



Application for Licence Amendment

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

Licence Number	L5972/1992/14
Licence Holder	Water Corporation
File Number	DWERVT15817
Premises	Bunbury Water Resource Recovery Facility Access via Ocean Drive DALYELLUP WA 6230 Legal description – Part of Lot 5262 on Deposited Plan 183085 Certificate of Title Volume LR3149 Folio 938 As defined by the coordinates in Schedule 2 of the revised licence
Date of Report	20 December 2024
Decision	Revised licence granted

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

Table of Contents

1. Decision summary	3
2. Scope of assessment	3
2.1 Regulatory framework	3
2.2 Application summary	3
2.3 Part IV of the EP Act	4
3. Risk assessment	4
3.1 Source-pathways and receptors	4
3.1.1 Emissions and controls	4
3.1.2 Receptors	5
3.2 Risk ratings	9
4. Consultation	15
5. Conclusion	15
5.1 Summary of amendments	15
Appendix 1: Summary of licence holder's comments on risk assessment and draft conditions	18
Table 1: Licence holder controls	5
Table 2: Sensitive human and environmental receptors and distance from prescribed activity	6
Table 3. Risk assessment of potential emissions and discharges from the Premises during construction and operation	10
Table 4: Consultation	15
Table 5: Summary of licence amendments	15
Figure 1: Distance to sensitive receptors	8

1. Decision summary

Licence L5972/1992/14 is held by Water Corporation (licence holder) for the Bunbury Water Resource Recovery Facility (the premises), located within Lot 5262 Ocean Drive, Dalyellup.

This amendment report documents the assessment of potential risks to the environment and public health from proposed changes to the emissions and discharges during the operation of the premises. As a result of this assessment, revised licence L5972/1992/14 has been granted.

The revised licence issued as a result of this amendment consolidates and supersedes the existing licence previously granted in relation to the premises.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this amendment 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

On 5 August 2024, the licence holder submitted an application to the department to amend licence L5972/1992/14 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). The following amendments are being sought:

- construction of two sludge drying beds; and
- operation of sludge drying beds to desludge the existing two balancing ponds.

Balancing ponds are used to store treated wastewater prior to discharge to the Indian Ocean at the facility's discharge outlet. Suspended solids that have carried over into the balancing ponds from the sequencing batch reactors requires removal (desludging).

Desludging (via dredging) will occur for a one-off time period for a duration of 2 to 3 weeks and the balancing ponds will remain operational during desludging. A floating dredge will be located on the balancing ponds to remove sludge and a dredge pump will be used to transfer sludge via a lay-flat hose into the geobags within the sludge drying beds. During dredging activities, a polymer dosing unit will be placed within the geobag laydown area and will be used to add polymer (cationic polyacrylamide emulsion) to the sludge to enhance the dewatering process.

The removed sludge is to be stored within geobags in newly constructed temporary sludge drying beds and will be removed to a facility licensed to accept the waste, when dried, which is expected to take approximately 12 to 18 months. The sludge drying beds will be decommissioned when the dried sludge has been removed to a licensed facility.

Leachate released from stored geobags, will flow into a sump and will be gravity fed back to the balancing ponds via a 100 mm PVC pipeline.

Two sludge drying beds will be constructed:

1. Lower geobag laydown area of 8 m by 24 m in size, to store sludge with a high sand content and designed to accept approximately 20-50 dry tonnes of sludge.
2. Upper geobag laydown area of 24 m by 24 m in size, to store lighter sludge and designed to accept approximately 50-120 dry tonnes of sludge.

There are currently no sludge drying beds on site as waste activated sludge from the four sequencing batch reactors is mechanically dewatered. Once dewatered, solids are removed to a licensed facility.

Construction of sludge drying beds is expected to take 2 weeks to complete and dredging of sludge from the balancing ponds is expected to last for a 2 to 3 week duration.

2.3 Part IV of the EP Act

The applicant holds an existing Part IV Ministerial Statement (MS) No. 000572, EPA Report No. 1302.

The MS relates to the construction and operation of the effluent discharge point (ocean outlet) and related infrastructure, and to the quality of water discharged to the ocean outlet through the ocean outlet pipeline into the Indian Ocean.

