



Application for Works Approval

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

| | |
|------------------------------|---|
| Works Approval Number | W6736/2022/1 |
| Applicant | Lennard Waste Pty Ltd |
| ACN | 151 475 286 |
| File number | DER2022/000477 |
| Premises | Jenour Liquid Waste Facility 205 Lennard Road BUREKUP WA 6227 Being part of Lot 89 on Plan 2842 As defined by the coordinates in Schedule 2 of the works approval |
| Date of report | 19 March 2023 |
| Decision | Works approval granted |

Steve Checker

MANAGER WASTE INDUSTRIES

REGULATORY SERVICES

an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

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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 W6736/2022/1 has been granted.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this decision report, the Department of Water and Environmental Regulation (the department; DWER) 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>.

On 12 September 2022, the applicant submitted an application for a works approval to the department under section 54 of the *Environmental Protection Act 1986* (EP Act).

The application is to undertake construction works relating to liquid waste facility at the premises. The premises is approximately 6.5km southeast of Burekup townsite.

The premises relates to category 61 and assessed production / design capacity (P&DC) under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in works approval W6736/2022/1. The infrastructure and equipment relating to the premises category and any associated activities which the department has considered in line with *Guideline: Risk Assessments* (DWER 2020) are outlined in works approval W6736/2022/1.

2.2 Application summary and overview of premises

The applicant proposes to upgrade its existing LWF by installing a modular water resource recovery facility (WRRF) to replace the existing anaerobic ponds and facultative pond (primary and secondary treatment processes) operated under Licence L6610/1993/11 (L6610) which has a P&DC of 10,000kL and discharges Treated Wastewater (TWW) to a dedicated rootstock irrigation area of 1.6ha tree plantation. The WRRF is intended to allow all the TWW to be used as irrigation while still meeting the Existing Licence (L6610) loading rates specified under condition 8 Table 5 for nitrogen and phosphorus at 120kg/ha/yr and 35kg/ha/yr respectively. In addition, the existing final aerobic pond will be replaced with an additional anaerobic tank to enhance biological phosphorus removal ensuring nitrogen and phosphorus levels meet the 14 mg/L and 4 mg/L WRRF design parameters for nitrogen and phosphorus respectively to enable all TWW to be used for irrigation. Sludge from the process will be dried on the existing sludge drying beds. A schematic of the proposal is shown below as Figure 1. A description of the design of the proposed WRRF is outlined below.

Screening and Grit

Liquid waste will arrive on site in tankers as per current operations. The tankers discharge into a discharge hopper. The liquid waste then passes over a screen to separate larger solid material from the wastewater prior to entering the primary treatment system and equalisation tanks. The screenings will be placed in the sludge drying beds to dry out. The removal will take place using gravity, waterflow and mechanical forces.

Flow Balancing Tanks (Equalisation Tanks) – two 44KL tanks

The equalisation tanks store the liquid waste delivered to the premises. The equalisation tanks enable continuous flow to the downstream treatment facilities with uniform effluent characteristics and having a continuous process feed improves downstream performance. The

two tanks include a mixer to prevent the wastewater from undergoing anaerobic biological activity thereby minimising odour emissions. A self-grinding pump is used to pump a uniform characteristic effluent to the primary treatment DAF (dissolved air floatation) unit.

Fat, Oil and Grease Removal and Primary Treatment – 7.5m² DAF Unit

Primary treatment of the wastewater will occur within a compact DAF Unit for fat removal and primary settling where partial removal of suspended solids will occur. Coagulants and Flocculants will be used to improve the removal of fat and suspended solids with the unit. These will be stored in Intermediate Bulk Containers (IBC) on self-banded pallets and neither the coagulant nor flocculant are dangerous goods. It is anticipated that an IBC each of coagulant and flocculent will last approximately three (3) months. Solids removed from the DAF will be taken to the sludge drying beds for drying and disposal off-site. The liquid from the DAF unit is then sent to the secondary treatment tanks (Anoxic and Aerobic).

Secondary Treatment (Biological Nutrient Removal) – 15kL Anoxic / 15kL Aerobic tanks

The anoxic tank is devoid of molecular oxygen, but still contains nitrates in the water as the anoxic tank is used for de-nitrification and is installed prior to the aerobic process to ensure there is enough biological oxygen demand (BoD) to foster the required bacteria strains for anoxic biological treatment. Here nitrites and nitrites previously created from aeration are denitrified into inert nitrogen gas. A carbon source, such as ethanol, methanol, sodium acetate or glycerol, will be added to the anoxic tank to achieve the correct C:N:P ratio for biological nutrient removal. The carbon source will be stored in an IBC on a self-banded pallet and is anticipated to last one (1) month.

