	Decision document updated

## 6 Emissions and discharges risk assessment framework

Note: This matrix is taken from the DER Corporate Policy Statement No. 07 - Operational Risk Management

Table 1: Emissions Risk Matrix

Likelihood	Consequence				
	Insignificant	Minor	Moderate	Major	Severe
Almost Certain	Moderate	High	High	Extreme	Extreme
Likely	Moderate	Moderate	High	High	Extreme
Possible	Low	Moderate	Moderate	High	Extreme
Unlikely	Low	Moderate	Moderate	Moderate	High
Rare	Low	Low	Moderate	Moderate	High



## Appendix A

### Assessment of Key Emissions – Winery Operations

Potential emission: Contaminated wastewater from the winery (spills, leaks, etc. of wastewater, and leachate from storage of solid wastes).

Potential receptors: Land and Carburnup River (350m west of the of the existing wastewater treatment system and irrigation area).

Potential pathway: Direct discharge to land or overland flow to the river system.

Potential impacts: Contamination of land and pollution of the river system; impacts on ecosystem health; eutrophication.

#### Applicant controls:

- All winery processing is contained within a roofed, concrete hardstand area;
- The concrete hardstand area has been designed to divert stormwater that is not contained within this area;
- All winery waste and wash waters are directed through drains and sumps to the wastewater treatment system where it is treated in a series of above-ground plastic tanks;
- Sludge from the wastewater treatment system is dewatered in geo-bags contained in a concrete sump. Dewatered effluent is returned to the wastewater treatment system;
- Solid wastes (marc, lees, dried sludge) are stored on concrete hardstand connected to the wastewater treatment system.
- The Applicant has conducted a water balance to confirm that there is enough capacity in the wastewater treatment system for winter storage requirements.

Risk Assessment:

Likelihood: Unlikely

Consequence: Insignificant

Risk rating: Low

#### Regulatory controls:

- Condition 1.2.1 requires that all wastewaters generated from alcoholic beverage manufacturing operations must be directed to the wastewater treatment system;
- Condition 1.2.2 (Table 1.2.1) specifies the containment infrastructure that must be maintained on the Premises.

### Assessment of Key Emissions – Irrigation of Treated Wastewater

Potential emission: Discharge of treated wastewater to land via irrigation.

Potential receptors: Land and Carburnup River (350m west of the of the existing wastewater treatment system and irrigation area); Groundwater (estimated to be greater than 2m below ground level).

Potential pathway: Direct discharge to land; infiltration to groundwater; overland flow to the river system; hydraulic connectivity of groundwater to the river system.

Potential impacts: Nutrient loading of land and pollution of the river system; impacts on ecosystem health; eutrophication.

#### Applicant controls:

- Irrigation occurs via a travelling irrigator over a 26ha area;
- Irrigation areas are grassed paddocks;
- The Applicant has prepared a Nutrient and irrigation Management Plan (NIMP);
- Irrigated wastewater will be confined to the irrigation area and will not escape to any watercourse;
- Treated wastewater will not be applied to land if soil moisture conditions are such that surface runoff or ponding is likely to occur;
- Wastewater will be evenly distributed over the irrigation area;



- The irrigation of treated wastewater to the land will not be performed within 50m of any defined watercourse;
- Wastewater will not be discharged to the irrigation area during rainfall or onto flooded areas;
- The irrigation area will be maintained in a proper and efficient condition (i.e. maintain healthy vegetation cover) so as to provide adequate assimilation, percolation, evaporation and transpiration of the irrigated wastewater.

Risk Assessment:

Likelihood: Unlikely

Consequence: Minor

Risk Rating: Moderate

Regulatory Controls:

Based on the quality of the treated wastewater (confirmed through testing carried out during commissioning), the quantity of water to be irrigated, and the significant area of land available for irrigation (26ha); the Delegated Officer considers that nutrient and hydraulic loading rates will be acceptable (phosphorous loading estimated to be 0.2kg/ha/year and nitrogen loading 9kg/ha/year).

- Condition 2.1.1 specifies the irrigation area authorised to be used for the discharge of treated wastewater;
- Condition 1.2.3 specifies the requirements for the management of the irrigation (based on Applicant controls);
- Conditions 3.1.1 to 3.2.1 require the Licence Holder to monitor the quantity and quality of treated wastewater irrigated so that nutrient and hydraulic loading rates can be assessed and verified.



# Appendix B