EPA Report No. 1302 specifies that lagoons 1 and 2 (now named the balancing ponds) are to be lined and that they are required to reduce the quantity of bacteria and suspended solids in treated wastewater to further improve water quality prior to discharge to the ocean outlet.

Wastewater treatment processes occurring within the premises are beyond the scope of MS 572, although wastewater treatment processes affect the ability to meet the water quality requirements set out in MS 572.

Desludging activities proposed in this amendment are not subject to MS 572 requirements, although the balancing pond liner integrity is to be considered when carrying out activities in the balancing ponds that may damage the liner.

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 and operation which have been considered in this amendment report are detailed in Table 1 below. Table 1 also details the control measures the licence holder has proposed to assist in controlling these emissions, where necessary.

Table 1: Licence holder controls

Emission	Sources	Potential pathways	Proposed controls
Dust	Vehicle movements and earthworks	Air/windborne pathway	– No controls proposed. Works are minor and of limited duration.
Noise	Vehicle movements and earthworks	Air/windborne pathway	
Leachate	<p>Storage of geobags containing sludge within sludge drying beds</p> <p>Spillage of sludge outside containment infrastructure during dredging activities</p> <p>Liner, sump or pipeline leaks or defects</p> <p>Damage to balancing pond liner during dredging activities</p>	Seepage to soil and groundwater	<ul style="list-style-type: none"> – Dredging depth controlled using depth guides on the floating dredge unit cutter device to prevent damage to balancing pond liner during dredging activities. – Sludge drying beds will have a 1:40 slope to ensure leachate flows towards a sump (depression) within the geobag laydown area. Leachate will flow into the leachate pipeline which directs leachate back to the balancing ponds. – 200 µm plastic liner with a permeability of $\leq 10^{-9}$ m/s installed within sludge drying beds. – Plastic liner sealed around leachate drain pipework to prevent leachate being released to the surrounding environment. – Sludge drying bed liners are to be disposed of to a licensed landfill facility upon decommissioning.
Odour	<p>Storage of geobags containing sludge within sludge drying beds</p> <p>Spillage of sludge outside containment infrastructure during dredging activities</p>	Air/windborne pathway	– Desludging area to be inspected daily for presence of odour emissions and lime additives will be applied to the geobags if odour emissions are unacceptable.

3.1.2 Receptors

In accordance with the *Guideline: Risk assessments* (DWER 2020), the Delegated Officer has excluded employees, visitors and contractors of the licence holder’s 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: - Dalyellup - Usher	<p>The suburb of Usher is northeast of the premises. The closest residential property is 687 m northeast, measured from the northeastern corner of the prescribed premises boundary to the southwestern corner of the property cadastral boundary.</p> <p>The suburb of Dalyellup is east, southeast and south of the premises. The closest residential property is 360 m southeast, measured from the southeastern corner of the prescribed premises boundary to the southwestern corner of the property cadastral boundary.</p>
Environmental receptors	Distance from prescribed activity
Kalgulup Regional Park	Bordering the premises on the eastern and northern premises boundaries. Contains threatened and critically endangered TEC's and threatened and priority flora and fauna.
Geomorphic Wetlands – Swan Coastal Plain	<p>Multiple use dampland basin approximately 800 m south measured from the south-eastern corner of the prescribed premises boundary to the northern wetland boundary.</p> <p>Note: the closest wetlands to the east are multiple use damplands and palusplain wetlands located approximately 1.8 km east and northeast of the premises, measured from the eastern premises boundary.</p>
Threatened Ecological Communities: Critically Endangered (<i>Biodiversity Conservation Act 2016</i>) and Priority 3	<p>Priority 3 Threatened Ecological Communities are located within and surrounding the premises to the north, east and southeast.</p> <p>Critically Endangered Threatened Ecological Communities within 2 km of premises boundary.</p>
PDWSA Priority 3 - Bunbury Water Reserve CAWS Act	Bunbury Water Reserve is within and surrounding the premises and the Bunbury Water Reserve Wellhead Protection Zone is 28 m east, measured from the centre of the eastern premises boundary to the nearest wellhead protection zone boundary.
Bunbury Groundwater Area RIWI Act (under review)	<p>Bunbury Groundwater Area is within and surrounding the premises boundary.</p> <p>Depth to groundwater within the prescribed premises boundary ranges from 10 to 45 m AHD.</p>
Threatened and Priority Flora	Closest sighting with 400 m of premises boundary. 6 threatened and priority flora located within approximately 1 km of the premises.
Threatened and Priority Fauna	<p>Critically Endangered Mammals - 56 recorded within 1 km of premises boundary.</p> <p>Specially Protected Conservation Dependent Mammals - 4 recorded with 1 km of premises boundary.</p> <p>Priority Fauna – 3 recorded within 1 km of premises boundary.</p> <p>Threatened / Endangered Bird – 1 recorded within 1 km of premises boundary.</p>