From the anoxic tank, the wastewater will flow into the aerobic tank where BoD will be reduced by bacteria and the ammonia will be converted into nitrites and nitrates. The aeration tank will include an aeration system and a recycle pump to return a portion of the wastewater to the anoxic tank. The wastewater and activated sludge (mixed liquor) is then transferred to the clarifier (secondary sedimentation tank).

Tertiary Treatment (39kL Anaerobic Tank)

An additional anaerobic tank with blowers will be added to enhance biological phosphorus removal. In this design the total nitrogen of the final effluent will be <14mg/L (Table 4). An additional media/sand filter can be added for enhanced suspended solids removal and will be located in series with the first filter.

Clarification – tank 3.4kL Lamella Clarifier

A lamella clarifier will be used to remove secondary sludge from the mixed liquor and allow the clarified wastewater to be sent to the polishing pond. The polishing pond will be a refurbishment of an existing aerobic pond. A portion of the sludge will be directed to the anoxic tank to sustain healthy biological activity. Flocculant (same as for the DAF) may be used to assist in the solids (sludge) removal.

Sand Filter with Chemical Dosing – 6 – 10 KL/hr

A sand filter with a drip-feed coagulant dosing using Ferric Chloride will be used to ensure phosphorus levels do not exceed 4 mg/L. The sand filter will also remove the remaining fine suspended solids which will improve effluent turbidity and quality. The ferric chloride will be stored in an IBC on a banded pallet. Consumption is anticipated to be less than one (1) IBC/3-months. A 1,000L backwash tank will be used regularly to backflush the sand filter.

Activated Carbon Filter – 6 – 10 KL/hr

After the sand filter there will be an activated carbon filter, which is the final step for the liquid treatment plant. The carbon filter is intended to improve some of the aesthetical parameters including colour and odour. The carbon filter also adsorbs organic compounds, further improving the quality of treated wastewater for irrigation.

Sludge Management – Sludge Drying Bed

Sludge drying reedbeds will be utilised for dewatering, stabilisation and mineralisation of the sludge (solids) with percolated water being returned to the treatment system utilising the existing sludge bed drying area. The sludge drying reedbed will consist of six lined beds in parallel. This has two functions; it allows for one bed to be continually loaded while the others dry and maintain operation when maintenance of a bed occurs. Each bed will be layered with different size media and planted with *Typha domingensis*. Wet sludge will be loaded onto the surface of the bed and percolates via gravity vertically through the media trapping the solids on the surface therefore allowing for water content from the solids to drain away via a pipe collection system in the base of the bed. The drained liquid is returned to the equalisation tanks to be reprocessed via primary and secondary treatment. Typical loading will occur for a ten (10) year period before a bed is taken off-line and the mineralised sludge is removed. The aim is to treat the sludge for reuse as a fertilizer.

Section 4.2 of the Application Form advises Commissioning and Time-limited operations are not required under the Works Approval.

Section 4.8 of the Application requests an increase in the P&DC of the Licence from 10,000 kL to 15,000 kL per annual period. The Works Approval application will be assessed at the 15,000kL P&DC and once constructed the Licence will require an application for amendment following completion of the works to increase the P&DC to facilitate the increase in irrigation volumes.

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 *Guideline: Risk Assessments* (DWER 2020).

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 premises construction / operation 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 | | | |
| <i>Dust</i> | <i>Movement of vehicles</i> | <i>Air / windborne pathway</i> | <i>Water Cart used on site Buffer distances</i> |
| <i>Noise</i> | <i>Movement of vehicles Construction of WRRF</i> | <i>Air / windborne pathway</i> | <i>All construction activities will occur Monday to Friday between 0700 and 1800. The main equipment to be used will be a; crane, bobcat / small loader, grader, excavator and portable generator. Package plant so noise is limited. Construction will not impact the existing operation of the liquid waste facility.</i> |
| <i>Spills</i> | <i>Construction of WRRF</i> | <i>Seepage to soil and groundwater</i> | <i>Additional spill kits will be provided so that any hydrocarbon spillages from construction activities are mopped up immediately. Any spill material will be placed in the sludge drying bed area.</i> |
| Operation | | | |
| <i>Dust</i> | <i>Movement of vehicles</i> | <i>Air / windborne pathway</i> | <i>Water cart. Speed restrictions.</i> |
| <i>Noise</i> | <i>Operation of WRRF</i> | <i>Air / windborne</i> | <i>Sitting.</i> |

