Decision Report

Application for Works Approval

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

Works Approval Number	W6423/2020/1
Applicant	Carbunup Pty Ltd
ACN	085 745 697
File Number	DER2020/000233
Premises	Credaro Family Estate Winery 6634 Bussell Highway, CARBUNUP WA 6280 Legal description: Lot 3 on Deposited Plan 22024 and Lot 105 on Plan 400462
Date of Report	12 January 2021
Decision	Works approval granted

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1. Decision summary

This decision report documents the assessment of potential risks to the environment and public health from emissions and discharges during the construction and operation of the Premises. As a result of this assessment, Works Approval W6423/2020/1 has been granted.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this decision report, the department has considered and given due regard to its Regulatory Framework and relevant policy documents which are available at https://dwer.wa.gov.au/regulatory-documents.

2.2 Application summary and overview of Premises

On 4 June 2020, the applicant submitted an application for a works approval under section 54 of the *Environmental Protection Act 1986* (EP Act). The works are associated with active Licence L8989/2016/1, being the Credaro Family Estate Winery located at Lot 3 on Plan 22024 and Lot 105 on Plan 400462, Carbunup WA 6280.

The application is to undertake construction works relating to an evaporation pond at the Premises for the containment and evaporation of treated wastewater from the winery wastewater treatment plant. Works include construction of a clay-lined 5,700 m^3 evaporation pond and the installation of related infrastructure and equipment such as an underground pipeline, pressure gauge and pond underdrainage. The pond will replace the need for irrigation of treated wastewater on the Premises.

The application relates to the category and assessed production capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in Licence L8989/2016/1 and Works Approval W6423/2020/1. The infrastructure and equipment relating to the premises category and any associated activities which the department has considered in line with *Guidance Statement: Risk Assessments* (DER 2017) are outlined in Works Approval W6423/2020/1.

3. Risk assessment

The department assesses the risks of emissions from prescribed premises and identifies the potential source, pathway and impact to receptors in accordance with the *Guidance Statement: Risk Assessments* (DER 2017).

To establish a Risk Event there must be an emission, a receptor which may be exposed to that emission through an identified actual or likely pathway, and a potential adverse effect to the receptor from exposure to that emission.

3.1 Source-pathways and receptors

3.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during the construction and operation of the works which have been considered in this Decision Report are detailed in Table 1 below. Table 1 also details the control measures the applicant has proposed to assist in controlling these emissions, where necessary.

Table 1: Proposed applicant controls

Emission	Sources	Potential pathways	Proposed controls
Construction			
Dust	Earthworks	Air/windborne pathway	Water suppression methods will be utilised as required. Excavation and construction will only take place on days of low wind.
Noise	Construction machinery	Air/windborne pathway	Construction works will be limited to 4 weeks.
Operation			
Odour	Wastewater	Air/windborne pathway	The wastewater will undergo treatment via a wastewater treatment system (WWTS) prior to evaporation which will assist in the reduction of odour and solids transferred to the pond.
	Sludge removed from the settlement basin (desludging operations)	Air/windborne pathway	The settlement basin will be dried out and sludge removed by a licensed waste contractor as required.
Treated wastewater	Evaporation pond	Direct discharge to land and overland flow to receptors via: • over topping of ponds; or • controlled release via spillways.	The evaporation pond volume (5700 m^3) has been calculated using the highest rate of effluent production/tonne based on winery crush of 1,800 tonnes per year with a safety factor of 40% The pond will be operated with a 50 cm freeboard to prevent unplanned overtopping from a 1 in 20 year annual recurrence interval event (ARI). The pond will have two 5 m wide and 0.2 m deep spillways to allow controlled discharge of water from the pond due to rainfall events which exceed the design event of 1 in 20 year ARI. Spillways will each be lined with grass. All stormwater will be directed around the pond via a stormwater swale located on the northern and western sides of the pond. The pond will only be used for storage of wastewater which has been treated via the WWTS therefore reducing the nutrient content of the contained water. If overflow does occur via the spillways it will be directed into two reedbeds for biofiltration.
		Seepage to soil and groundwater through base and sides of pond and from underdrainage layer	Pond will be lined by a minimum 300 mm thick compacted clay liner with a permeability of 10^{-9} m/s and constructed in accordance with Water Quality Protection Note 27 (WQPN 27) (DoW 2013). Pond is situated and constructed to maintain 1.5 m separation to groundwater at peak levels (pond base at 17.5 m RL). Pond is designed with underdrainage system (minimum 300 mm thick sandy layer and drainage pipes) to prevent upward water pressure on, and associated damage to, the pond liner. The pond will only be used for storage of