<p>Groundwater users</p>	<p>Three Shire of Capel bores GWL111211:</p> <ul style="list-style-type: none"> - PB10 Drawpoint 019422 is 438 m southeast; - PB8 Drawpoint 019421 is 590 m south-southeast; and - D26S Monitoring Bore Drawpoint 173366 is 542 m south <p>Bores measured from the southeastern corner of the prescribed premises boundary.</p> <p>Note that bores within the prescribed premises, Water Corporation bores (within the premises and 310 m east) and groundwater bores beyond 1 km are omitted.</p>
<p>Indian Ocean</p>	<p>Shoreline is approximately 40 m west, measured from the western premises boundary.</p>



Figure 1: Distance to sensitive receptors

Licence: L5972/1992/14

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) for those emission sources which are proposed to change and takes into account potential source-pathway and receptor linkages as identified in Section 3.1. Where linkages are incomplete they have not been considered further in the risk assessment.

Where the licence holder 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 licence holder's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the licence as regulatory controls.

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

The revised licence L5972/1992/14 that accompanies this amendment report authorises emissions associated with the operation of the premises i.e. category 54 and 61 activities.

The conditions in the revised licence have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

Table 3. Risk assessment of potential emissions and discharges from the Premises during construction and operation

Risk Event					Risk rating ¹ C = consequence L = likelihood	Licence Holder's controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls
Source / Activities	Potential emission	Potential pathways and impact	Receptors	Licence Holder's controls				
Construction								
Construction of sludge drying bed infrastructure	Dust		Usher residents (closest property is ~687 m northeast)	Refer to Section 3.1.1	C = Slight L = Unlikely Low Risk	Y	N/A	Construction works are minor and of limited duration; therefore, the Delegated Officer considers dust emissions to be adequately regulated by the general provisions of the EP Act.
Vehicle movements								
Installation of leachate pipeline (above ground PVC pipelines)	Noise	Air/windborne pathway causing impacts to health and amenity	Dalyellup residents (closest property is ~360 m southeast) Recreational users of Kalgulup Regional Park – adjacent north and east	Refer to Section 3.1.1	C = Slight L = Unlikely Low Risk	Y	N/A	Due to the limited duration and timing of works, the Delegated Officer considers noise emissions to be adequately managed by the provisions of <i>the Environmental Protection (Noise) Regulations 1997</i> .
Dredging equipment and polymer dosing equipment installation								
Operation								
Sludge storage (in geobags) within sludge drying beds	Odour	Air/windborne pathway causing impacts to health and amenity	Usher residents (closest property is ~687 m northeast) Dalyellup residents (closest property is ~360 m southeast) Recreational users of Kalgulup Regional Park – adjacent north and east	Refer to Section 3.1.1	C = Minor L = Unlikely Medium Risk	Y	Condition 5	Condition 5 and lime application have been proposed by the licence holder to control potential odour emissions. Sludge has the potential to be odourous and as the closest residential premises is within 400 m and Kalgulup Regional Park is adjacent to the premises, condition 5 has been added to ensure odour emissions are identified and managed to prevent odour leaving the premises boundary.