| Emission | Sources | Potential pathways | Proposed controls |
|--|--------------------------|--|---|
| | | <i>pathway</i> | <i>Package plant so noise is limited.</i> |
| <i>Spills</i> | <i>Operation of WRRF</i> | <i>Seepage to soil, vegetation and groundwater</i> | <p><i>Storage of small volumes of WRRF</i></p> <p><i>Associated chemicals will comply with Australian Standards.</i></p> <p><i>Bunded storage area.</i></p> <p><i>Additional spill kits will be provided so that any hydrocarbon spillages from construction activities are mopped up immediately.</i></p> <p><i>Any spill material will be placed in the sludge drying bed area.</i></p> |
| <i>Odour</i> | <i>Operation of WRRF</i> | <i>Air / windborne pathway</i> | <p><i>WRRF employ tanks and containers which are sealed or closed and reduce odour.</i></p> <p><i>Properly treated wastewater should not produce significant odour.</i></p> <p><i>Inspections and maintenance.</i></p> |
| <i>Stormwater</i> | <i>Operation of WRRF</i> | <i>Seepage to soil, vegetation, groundwater and overflow to surface water bodies</i> | <p><i>Existing WRRF area has established stormwater drainage system to direct uncontaminated stormwater away.</i></p> <p><i>Uncontaminated stormwater is directed to a dam downslope for the WRRF.</i></p> <p><i>The WRRF foundations will be slightly elevated to encourage rainwater runoff into a spoon drain and directed to the existing containment lagoons (anaerobic ponds).</i></p> <p><i>Any rainwater falling on the existing sludge drying beds will drain through the drying bed media and directed via the existing drainage system to the containment lagoons (anaerobic ponds).</i></p> |
| <i>Leachate – irrigation of treated wastewater</i> | <i>Operation of WRRF</i> | <i>Seepage to soil and groundwater</i> | <p><i>WRRF employ tanks and containers which are contained (closed).</i></p> <p><i>Specified waste acceptance criteria.</i></p> <p><i>WRRF represents an improvement in TWW quality.</i></p> <p><i>Dedicated irrigation area.</i></p> <p><i>Monitoring and Reporting.</i></p> |

3.1.2 Receptors

In accordance with the *Guideline: Risk Assessment* (DWER 2020), the Delegated Officer has excluded the applicant's employees, visitors, and contractors 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 emission and discharges from the prescribed premises (*Guideline: Environmental Siting* (DWER 2020)).

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

| Human receptors | Distance from prescribed activity |
|--|--|
| Residential Premises | 1.5km west 1.8km north 2.1km west |
| Privately owned farmland | Immediately adjacent to the north and south |
| Evendon Park – Short term accommodation and Recreational use | 1.3km west |
| Environmental receptors | Distance from prescribed activity |
| Wellington National Park (Nature Reserve) | Immediately adjacent to the east |
| Minor Tributary of the Collie River | 2.2km north |
| Henty Brook | 2.2km west |
| Collie River | 2.5km north and east |
| Unnamed Lake (associated with Evendon Park) | 1.3km west |
| Groundwater | Depth to groundwater has not been identified at the Premises. Soil sampling indicates that there is approximately 3m of heavy clays to regolith with no water found to this depth. |

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) 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 W6736/2022/1 that accompanies this decision report authorises construction only. 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 works authorised under the works approval to authorise emissions associated with the WRRF operation at the premises i.e. liquid waste facility. A risk assessment for the operational phase has been included in this decision report, however licence conditions will not be finalised until the department assesses the licence application.