Emission	Sources	Potential pathways	Proposed controls
			wastewater which has been treated via the WWTS therefore reducing the nutrient content of the contained water.
	Pipe connecting wastewater treatment plant to evaporation pond	Direct discharge to soil as a result of pipeline leaks	Wastewater will be treated via the existing WWTS prior to being pumped to the evaporation pond via a centrifugal pump through an underground 50 mm diameter polyethylene pipe approximately 150 m in length. A pressure gauge will be fitted to the pipe and will indicate a drop in pressure if leakage occurs.
Leachate	Sludge removed from the settlement basin (desludging operations)	Direct discharge to soil	Sludge removed from evaporation pond and disposed off site by licenced operator.

3.1.2 Receptors

In accordance with the *Guidance Statement: Risk Assessment* (DER 2017), the Delegated Officer has excluded employees, visitors and contractors of the applicant from its assessment. Protection of these parties often involves different exposure risks and prevention strategies and is provided for under other state legislation.

Table 2 below provides a summary of potential human and environmental receptors that may be impacted as a result of activities upon or emissions and discharges from the prescribed premises *(Guidance Statement: Environmental Siting* (DER 2016)).

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

Human receptors	Distance from prescribed activity
Closest residential receptor	461 m northwest of the evaporation pond.
Adjoining property boundary	20 m east of the evaporation pond.
Carbunup River town site	790 m west of the evaporation pond.
Environmental receptors	**Distance from prescribed activity**
Threatened Ecological Community (TEC): *Corymbia calophylla* woodlands on heavy soil of the southern swan coastal plain. Listed as Vulnerable under the *Biodiversity Conservation Act 2016*.	900 m southwest and down gradient of the evaporation pond to the edge of the TEC.
TEC: Banksia Woodlands of the Swan Coastal Plain. Listed as Endangered under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).	1,000 m west of the evaporation pond to the edge of the TEC.
Carbunup River	600 m west and downgradient of the evaporation pond.
Groundwater	Maximum groundwater level 1.5 m below the

	evaporation pond (15.5 m RL) is based on applicant's observation and survey of inundation area adjacent to the evaporation pond (Accendo Australia 2020). The premises is located in the Busselton Capel Groundwater Area (proclaimed under the *Rights in Water and Irrigation Act 1914*). Groundwater in proximity to the premises is used for horticulture and agricultural uses.

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guidance Statement: Risk Assessments* (DER 2017) for each identified emission source and takes into account potential source-pathway and receptor linkages as identified in Section 3.1. Where linkages are in-complete they have not been considered further in the risk assessment.

Where the applicant has proposed mitigation measures/controls (as detailed in Section 3.1), these have been considered when determining the final risk rating. Where the Delegated Officer considers the applicant's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the works approval as regulatory controls.

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

Works Approval W6423/2020/1 that accompanies this Decision Report authorises construction and time-limited operations. The conditions in the issued Works Approval, as outlined in Table 3 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

A licence amendment is required following the time-limited operational phase authorised under the works approval to authorise emissions associated with the ongoing operation of the works (evaporation pond and associated infrastructure). A risk assessment for the operational phase of the works has been included in this Decision Report, however licence conditions will not be finalised until the department assesses the licence amendment application.

Table 3: Risk assessment of potential emissions and discharges from the works during construction and operational phases.