Risk Event					Risk rating ¹	Licence Holder's controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls
Source / Activities	Potential emission	Potential pathways and impact	Receptors	Licence Holder's controls	C = consequence L = likelihood			
Sludge storage (in geobags) within sludge drying beds	Leachate containing contaminants, polyacrylamide emulsion and excess nutrients	<p>Seepage to soil and groundwater potentially impacting vegetation and causing ecosystem disturbance</p> <p>Migration of contaminants to groundwater impacting groundwater bore quality and drinking water quality</p> <p>Migration to Indian Ocean via groundwater flow</p>	<p>Bunbury Water Reserve P3 within premises boundary and Bunbury wellhead protection zone 28 m east</p> <p>Bunbury Groundwater Reserve within premises boundary</p> <p>Geomorphic wetlands of the Swan Coastal Plain – closest 800 m south</p> <p>Groundwater users – closest Shire of Capel bore is 438 m southeast</p> <p>Threatened / priority flora and fauna within 1 km</p> <p>TEC's within and adjacent to the premises</p> <p>Indian Ocean ~40 m west</p>	Refer to Section 3.1.1	<p>C = Minor</p> <p>L = Unlikely</p> <p>Medium Risk</p>	N	<p><u>Conditions 1 and 4</u></p>	<p>Condition 1 ensures sludge drying bed infrastructure is installed and constructed to specifications required to contain sludge within the containment infrastructure, mitigating the risk of spills, leaks and overtopping.</p> <p>Condition 1 sludge drying bed liner specifications and the compacted base requirement ensures that sludge and sludge leachate is contained within the sludge drying beds and does not enter soil or groundwater.</p> <p>The minimum 500mm high bunding requirement and sludge storage volume limits specified in condition 1 prevent overtopping / release of sludge outside the designated containment area (sludge drying beds).</p> <p>Condition 4 ensures that the integrity of the sludge drying bed liners are maintained for the duration of operation and ensures leachate pipeline drainage infrastructure is maintained to contain sludge and sludge leachate within the specified infrastructure at all times.</p> <p>The condition 1 sludge drying bed requirements relating to sludge drying bed drainage ensure that all sludge leachate drains towards the sump / depression that connects to the leachate pipeline, directing leachate back to the balancing ponds via gravity.</p> <p>The risks associated with storage of sludge have only been assessed for sludge originating from the balancing ponds; therefore condition 4 specifies that only sludge from the balancing ponds is to be stored within the sludge drying beds.</p>

Risk Event					Risk rating ¹	Licence Holder's controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls
Source / Activities	Potential emission	Potential pathways and impact	Receptors	Licence Holder's controls	C = consequence L = likelihood			
Draining of leachate from sludge drying beds to balancing ponds via leachate pipeline	Leachate containing contaminants, polyacrylamide emulsion and excess nutrients due to pipeline leaks / defects.	<p>Seepage to soil and groundwater potentially impacting vegetation and causing ecosystem disturbance</p> <p>Migration of contaminants to groundwater impacting groundwater bore quality and drinking water quality</p> <p>Migration to Indian Ocean via groundwater flow</p>	<p>Bunbury Water Reserve P3 within premises boundary and Bunbury wellhead protection zone 28 m east</p> <p>Bunbury Groundwater Reserve within premises boundary</p> <p>Geomorphic wetlands of the Swan Coastal Plain – closest 800 m south</p> <p>Groundwater users – closest Shire of Capel bore is 438 m southeast</p> <p>Threatened / priority flora and fauna within 1 km</p> <p>TEC's within and adjacent to the premises</p> <p>Indian Ocean ~40 m west</p>	Refer to Section 3.1.1	<p>C = Minor</p> <p>L = Unlikely</p> <p>Medium Risk</p>	N	<p>Conditions 1, 4 and 15</p>	<p>Condition 1 specifications relating to leachate pipeline construction mitigate the risk of leachate emissions impacting sensitive receptors resulting from pipeline leaks and defects.</p> <p>Specifications within conditions 1 and 4 ensure that leachate is contained within either the sludge drying bed, leachate pipeline or balancing ponds only and does not discharge into the soil or groundwater.</p> <p>Condition 4 ensures that any leachate pipeline defects are identified and repaired to avoid discharge of leachate to the environment resulting from pipeline faults.</p> <p>Prompt removal and remediation of spills mitigates the risk of impacts to sensitive receptors resulting from leachate seepage to soil and groundwater in the event that pipeline defects result in spillage of leachate.</p> <p>Condition 15 of the existing licence requires the licence holder to monitor treated wastewater water quality parameters at the discharge weir before it is discharged to the ocean outfall; therefore any alteration to existing treated wastewater chemistry resulting from contaminants within the sludge drying bed leachate (that has been returned to the balancing ponds) will be identified and actioned to mitigate potential impacts to the aquatic environment.</p>