Table 3: Risk assessment of potential emissions and discharges from the premises during construction and operation

| Risk events | | | | | Risk rating ¹ C = consequence L = likelihood | Applicant controls sufficient? | Conditions ² of works approval / licence | Justification for additional regulatory controls |
|--|--------------------|---|---|----------------------|---|--------------------------------|---|--|
| Sources / activities | Potential emission | Potential pathways and impact | Receptors | Applicant controls | | | | |
| Construction | | | | | | | | |
| Placement of WRRF and associated equipment including vehicle movements | Dust | Air / windborne pathway causing impacts to health and amenity | Residential premises 1.5km west | Refer to Section 3.1 | C = Slight L = Unlikely Low Risk | Y | N/A The Delegated Officer has considered the separation distance between the source and receptors as a guide to inform the risk of dust emissions as not foreseeable. Dust can be adequately regulated by section 49 of the EP Act. | N/A |
| | Noise | | | Refer to Section 3.1 | C = Slight L = Unlikely Low Risk | Y | N/A The Delegated Officer has considered the separation distance between the source and receptors as a guide to inform the risk of noise emissions as not foreseeable. Noise can be adequately regulated by the EP Noise Regs. | N/A |
| | Spills | Seepage to soil, vegetation and groundwater | Unnamed lake 1.3km west Groundwater >3m deep | Refer to Section 3.1 | C = Slight L = Unlikely Low Risk | Y | Spills can be regulated under the Environmental Protection (Unauthorised) Regulations 2004. | N/A |

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| Risk events | | | | | Risk rating ¹ C = consequence L = likelihood | Applicant controls sufficient? | Conditions ² of works approval / licence | Justification for additional regulatory controls |
|---|--------------------|---|---------------------------------|----------------------|---|--------------------------------|---|--|
| Sources / activities | Potential emission | Potential pathways and impact | Receptors | Applicant controls | | | | |
| Operation | | | | | | | | |
| Operation of WRRF Incl vehicle movements | Dust | Air / windborne pathway causing impacts to health and amenity | Residential premises 1.5km west | Refer to Section 3.1 | C = Slight L = Unlikely Low Risk | Y | N/A The Delegated Officer has considered the separation distance between the source and receptors as a guide to inform the risk of dust emissions as not foreseeable. Dust can be adequately regulated by section 49 of the EP Act. | N/A |
| | Noise | | | Refer to Section 3.1 | C = Slight L = Unlikely Low Risk | Y | N/A The Delegated Officer has considered the separation distance between the source and receptors as a guide to inform the risk of noise emissions as not foreseeable. Noise can be adequately regulated by the EP Noise Regs. | N/A |
| | Odour | | | Refer to Section 3.1 | C = Slight L = Unlikely Low Risk | Y | N/A The Delegated Officer has considered the separation distance between the source and receptors as a guide to inform the risk of noise emissions as not foreseeable. Odour is regulated under s49 of the EP Act | N/A |

| Risk events | | | | | Risk rating ¹ C = consequence L = likelihood | Applicant controls sufficient? | Conditions ² of works approval / licence | Justification for additional regulatory controls |
|----------------------|--|---|---|----------------------|---|--------------------------------|--|---|
| Sources / activities | Potential emission | Potential pathways and impact | Receptors | Applicant controls | | | | |
| | Spills | Seepage to soil, vegetation and groundwater | Unnamed lake 1.3km west Groundwater >3m deep | Refer to Section 3.1 | C = Slight L = Unlikely Low Risk | Y | N/A | There are no licence conditions on Existing Licence L6610. Given the use of chemicals when operating the WRRF standard conditions to regulate spills will be included on the licence when it is amended to allow operations of the WRRF. |
| | Sediment laden stormwater | Overland runoff potentially causing ecosystem disturbance or impacting surface water quality | Unnamed lake 1.3km west Groundwater >3m deep | Refer to Section 3.1 | C = Slight L = Unlikely Low Risk | Y | N/A | There are no licence conditions on Existing Licence L6610. Given the operation of the WRRF standard conditions to regulate stormwater diversion will be included on the licence when it is amended to allow operations of the WRRF. |
| Irrigation of TWW | Leachate – treated wastewater irrigation | Overland runoff potentially causing ecosystem disturbance or impacting surface water quality and contamination of groundwater | Unnamed lake 1.3km west Groundwater >3m deep | Refer to Section 3.1 | C = Moderate L = Unlikely Medium Risk | Y | Condition 1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11, 12,13, 14, 15, 17, 19 and 20. If the Licence is amended to allow operation of the WRRF many existing licence conditions may need to be amended to reflect the change in infrastructure, operations | Refer to section 3.3 |

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| Risk events | | | | | Risk rating ¹ C = consequence L = likelihood | Applicant controls sufficient? | Conditions ² of works approval / licence | Justification for additional regulatory controls |
|----------------------|--------------------|-------------------------------|-----------|--------------------|---|--------------------------------|--|--|
| Sources / activities | Potential emission | Potential pathways and impact | Receptors | Applicant controls | | | | |
| | | | | | | | <i>and discharge. Additional licence conditions may be required when the Licence is amended (with consideration of the comments from DoH in Appendix 2) . These matters can be assessed when the Licence Amendment Application is submitted post construction of the WRRF.</i> | |

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guideline: Risk Assessments* (DWER 2020).

