



Application for licence amendment

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

Licence holder number L6932/1988//11

Licence Holder Derby Industries Pty Ltd

DWER File number 2010/002314

Premises CM Farms – Nambeelup Piggery
230 Gull Road
NAMBEELUP WA 6207

Date of report 14 August 2024

Status of report Final

Amendment description

This amendment is made pursuant to section 59 of the *Environmental Protection Act 1986* (EP Act) to amend the existing licence issued under the EP Act for a prescribed premises as set out below. This notice of amendment is hereby given under section 59B(9) of the EP Act.

This amendment is limited to the reinstatement of an effluent treatment pond at the existing CM Farms – Nambeelup piggery.

In completing the assessment documented in this 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>.

Purpose and scope of assessment

Derby Industries Pty Ltd trading as CM Farms (CM Farms/licence holder) is seeking approval to reinstate pond 3 as a facultative pond, to improve wastewater management and storage at the premises.

An application to amend the existing licence (L6932/1988/11) was submitted to the department on 21 June 2024.

Background

CM Farms has been operating the piggery since January 2009 following transfer of the licence from the landowner and previous operator, George Weston Foods. The premises is situated in the rural locality of Nambeelup in the Shire of Murray, about 60 km south of Perth.

The piggery comprises a mixed indoor piggery (conventional sheds and deep litter shelters), where effluent from the conventional sheds is flushed to a series of ponds for biological treatment, prior to discharge to an adjacent composting facility. The existing pond system comprises four HDPE-lined ponds, including an anaerobic pond (pond 0) and three facultative ponds (ponds 2, 5 & 6).

Ponds 1, 3 & 4 are historical ponds that are not currently part of the active system. Pond 1 was replaced by pond 0 in 2016 and has since been decommissioned. Ponds 3 & 4 were also decommissioned in 2010, and later desludged and the liners removed in 2021.

The premises has ongoing issues related to odour and is a registered contaminated site, with issuing of a Prevention Notice #202305(2) to remove the sludge (from desludging ponds 3 & 4) that was being illegally stored on the premises.

Proposed amendment

CM Farms proposes to reline and reinstate pond 3 as a facultative pond, to improve the current management of effluent at the premises.

Currently, pond 2 needs to be de-sludged and temporarily taken offline; pond 3 will temporarily function to replace pond 2, which will be of equivalent capacity (16,000 m³). Once de-sludging of pond 2 is complete, pond 2 will be put back into service, creating additional storage capacity within the WWTS. No changes to the amount of effluent generated on site is expected from these changes.

Pond 2 temporarily taken offline

Pond 2 will be temporarily taken offline to be desludged. The inlet pipe coming from pond 0 will be re-diverted to pond 3 so that no effluent will enter pond 2, so the pond can dry out. The outlet pipe of pond 2 will remain connected to pond 5 so rainwater can flow into pond 5.

Pond 2 will be desludged during the summer months and once the pond has dried out, the liner will be tested (may require relining) prior to becoming operational again.

Pond 3 reinstatement

The existing pond 3, will be re-instated and relined with a 1.5 mm thick HDPE geomembrane liner. The pond was desludged and the liner was removed in 2021, and therefore minimal earthworks will occur to reinstate the pond.

Pond 3 dimensions are as follows:

- Length x Width (ground level): 175 m x 50 m
- Length x Width (below ground level): 165 m x 40 m
- Depth: 2.0 m
- Freeboard: 300 mm
- Slope grade 1:2.5 and allowance for anchor trench 0.5m from crest x0.5m x 0.5m

Balance pipe:

Once pond 3 is reinstated and lined, a balance pipe will be installed on the western side of pond 3, connecting to the eastern boundary of pond 5, to prevent risks of pond and improve wastewater management. Initially, the balance pipe will only be installed about a metre away from pond 5 due to pond 5 currently being operational. Once installed both ends will be capped.

Pond 5 has 500 mm freeboard when full and this is the level that the balance pipe will be installed at. To install the balance pipe into the pond 5's wall, wastewater from pond 5 will be pumped into pond 3 to reduce the pond's water level (to about 300 mm below where the new balance pipe's height outlet will be located). This is because there needs to be room to allow for the extrusion welder to install a new boot into the pond wall. The applicant has estimated this will result in a transfer of about 4,023 m³ of wastewater from pond 5 to pond 3. Once this is completed the last metre of balance pipe will be installed along with boots into pond 5.