Risk Event					Risk rating ¹	Licence Holder's controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls
Source / Activities	Potential emission	Potential pathways and impact	Receptors	Licence Holder's controls	C = consequence L = likelihood			
Dredging activities – dredging of sludge from balancing ponds into geobags	Odour	Air/windborne pathway causing impacts to health and amenity	Usher residents (closest property is ~687 m northeast) Dalyellup residents (closest property is ~360 m southeast) Recreational users of Kalgulup Regional Park – adjacent north and east	Refer to Section 3.1.1	C = Slight L = Unlikely Low Risk	Y	Conditions 1, 4 and 5	Conditions 1 and 4 relating to dredging equipment and dredging hose requirements reduce the likelihood of odour emissions resulting from spills and leaks during dredging activities. The addition of condition 5, as proposed by the licence holder, is deemed sufficient to manage the risk.
Dredging activities – dredging of sludge from balancing ponds into geobags	Leachate containing contaminants and excess nutrients - due to unintentional spillage from dredging hoses, or damage to balancing pond liners during dredging activities	Seepage to soil and groundwater potentially impacting vegetation and causing ecosystem disturbance Migration of contaminants to groundwater impacting groundwater bore quality and drinking water quality Migration to Indian Ocean via groundwater flow	Bunbury Water Reserve P3 within premises boundary and Bunbury wellhead protection zone 28 m east Bunbury Groundwater Reserve within premises boundary Groundwater users – closest Shire of Capel bore is 438 m southeast Threatened / priority flora and fauna within 1 km TEC's within and adjacent to the premises Indian Ocean ~40 m west	Refer to Section 3.1.1	C = Minor L = Unlikely Medium Risk	N	Conditions 1, 4 and 24	Condition 24 desludging reporting requirement is proposed by the licence holder and has been added to the licence to inform the department of the timing of potential emissions that may occur during desludging works. Condition 1 requirements relating to dredging are included to mitigate the risk of leaks and spills resulting from dredging equipment defects or faults. Condition 4 specifications relating to dredging depth are proposed by the licence holder. In the event that the pond liner is damaged, the risk of emissions altering groundwater chemistry and subsequently impacting sensitive receptors would increase above those proposed in the original risk assessment. Balancing pond liner repair required under condition 4, ensures the integrity of the balancing pond liner is retained following dredging activities.

Decommissioning of sludge drying beds	Leachate containing contaminants, polyacrylamide emulsion and excess nutrients	<p>Seepage to soil and groundwater potentially impacting vegetation and causing ecosystem disturbance</p> <p>Migration of contaminants to groundwater impacting groundwater bore quality and drinking water quality</p> <p>Migration to Indian Ocean via groundwater flow</p>	<p>Bunbury Water Reserve P3 within premises boundary and Bunbury wellhead protection zone 28 m east</p> <p>Bunbury Groundwater Reserve within premises boundary</p> <p>Groundwater users – closest Shire of Capel bore is 438 m southeast</p> <p>Threatened and priority flora and fauna within 1 km</p> <p>TEC's within and adjacent to the premises</p> <p>Indian Ocean ~40 m west</p>	Refer to Section 3.1.1	<p>C = Minor</p> <p>L = Unlikely</p> <p>Medium Risk</p>	N	Conditions 4 and 24	<p>Condition 4 ensures all leachate and sludge is removed from the sludge drying beds prior to decommissioning and that any remaining waste is removed from the premises to a licensed facility.</p> <p>Decommissioning will occur for a limited duration at a point in time not yet determined; therefore, the Delegated Officer has specified a 14 day CEO notification prior to decommissioning as a regulatory control.</p>
	Dust	Air/windborne pathway causing impacts to health and amenity	<p>Usher residents (closest property is ~687 m northeast)</p> <p>Dalyellup residents (closest property is ~360 m southeast)</p> <p>Recreational users of Kalgulup Regional Park – adjacent north and east</p>	Refer to Section 3.1.1	<p>C = Slight</p> <p>L = Unlikely</p> <p>Low Risk</p>	Y	N/A	Decommissioning works are minor and of limited duration; therefore, the Delegated Officer considers dust emissions to be adequately regulated by the general provisions of the EP Act.
	Noise	Air/windborne pathway causing impacts to health and amenity	<p>Usher residents (closest property is ~687 m northeast)</p> <p>Dalyellup residents (closest property is ~360 m southeast)</p> <p>Recreational users of Kalgulup Regional Park – adjacent north and east</p>	Refer to Section 3.1.1	<p>C = Slight</p> <p>L = Unlikely</p> <p>Low Risk</p>	Y	N/A	Decommissioning works are minor and of limited duration; therefore, the Delegated Officer considers noise emissions to be adequately managed by the provisions of the <i>Environmental Protection (Noise) Regulations 1997</i> .