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

3.3 Detailed risk assessment irrigation of TWW

3.3.1 Description of emissions risk event

TWW is discharged to a dedicated rootstock irrigation area of 1.6ha tree plantation. The WRRF is intended to allow all the TWW to be used as irrigation while still meeting the existing DWER licence L6610 loading rates specified under Existing Licence condition 8 Table 5 for nitrogen and phosphorus at 120 kg/ha/yr and 35 kg/ha/yr respectively. In addition, the existing final aerobic pond will be refurbished as a wetland to provide tertiary treatment to the wastewater and ensure nitrogen and phosphorus levels meet the 14 mg/L and 4 mg/L WRRF design parameters for nitrogen and phosphorus respectively to enable all TWW to be used for irrigation. Sludge from the process will be dried on the existing sludge drying beds.

3.3.2 Identification and general characterisation of emission

The applicant proposes to upgrade its existing LWF by installing a modular WRRF to replace the existing anaerobic ponds and facultative operated under Licence L6610. The proposed WRRF will have a P&DC of 15,000kL.

The TWW will be discharged to the dedicated 1.6 ha tree plantation on the premises. The expected parameter concentrations within the TWW are contained in Table 4 below.

Table 4: TWW quality.

| Parameter | Expected concentration |
|--------------------------------|------------------------|
| Flow Rate | 15,000 kL/yr |
| Total Nitrogen – In | 100 mg/L |
| Total Phosphorus – In | 35 mg/L |
| COD | 730 mg/L |
| BOD | 290 mg/L |
| TSS | 290 mg/L |
| Total Nitrogen – Out | 14 mg/L |
| Total Phosphorus – Out | 4 mg/L |
| Available water for Irrigation | 13 500 kL/yr |

3.3.3 Description of potential adverse impact from the emission

Excess nutrient such as nitrogen and phosphorus may impact native vegetation health (growth) within tree plantation and groundwater.

3.3.4 Criteria for assessment

Department of Water and Environmental Protection Water Quality Protection Note 22 (WQPN22): Irrigation with nutrient rich wastewater.

The Applicant advises the WRRF TWW quality for nitrogen and phosphorus will be 14 mg/L and

4 mg/L respectively (Table 4). From Table 4 the volumes available for irrigation from the WRRF is 13,500 kL. The applicant has advised they will not need to amend the Existing Licence discharge limits under licence condition 8 for nitrogen and phosphorus which is 120 kg/ha/yr and 35 kg/ha/yr respectively.

Using the expected concentration data for nitrogen and phosphorus including the discharge volume of 13,500 kL to 1.6ha of land, the loading rates for nitrogen and phosphorus from the TWW is 118.13 kg/ha/year for nitrogen and 33.75 kg/ha/year for phosphorus. This is within the Existing Licence limits under condition 8 of the Licence.

It is noted that the Existing Licence has a discharge limit of 2,558 kL per annual period.

3.3.5 Applicant controls

The P&DC for the Premises is 15,000 kL which is an increase from 10,000 kL under the Existing Licence.

The WRRF is an enclosed modular plant. The exiting LWF will be decommissioned post construction of the WRRF. It is proposed that the WRRF will provide TWW at a better quality than the existing LWF.

There are no changes to the discharge points at the Premises.

There is no change to the Existing Licence conditions that regulate maximum loading rates for nitrogen and phosphorus at the premises – licence condition 8.