Once the balance pipe connects pond 3 to pond 5, there will be an exchangeable flow of effluent between the ponds to balance and manage wastewater levels.

The balance pipe design and installation details are as follows:

- The balance pipe will be a 150 mm class 9 balance pipe +/- 500 mm
- The balance pipe will be installed below the crest of the pond wall, between pond 3 and pond 5 (As seen as 'Balance pipe' in Appendix 1- Image 2 and Appendix 2- Figure 3, below).
- The balance pipe will incorporate Merit Lining manufactured pipe boots to be welded into both the pond liners, with bounded seal and stainless-steel clamps for pipe boot interface.

Separation distances

The nearest residential receptor is located about 1 km south-west from the proposed operations and the nearest residential development is located about 3 km north-west from the premises. The premises is surrounded by specified ecosystems, waterbodies, geomorphic wetlands, and is subject to the *Rights in Water and Irrigation Act 1914* and the Environmental Protection Peel Inlet – Harvey Estuary Policy 1992.

The premises is located within a high-risk area with a separation distance from surface to groundwater of about 2 m. For further information on separation distances which are considered in this report, please refer to the original licence assessment.

Consultation

The Shire of Murray advises it supports the application given that the works and regulatory controls will minimise, mitigate and manage environmental and public health risks, especially groundwater contamination. The Shire also advises it continues to receive regular nuisance odour complaints about the Nambelup precinct.

Risk assessment

The table below describes the risk events associated with the amendments consistent with the *Guidance Statement: Risk Assessments* (DER 2017). The table identifies whether the risk events are acceptable and tolerated, or unacceptable and not tolerated, and the appropriate treatment and degree of regulatory control, where required.

Risk Event				Consequence rating ¹	Likelihood rating ¹	Risk ¹	Reasoning	Regulatory controls
Source/ Activities	Potential emissions	Potential receptors, pathway and impact	Licence holder controls					
Construction								
Reinstatement of Facultative pond 3	Noise and fugitive dust associated with machinery movements, construction works and civil excavation earthworks, etc.	Unreasonable interference with the amenity of nearby sensitive receptors (1 km+)	Minimal construction works as the pond was decommissioned in 2021 Pond is existing and will reflect the same size, just needs to be reinstated	Low level impacts to amenity on local scale Minor	Likely to occur only in exceptional circumstances Rare	Low Acceptable, not subject to controls	The relining works, which are expected to be of short duration, are not expected to result in any significant increase in noise or dust impacts from existing operations.	<u>Licence controls:</u> None specified.
	Spills and overtopping of leachate contaminated waste (water and runoff (from effluent and manure, urine etc.) from the transfer of effluent from pond 5 to pond 3 and the installation of a balance pipe between pond 3 and pond 5	Contamination of soil, and seepage/infiltration causing shallow groundwater contamination	The balance pipe will only be run through the pond wall from pond 3 to about a metre from pond 5. Pond 5 will be pumped into pond 3 until the level is about 300mm below where the new balance pipes height outlet will be set. The last meter of the balance pipe will be installed with bonded seal and stainless-steel clamps for pipe boot interface.	Mid-level on-site impacts Low-level off-site impacts on local scale Moderate	Not likely to occur in most circumstances Unlikely	Medium Acceptable, subject to regulatory controls	The applicant's method of lowering the water level of pond 5 prior to installing the balance pipe, will reduce the likelihood of leachate contaminating nearby soil /groundwater during construction. The balance pipe will be installed in a staged approach to ensure pond 5 levels do not intervene with the extrusion welder and installation of the pond 5 pipe boot interface. Risks are posed from the transferring of wastewater from pond 5 to pond 3 and therefore additional controls have been added on the licence to mitigate potential harm to the environment.	<u>Licence controls:</u> All wastewater must be contained within pumps which are free from leaks/spills, during the transfer of wastewater to and from ponds.
Operation								
Facultative pond 3	Spills and overtopping of leachate contaminated waste(water) and runoff (from effluent and manure, urine etc.) from operation of WWTS	Contamination of soil, and seepage/infiltration on to shallow groundwater contamination from overtopping of ponds	1.5 mm HDPE liner Balance pipe will be constructed in accordance with manufacturer's standards and will incorporate a Merit Lining manufactured pipe boots which will be welded into both pond liners, with bonded seal and stainless-steel clamps for pipe boot interface Balance pipe will prevent likelihood of overtopping and discharges	Mid-level on-site impacts Low-level off-site impacts on local scale Moderate	Not likely to occur in most circumstances Unlikely	Medium Acceptable, subject to regulatory controls	The premises is located within seasonally waterlogged areas and is surrounded by multiple use wetlands and surface water courses, with a small separation distance to groundwater (about 2m). The premises location therefore poses high risks associated with the operation of facultative pond 3. Given the sensitive location, the proposal to install a 1.5 mm HDPE liner is considered to be the minimum requirement to ensure there is an acceptable risk of impacts to shallow groundwater. It can be noted also that the area where the ponds are located has originally been built upwards to create a bigger separation distance from the underlying groundwater. The WWTS ponds are all connected and are designed to flow from one to the next. This method reduces risks associated with overtopping and spills from rare extreme rainfall events. The WWTS overall has been designed to ensure there is sufficient capacity to manage volumes of wastewater generated from full operations. The decommissioning of pond 2 is of equivalent volume to pond 3 and therefore does not change or reduce the overall WWTS capacity. Based on this information, the delegated officer considers that pond 3 can be managed to prevent harm to the environment, in accordance with the applicant implementing their proposed controls and complying with additional regulatory controls on the licence.	<u>Licence controls:</u> 1.5 mm HDPE liner installed in accordance with manufacturer's standards Pond must be free from leaks at all times Regular visual inspections of WWTS to prevent overtopping
		Uncontrolled discharge/runoff, causing soil, shallow groundwater, or surface water contamination	WWTS is designed for ponds to flow from one to the next with storage in final evaporation pond. WWTS has been designed with sufficient capacity to manage expected volumes of water generated under full operations.	Mid-level on-site impacts Low-level off-site impacts on local scale Moderate	Likely to occur only in exceptional circumstances Rare	Medium Acceptable, subject to regulatory controls		
	Odour from operation of pond and de-sludging	Unreasonable interference with the health, welfare, convenience, comfort, or amenity of nearby sensitive receptors (1 km+)	Large storage ponds for treated effluent	Mid-level on-site impacts Low-level off-site impacts on local scale Moderate	Likely to occur in most circumstances Likely	High May be acceptable subject to multiple regulatory controls		