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

Note 2: Proposed Licence Holder's controls are depicted by standard text. **Underline text** depicts additional regulatory controls imposed by department.

4. Consultation

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

Table 4: Consultation

Consultation method	Comments received	Department response
Shire of Capel advised of proposal on 17/09/2024	None received	N/A
Licence Holder was provided with draft amendment on 13 November 2024	Refer to Appendix 1	Refer to Appendix 1

5. Conclusion

Based on the assessment in this amendment report, the Delegated Officer has determined that a revised licence will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

5.1 Summary of amendments

Table 5 provides a summary of the proposed amendments and will act as record of implemented changes. All proposed changes have been incorporated into the revised licence as part of the amendment process.

Table 5: Summary of licence amendments

Condition no.	Proposed amendments
Entire document	'Shall' updated to 'must' consistent with current licensing format. Licence updated to revised licensing format and wording. Grammatical and unintentional clerical errors corrected.
N/A Cover page	Registered business address updated DWER file number updated Date of amendment added Premises details updated
N/A Licence History Table	Updated to include this amendment.
Condition 1 Table 1	Sludge drying bed design and construction / installation requirements added to row 2 of Table 1. Leachate pipeline and sump design and construction / installation requirements added to row 3 of Table 1. Dredging equipment and dredging hose installation requirements added to row 4 of Table 1.

Condition 4 Table 2	Condition added to specify infrastructure and equipment operational requirements.
Condition 5	Condition added.
Condition 6 Table 3	Previously condition 4, Table 2. Reference to tables updated to reflect new table numbering.
Condition 7	Previously condition 5. 'Shall' reworded to 'does' to reflect current licensing wording.
Condition 8	Previously condition 6.
N/A Emissions and discharges heading	Heading amended from 'emissions' to 'emissions and discharges' as per revised licensing format.
Condition 9 Table 4	Previously condition 7, Table 3. Reference to tables updated to reflect new table numbering.
Condition 10 Table 5	Previously condition 8, Table 4. Reference to tables updated to reflect new table numbering.
Condition 11 Table 6	Previously condition 9, Table 5. Reference to tables and conditions updated to reflect new table numbering.
Condition 12	Previously condition 10.
Condition 13	Previously condition 11.
Condition 14	Previously condition 12.
Condition 15 Table 7	Previously condition 13, Table 6. Reference to table updated to reflect new table numbering.
Condition 16 Table 8	Previously condition 14, Table 7. Reference to table updated to reflect new table numbering.
Condition 17 Table 9	Previously condition 15, Table 8. Reference to table updated to reflect new table numbering.
Condition 18 Table 10	Previously condition 16, Table 9. Reference to table updated to reflect new table numbering.
N/A Information heading	'Information' heading replaced with 'Records and reporting' as per revised licensing format.
Condition 20	Replaces condition 17. Reporting conditions updated to revised licensing format and wording.