Risk Event					Risk rating[1] C = consequence L = likelihood	Applicant controls sufficient?	Conditions[2] of works approval	Justification for additional regulatory controls
Source/Activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
Construction								
Construction of evaporation pond	Dust	Air or windborne pathway causing impacts to amenity	Residences 461 m west	Refer to Section 3.1.1	C = Slight L = Unlikely **Low Risk**	Yes	N/A	N/A
	Noise			Refer to Section 3.1.1	C = Slight L = Unlikely **Low Risk**	Yes	N/A	Regulation 13 of the *Environmental Protection (Noise) Regulations 1997* (Noise Regulations) applies to construction work on a construction site.
Operation (including time-limited operations)								
Operation of evaporation pond	Odour	Air or windborne pathway causing impacts to amenity	Residences 461 m west	Refer to Section 3.1.1	C = Slight L = Unlikely **Low Risk**	Yes	N/A	N/A
	Treated wastewater (containing N, P and TDS)	Pipeline burst or leak causing direct discharge to soil and potential nutrient contamination	Soils in immediate area (farmland)	Refer to Section 3.1.1	C = Slight L = Possible **Low Risk**	Yes	Condition 2 (construction requirements) Condition 5-6 (compliance reporting) Condition 8-9, 11-12 (time limited operation and reporting) Condition 10 (operational requirements)	Compliance reporting and restrictions on when time limited operations can occur are included to verify infrastructure has been constructed in accordance with specified requirements and therefore has been constructed with suitable controls to be operated.
		Seepage through the pond liner into the groundwater or groundwater intrusion into the base of the pond at peak groundwater levels causing impact to groundwater quality Groundwater flow to surface water causing impacts to water quality and native riparian vegetation	Groundwater 1.5 m below pond liner Carbunup River 600m west of the evaporation pond	Refer to Section 3.1.1	C = Moderate L = Unlikely **Medium Risk**	Yes	Condition 1 (construction requirements) Condition 3-4 (compliance reporting) Condition 7, 9, 11-12 (time limited operation and reporting) Condition 10 (operational requirements)	Construction requirements imposed by DWER, including rock lining of spillways, rock lined erosion protection batter and freeboard marker that can be observed from the edge of the evaporation pond, are included to reduce the risk of an emergency overflow via spillways to the neighbouring property. Compliance reporting and restrictions on when time limited operations can occur are included to verify infrastructure has been constructed in accordance with specified requirements and therefore has been constructed with suitable controls to be operated.
		Overtopping of evaporation pond causing direct discharge to soil and overland runoff impacting surface water quality and/or contaminating soil	Carbunup River 600m west of the evaporation pond Adjoining property boundary 20 m	Refer to Section 3.1.1	C = Moderate L = Rare **Medium Risk**	Yes		
		Emergency overflow via spillways causing direct discharge to soil and overland runoff impacting surface water quality and/or contaminating soil	Carbunup River 600m west of the evaporation pond Adjoining property boundary 20 m	Refer to Section 3.1.1	C = Moderate L = Rare **Medium Risk**	Yes		

Risk Event					Risk rating[1] C = consequence L = likelihood	Applicant controls sufficient?	Conditions[2] of works approval	Justification for additional regulatory controls
Source/Activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
Desludging of evaporation pond	Leachate from sludge	Direct discharge to soil and potential nutrient contamination	Soils in immediate area (farmland)	Refer to Section 3.1.1	C = Slight L = Unlikely **Low Risk**	Yes	Condition 10 (operational requirements)	N/A

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guidance Statement: Risk Assessments* (DER 2017).

Note 2: Proposed applicant controls are depicted by standard text. **Bold and underline text** depicts additional regulatory controls imposed by department.

4. Decision

The delegated officer has determined to approve the proposal to construct a wastewater evaporation pond. The determination is based on the proposed infrastructure controls such as pond lining, containment volume of the pond, pond sludge removed from site and that the pond will replace irrigation which will improve environmental outcomes at the premises.

Controls will be imposed on the works approval to specify infrastructure design and construction requirements, to ensure the proposal does not result in unacceptable risks to the environment. The potential overflow of the pond has the potential to cause adverse impacts to the neighbouring property. As such, construction requirements on the spillway, erosion protection on the outside of the pond wall and freeboard markers are included to mitigate that risk. Similarly, the direct discharge to ground, intrusion or infiltration of contaminated water into groundwater has the potential to cause adverse impacts to groundwater and soil, as such compliance reporting and restrictions on time limited operations are included to verify infrastructure controls are appropriate.

An amendment to existing licence L8989/2016/1 will be required following the completion of the works to include the pond, remove wastewater irrigation and authorise ongoing operations of the evaporation pond.

5. Consultation

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

Table 4: Consultation

Consultation method	Comments received	Department response
Application advertised on the department's website on 04/08/2020 and supplementary documentation uploaded to the website on 05/08/2020. Application advertised in the West Australian newspaper (10/08/2020).	No comments received	N/A
Local Government Authority advised of proposal 11 August 2020.	The city of Busselton replied on 14 September 2020 advising DA20/0432 has been granted subject to conditions.	DWER notes the conditions of the development approval.
Applicant was provided with draft documents on 2 October 2020.	No further comments other than responding to requests for further information.	Further information included in risk assessment.
Applicant was provided with a further draft for comment on 17 December 2020.	Crest of evaporation pond increased to 3 m at the peak. Evaporation pond moved west to maintain a 20 m separation distance to the premises boundary. Updated site plan provided.	Further information included in risk assessment and works approval.