3.3.6 Key Findings

The Delegated Officer has reviewed the information regarding irrigation of TWW and has found:

- 1. The Applicant has applied for a works approval for the WRRF which is proposed to improve TWW quality.*
- 2. The Existing Licence has a P&DC of 10,000 kL but the P&DC of the WRRF is 15,000kL so the risk assessment has been assessed for this new P&DC.*
- 3. Using the expected concentration data for nitrogen and phosphorus including the TWW discharge volume of 13,500 kL to 1.6 ha of land, the loading rates for nitrogen and phosphorus from the TWW is 118.13 kg/ha/year for nitrogen and 33.75 kg/ha/year for phosphorus. This is less than the Existing Licence limits of 120 kg/ha/yr and 35 kg/ha/yr respectively, under condition 8 of the Licence.*
- 4. The works and potential future discharge require no change to the Existing Licence conditions that regulate maximum loading rates for nitrogen and phosphorus at the premises – licence condition 8.*
- 5. It is noted that the Existing Licence has a discharge limit of 2,558 kL per annual period.*
- 6. Existing Licence conditions regulate waste acceptance and there are no changes to wastes proposed for acceptance at the Premises.*
- 7. Existing Licence condition 4 regulates management of wastewater pond overflow and freeboard – no changes are required.*
- 8. Monitoring conditions are regulated under condition 13 of the Existing Licence.*
- 9. No soil sample data was submitted as part of the Application to assess potential impacts to soil at Premises from the discharge of TWW to the tree plantation.*

10. *The Existing Licence will require an amendment prior to operating the WRRF, the Applicant has not requested commissioning or time-limited operations under the Works Approval. It is likely no additional licence conditions are required when the Licence is amended but conditions will need to change to be reflective of operations of the new WRRF.*

3.3.7 Consequence

When irrigation of TWW occurs, the Delegated Officer has determined that the impact of irrigation will be mid-level on-site impacts, low level off-site impacts, minimal off-site wider scale impacts with Specific Consequence Criteria (for Environment) are at risk of not being met. Therefore, the Delegated Officer considers the consequence of irrigation to be **Moderate**.

3.3.8 Likelihood of Risk Event

The Delegated Officer has determined that the likelihood of irrigation of TWW could occur at some time. Therefore, the Delegated Officer considers the likelihood of Risk Event to be **Possible**.

3.3.9 Overall risk rating of TWW discharge

The Delegated Officer has compared the consequence and likelihood ratings described above with the risk rating matrix contained in Guidance Statement: Risk Assessment (DER 2017) and determined that the overall rating for the risk of excessive nutrients is **Medium**.

4. Consultation

Table 5 provides a summary of the consultation undertaken by the department.

Table 5: Consultation

| Consultation method | Comments received | Department response |
|---|--|----------------------------|
| <i>Application advertised on the department's website on 20 August 2021</i> | <i>None received</i> | <i>N/A</i> |
| <i>Local Government Authority advised of proposal on 30 October 2022</i> | <i>Shire of Dardanup provided no comment</i> | <i>N/A</i> |
| <i>Department of Health (DoH) advised of proposal 30 October 2022</i> | <i>DoH requested an extension to provide comment by 20 November 2022 and provided comment on 20 November 2022.</i> <i>Refer to Appendix 2</i> | <i>Refer to Appendix 2</i> |
| <i>Applicant was provided with draft documents on 24 February 2023.</i> | <i>Applicant provided comments on 2 March 2023</i> <i>Refer to Appendix 1</i> | <i>Refer to Appendix 1</i> |

5. Conclusion

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.

References

1. Department of Environment Regulation (DER) 2016, *Guidance Statement: Environmental Siting*, Perth, Western Australia.
2. DER 2017, *Guidance Statement: Risk Assessments*, Perth, Western Australia.
3. DER 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
4. DWER, June 2019. *Guideline: Industry Regulation Guide to Licensing*. Department of Water and Environmental Regulation, Perth.
5. DWER, June 2019. *Guideline: Decision Making*. Department of Water and Environmental Regulation, Perth.

Appendix 1: Summary of applicant's comments on risk assessment and draft conditions

| Condition | Summary of applicant's comment | Department's response |
|------------------------|--|-----------------------|
| Condition 1 Table 1 | Typographical error for KL/hr - should be L/Hr | Amended |
| | | |
| Decision Report page 2 | Typographical error for L/hr - should be kL/Hr | Amended |
| | | |