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

Decision

The delegated officer has determined the proposal to reinstate and operate pond 3 as a facultative pond, will improve the facility's ability to manage wastewater and is not considered to significantly alter the previously assessed risk of activities on the premises.

The proposal will result in changes to the storage and flow of wastewater within ponds.

The delegated officer has determined to impose additional regulatory controls where activities pose higher risks, to mitigate potential harm to the environment and public health. Additional regulatory controls have been included to ensure that wastewater is managed to reduce contamination risks of underlying shallow groundwater and odour is mitigated to prevent nuisance to nearby residential receptors.

Works and compliance conditions have been added to the existing licence regarding design and construction specifications of facultative pond 3, and post-construction certification reporting and compliance reporting requirements.

Other matters

In amending the licence, the delegated officer has also determined to make the following administrative changes:

- update condition 24 relating to annual audit compliance reporting requirements, consistent with the current DWER licence template;
- delete definitions that have the "same meaning given to that term under the EP Act", as they are considered unnecessary and redundant (due to clause (f) in the 'interpretation' section on Page 2 of the licence);
- delete conditions 16 & 17 that are now redundant as they relate to specified actions that have been completed (desludging of ponds 3 & 4, completed in 2021 and 2022); and
- extend the duration of the licence by 5 years (now expiring 26 October 2029).

Licence holder comments on draft decision

The licence holder was provided with drafts of the amended licence and this report on 2 August 2024. The applicant queried some of the liner requirements in the draft licence, in which changes were made to reflect advice/recommendations provided by the liner supplier.

Conclusion

Based on this assessment, it has been determined to amend the existing licence, subject to conditions which commensurate with the determined controls which are necessary for administration and reporting requirements.

Summary of amendments

The below table provides a summary of the proposed amendments and will act as a record of implemented changes. All proposed changes have been incorporated into the revised licence as part of the amendment process.