6. Conclusion

The Delegated Officer has determined that construction and operation of an evaporation pond for disposal of treated wastewater from premises will reduce or eliminate the need for irrigation of treated wastewater on the premises. This will reduce the potential soil and groundwater

contamination risk associated with wastewater irrigation, provided the infrastructure is constructed in accordance with the applicant's proposed design controls.

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

Melissa Chamberlain

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Melissa Chamberlain
A/MANAGER PROCESS INDUSTRIES
REGULATORY SERVICES

An officer delegated by the CEO under section 20 of the EP Act

References

1. Accendo Australia 2020, *Works Approval Application – Evaporation Pond: Credaro Family Estate Winery*, Busselton, Western Australia.
2. Department of Environment Regulation (DER) 2016, *Guidance Statement: Environmental Siting*, Perth, Western Australia.
3. DER 2017, *Guidance Statement: Risk Assessments*, Perth, Western Australia.
4. DER 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
5. DoW 2013, *WQPN 27 Liners for containing pollutant, using engineered soils*, Perth, Western Australia.
6. DWER 2019, *Guideline: Industry Regulation Guide to Licensing*, Perth, Western Australia

Appendix 2: Application validation summary

SECTION 1: APPLICATION SUMMARY					
Application type					
Works approval	☒				
Licence	☐	Relevant works approval number:		None	☐
		Has the works approval been complied with?		Yes ☐ No ☐	
		Has time limited operations under the works approval demonstrated acceptable operations?		Yes ☐ No ☐ N/A ☐	
		Environmental Compliance Report submitted?		Yes ☐ No ☐	
		Date Report received:			
Renewal	☐	Current licence number:			
Amendment to works approval	☐	Current works approval number:			
Amendment to licence	☐	Current licence number:			
		Relevant works approval number:		N/A	☐
Registration	☐	Current works approval number:		None	☐
Date application received		4 June 2020			
Applicant and Premises details					
Applicant name/s (full legal name/s)		Carbunup Pty Ltd.			
Premises name		Credaro Family Estate Winery			
Premises location		Lot 3 (6634) Bussell Highway, Carbanup			
Local Government Authority		City of Busselton			
Application documents					
HPCM file reference number:		DER2020/000233			
Key application documents (additional to application form):		Works Approval Application – Evaporation Pond			
Scope of application/assessment					
Summary of proposed activities or changes to existing operations.		Construction and operation of a 5,700 m^3 wastewater evaporation pond.			

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

Table 1: Prescribed premises categories

Prescribed premises category and description	Proposed production or design capacity	Proposed changes to the production or design capacity
Category 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.	1260 kL per year.	

Legislative context and other approvals

Has the applicant referred, or do they intend to refer, their proposal to the EPA under Part IV of the EP Act as a significant proposal?	Yes ☐ No ☒	Referral decision No: Managed under Part V ☐ Assessed under Part IV ☐
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes ☐ No ☒	Ministerial statement No: EPA Report No:
Has the proposal been referred and/or assessed under the EPBC Act?	Yes ☐ No ☒	Reference No:
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes ☒ No ☐	Certificate of title ☒ General lease ☐ Expiry: Mining lease / tenement ☐ Expiry: Other evidence ☐ Expiry:
Has the applicant obtained all relevant planning approvals?	Yes ☐ No ☒ N/A ☐	Approval: Expiry date: If N/A explain why? LGA development applied for but no date of application or expected decision date given.
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes ☐ No ☒	CPS No: N/A No clearing is proposed and no existing clearing permit.

Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes ☐ No ☒	Application reference No: N/A Licence/permit No: N/A No clearing is proposed and no existing clearing permit.
Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes ☒ No ☐	Application reference No: Licence/permit No: 57935 and 151301
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes ☒ No ☐	Name: Busselton-Capel groundwater area Type: proclaimed groundwater area Has Regulatory Services (Water) been consulted? Yes ☐ No ☒ N/A ☐ Regional office:
Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes ☐ No ☒	Name: N/A Priority: N/A Are the proposed activities/ landuse compatible with the PDWSA (refer to WQPN 25)? Yes ☐ No ☒ N/A ☐
Is the Premises subject to any other Acts or subsidiary regulations (e.g. *Dangerous Goods Safety Act 2004, Environmental Protection (Controlled Waste) Regulations 2004, State Agreement Act xxxx*)	Yes ☐ No ☒	If Yes include details here.
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes ☐ No ☒	If Yes include details of which EPP(s) here.
Is the Premises subject to any EPP requirements?	Yes ☐ No ☒	If Yes, include details here.
Is the Premises a known or suspected contaminated site under the *Contaminated Sites Act 2003*?	Yes ☐ No ☒	Classification: N/A Date of classification: N/A