Appendix 2: Summary of Stakeholder comments

| Stakeholder | Summary of Stakeholder comment | Department's response |
|-----------------------------------|--|--|
| <p>Department of Health (DoH)</p> | <p>The DoH provides the following comment:</p> <ol style="list-style-type: none"> 1. Wastewater Disposal <p>The DoH responded to this proposal on 23 September 2022 and did not object to the proposal subject to the proponent providing updated information on the recycled water quality management plan (RWQMP).</p> <p>The DoH continues to support this proposal to improve current facilities that should meet increasing loadings and peak capacity. However, the DoH requires the peak loading and water quality criteria to be engineer certified as part of the upgrade design to ensure the proposed criteria will be met.</p> <p>The upgrading of the ponds will also require engineering certification to meet the DoH policy requirements for structural integrity. This should also be provided upon formal application along with details of pond and plant maintenance to ensure a high standard is achieved and the RWQMP should be included as part of the application.</p> <p>The DoH would appreciate assistance in determining the type of polymer used for water treatment, details of any public health risk and how this will be managed.</p> <p>The DOH does have concerns about the surface flow wetland as a form of wastewater treatment. More information will be required in design details and in the management of this to ensure it will be managed successfully. Previous wetlands used for the treatment of sewage have not been very successful in Western Australia and require diligent maintenance, as such, it is worth considering alternative options.</p> <ol style="list-style-type: none"> 2. Medical Entomology <p>The Shire of Dardanup is within a region that regularly experiences</p> | <ol style="list-style-type: none"> 1. Wastewater Disposal <p>DWER understand these comments refer to the RWQMP that has been submitted by the Applicant to DoH.</p> <p>Works Approval condition 1 sets out peak loading and emission standard requirements. These are construction requirements that will transfer to the Licence for operations. A Construction Compliance Report (CCR) is required under condition 2. The CCR must be certified by an engineer under condition 3.</p> <p>RWQMP is a DoH document for comment.</p> <p>This information can be submitted to DoH. DWER sent a Request Further Information (RFI) letter to the Applicant dated 5 January 2023 requesting information on the types of polymer and coagulant chemicals (chemicals) used for water treatment as advised in the Application based on the DoH advice. The Applicant has provided a copy and information of the chemicals in their response letter dated 25 January 2023.</p> <p>This information can be submitted to DoH. Based on the RFI letter to the Applicant 5 January 2023, outlining concerns about the suitability of the Polishing Wetland, the Applicant has re-designed the WRRF and removed the Polishing Wetland from the process. It has been replaced with an additional anaerobic tank and sand filter.</p> |

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| | <p>significant problems with nuisance and disease carrying mosquitoes. These mosquitoes are known carriers of Ross River (RRV) and Barmah Forest (BFV) viruses. Human cases of RRV and BFV diseases occur annually within the Shire of Dardanup. The subject land, however, is at a distance generally outside mosquito dispersal distance from major mosquito breeding areas associated with the Leschenault Inlet and Collie River.</p> <p>The existing Liquid Waste Facility is currently situated in an isolated area with minimal impact on nearby land uses. While the risk from mosquitoes onsite is considered low, it is best practice for the facility to include certain mosquito management strategies in the proposal:</p> <ul style="list-style-type: none"> ▪ Ensure the design of the vegetated wetland is such that water is not allowed to stagnate for a period of time longer than 4 days (96 hours). ▪ Ensure that the plant species used to vegetate the wetland do not support mosquito breeding and also do not clog the wetland over time. ▪ Ensure that vegetation maintenance occurs on a regular basis to maintain the wetland in a good condition and fit for purpose. | <p>2. Medical Entomology</p> <p>The Polishing Wetland has been removed from the WRRF process.</p> |
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Appendix 3: Application validation summary

| SECTION 1: APPLICATION SUMMARY (as updated from validation checklist) | | | | |
|---|--|--|---|-------------------------------|
| Application type | | | | |
| Works approval | <input checked="" type="checkbox"/> | | | |
| Licence | <input type="checkbox"/> | Relevant works approval number: | | None <input type="checkbox"/> |
| | | Has the works approval been complied with? | Yes <input type="checkbox"/> No <input type="checkbox"/> | |
| | | Has time limited operations under the works approval demonstrated acceptable operations? | Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> | |
| | | Environmental Compliance Report / Critical Containment Infrastructure Report submitted? | Yes <input type="checkbox"/> No <input type="checkbox"/> | |
| | | Date report received: | | |
| Renewal | <input type="checkbox"/> | Current licence number: | | |
| Amendment to works approval | <input type="checkbox"/> | Current works approval number: | | |
| Amendment to licence | <input type="checkbox"/> | Current licence number: | | |
| | | Relevant works approval number: | | N/A <input type="checkbox"/> |
| Registration | <input type="checkbox"/> | Current works approval number: | | None <input type="checkbox"/> |
| Date application received | 12 September 2022 | | | |
| Applicant and premises details | | | | |
| Applicant name/s (full legal name/s) | Lennard Waste Pty Ltd | | | |
| Premises name | Jenour Liquid Waste Facility | | | |
| Premises location | Part of Lot 89 on Plan 2842 205 Lennard Road BUREKUP WA 6227 | | | |
| Local Government Authority | Shire of Dardanup | | | |
| Application documents | | | | |
| HPCM file reference number: | DER2022/000477 | | | |
| Key application documents (additional to application form): | Application Form Works Approval Application Supporting Document | | | |
| Scope of application/assessment | | | | |
| Summary of proposed activities or changes to existing operations. | Works Approval Construction of Water Resource Recovery Facility (WWRF). | | | |