Condition no.	Proposed amendments
Cover page	Expiry extended to 26/10/2029
Definitions	Deleted redundant definitions for 'Approved Policy', 'Books', 'Discharge', 'Emission', 'Environmental Harm', 'Implementation Agreement or Decision', 'Pollution', 'Serious Environmental Harm', 'Unreasonable Emission', 'Waste'
	Updated definition for 'AACR'
16 & 17	Deleted, redundant conditions for desludging works that have been

	completed
22	Updated condition for AACR, consistent with current licence template
23 – 24	Works condition added
25 – 27	Works compliance reporting requirements added

References

1. Department of Environment Regulation (DER) 2017, *Guidance Statement: Risk Assessments*, Perth, Western Australia.
2. Department of Water and Environmental Regulation (DWER) 2019, *Guideline: Decision Making*, Perth, Western Australia.
3. Land Insights 21 June 2024, Application Documentation on behalf of Derby Industries Pty Ltd., *L6932/1988/11 Amendment Application*, Perth Western Australia.
4. Land Insights 23 July 2024, *RFI Response (E-mail)*, L6932/1988/11, Perth, Australia.
5. Shire of Murray 24 July 2024, *Stakeholder comments (E-mail)*, L6932/1988/11, Perth, Australia.

Appendix 1: Maps



Image 1: Premises map, sourced from L6932/1988/11, page 14 – ‘Premises Layout Map’.



Image 2: Proposed works as part of this licence amendment, sourced from Application Documentation submitted 21 June 2024, 'Attachment 3B- Proposed Activities'.

Appendix 2: Figure

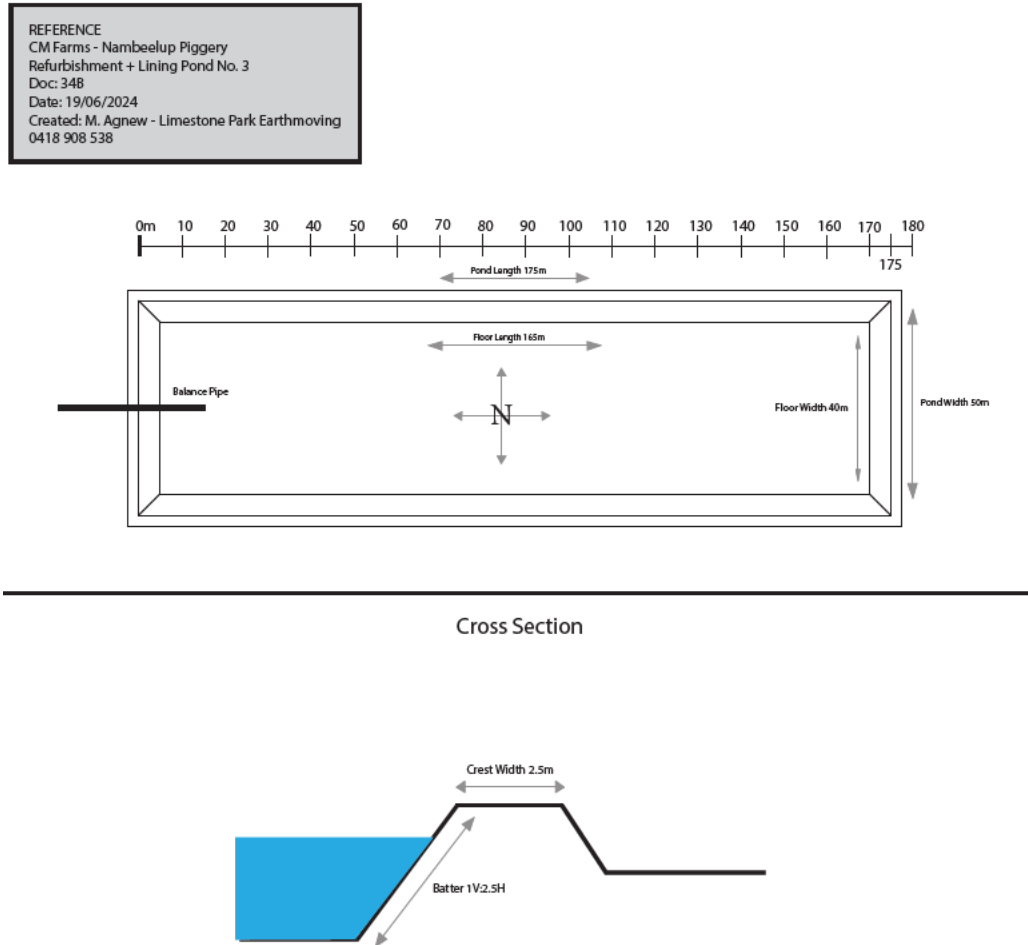


Figure 1: Pond 3 cross-section, sourced from Application Documentation submitted 21 June 2024, 'Attachment 3B-Proposed Activities'.