SECTION 1: APPLICATION SUMMARY (as updated from validation checklist)

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

Table 1: Prescribed premises categories

| Prescribed premises category and description | Assessed production or design capacity | Proposed changes to the production or design capacity (amendments only) |
|---|--|---|
| Category 61: Liquid waste facility: premises on which liquid waste produced on other premises (other than sewage waste) is stored, reprocessed, treated or irrigated. | 15,000 kilolitres per annual period. | N/A |
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Legislative context and other approvals

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| 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 <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"/> |
| Does the applicant hold any existing Part IV Ministerial Statements relevant to the application? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Ministerial statement No: EPA Report No: |
| Has the proposal been referred and/or assessed under the EPBC Act? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Reference No: |
| Has the applicant demonstrated occupancy (proof of occupier status)? | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | Certificate of title <input type="checkbox"/> General lease <input type="checkbox"/> Expiry: Mining lease / tenement <input type="checkbox"/> Expiry: Other evidence <input type="checkbox"/> Expiry: |
| Has the applicant obtained all relevant planning approvals? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A <input type="checkbox"/> | Approval: Expiry date: Planning Approval is pending DoH approval has been previously granted. |
| Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | CPS No: N/A No clearing is proposed. |
| Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Application reference No: N/A Licence/permit No: N/A No clearing is proposed. |

SECTION 1: APPLICATION SUMMARY (as updated from validation checklist)

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| <p>Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?</p> | <p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p> | <p>Application reference No: Licence/permit No: Licence / permit not required.</p> |
| <p>Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?</p> | <p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p> | <p>Name: N/A Type: Proclaimed Groundwater Area/Surface Water Area Has Regulatory Services (Water) been consulted? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> Regional office: Swan Avon / Mid-West Gascoyne / Kwinana Peel / North West / South West / Goldfields / South Coast</p> |
| <p>Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?</p> | <p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p> | <p>Name: N/A Priority: P1 / P2 / P3 / N/A Are the proposed activities/ landuse compatible with the PDWSA (refer to <u>WQPN 25</u>)? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> Note: If the proposed activity is not listed as a compatible land use with the PDWSA please consult with the relevant regional office (Regulatory Services - Water) and Water Source Protection (Science and Planning).</p> |
| <p>Is the Premises subject to any other Acts or subsidiary regulations (e.g. <i>Dangerous Goods Safety Act 2004, Environmental Protection (Controlled Waste) Regulations 2004, State Agreement Act xxxx</i>)</p> | <p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p> | <p>If Yes include details here.</p> |
| <p>Is the Premises within an Environmental Protection Policy (EPP) Area?</p> | <p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p> | <p>If Yes include details of which EPP(s) here.</p> |
| <p>Is the Premises subject to any EPP requirements?</p> | <p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p> | <p>If Yes, include details here, e.g. Site is subject to SO₂ requirements of Kwinana EPP.</p> |

SECTION 1: APPLICATION SUMMARY (as updated from validation checklist)

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| <p>Is the Premises a known or suspected contaminated site under the <i>Contaminated Sites Act 2003</i>?</p> | <p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p> | <p>If Yes include details here.</p> <p>Classification: N/A / possibly contaminated – investigation required (PC-IR) / not contaminated – unrestricted use (NC-UU) / contaminated – restricted use (C-RU) / remediated for restricted use (RRU) / contaminated – remediation required (C-RR) / decontaminated (Decon)</p> <p>Date of classification: N/A</p> |
|---|--|---|