Condition 21	Replaces condition 17. Reporting conditions updated to revised licensing format and wording.
Condition 22	Replaces condition 18. Condition updated to revised licensing format and wording.
Condition 23 Table 11	Replaces condition 20. Condition updated to revised licensing format and wording. Table 11 previously Table 10. References to conditions and tables updated to reflect new numbering.
Condition 24 Table 12	Previously condition 21, Table 11. Reference to table updated to reflect new table numbering. Desludging event notification requirement added to Row 3 of Table 12. 'or form ¹ ' deleted from Column 5 heading in Table 12. Pollutionwatch@dwer.wa.gov.au updated to environmentwatch@dwer.com.au to reflect current email address. Sludge drying bed decommissioning notification requirement added to Row 4 of Table 12. Leachate pipeline and sump design and construction / installation requirements added to row 3 of Table 1. Dredging equipment and dredging hose installation requirements added to Row 4 of Table 1.
Definitions Table 13	Table 12 previously Table 13. Reference to Table 12 updated to Table 13. Definitions added: dredging equipment, geobag, leachate, sludge and sewage sludge. Definitions amended: annual period, department and water resource recovery facility. Definitions deleted: ACN and controlled waste (duplicate).
Schedule 1: Maps	Sludge drying bed infrastructure map added to licence.
Schedule 2: Premises boundary Table 14	Table description and table updated to current licensing format and wording. Previously Table 13.

References

1. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
2. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
3. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.

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

Condition	Summary of licence Holder's comment	Department's response
Condition 1 Table 1	Amend 'Sludge drying beds' to 'Temporary sludge drying beds' to demonstrate that this infrastructure is not intended to be permanent.	The Delegated Officer has amended the licence to reflect the requested change. This terminology will be applied throughout the licence.
Condition 1 Table 1	Condition 1 sludge drying bed specifications are too specific. Suggestion is to amend the sludge drying bed specifications to be approximate to allow flexibility during construction. There is concern that deviation from the specifications could result in administrative non-compliance.	<p>The use of the word 'approximate' when specifying construction conditions is unenforceable and hence not appropriate for inclusion.</p> <p>'500 mm high embankment' amended to 'minimum 500 mm high embankment' to allow flexibility while ensuring risks are adequately managed.</p> <p>Dimensions of sludge drying beds have been removed. The sludge drying bed storage volume specifications and additional location requirements are deemed sufficient to manage the risk while allowing some flexibility regarding sludge drying bed dimensions.</p> <p>The Delegated Officer considers the requirement to 'construct and design the sludge drying bed to direct discharges and leachate from the sludge drying bed back to the balancing ponds' sufficient to manage the risks; therefore, the slope specification requirement has been removed.</p>
Conditions 2 and 3	<p>Amend conditions 2 and 3 to apply only to the construction of the permanent waste return main and not to the sludge drying beds.</p> <p>This condition was relating to the permanent waste return main from the AqWest Water Recycling Plant proposal. An Environmental Compliance Report is not necessary for the sludge drying beds.</p> <p>The change is requested to maintain consistency with other operations across the state that also have temporary sludge drying beds.</p>	<p>Conditions 2 and 3 are standard conditions to ensure infrastructure is built to comply with licence conditions and these conditions are consistent with other works approvals and licences.</p> <p>The Delegated Officer considers these conditions necessary to ensure construction of the sludge drying beds and related infrastructure is compliant with the licence conditions; therefore, conditions 2 and 3 remain unchanged.</p>
Condition 4 Table 2	Remove the following condition: 'Liner inspected for degradation upon conclusion of dredging activities and replaced or repaired if found to be defective'. Inspection of the lagoon liner is unachievable. Sludge dredge depth is well controlled to prevent liner damage and similar	The requirement to inspect the liner post-dredging has been removed due to physical barriers to implementation; therefore, condition 4 has been amended to 'Liner replaced or repaired if found to be defective'.

Licence: L5972/1992/14

Condition	Summary of licence Holder's comment	Department's response
	<p>activities have not caused damage in the past.</p> <p>Add the word 'temporary' to 'site infrastructure' in condition 4 to state that the infrastructure is not permanent and to avoid potential confusion and administrative non-compliance.</p>	<p>The balancing ponds are included in this condition and are not temporary infrastructure; therefore, condition 4 wording remains unchanged. However, 'temporary' has been added to the 'sludge drying bed', 'leachate pipeline and sump' and 'dredging equipment' headings in Table 2 to specify that this infrastructure is temporary and to Table 1 for consistency.</p>
<p>Definitions Table 2</p>	<p>Amend the definition of sludge to include 'and sand', as sludge dredged from the balancing ponds will contain sand.</p>	<p>Condition amended as requested.</p>
<p>Condition 1 Table 1</p> <p>Condition 4 Table 2</p> <p>Conditions 6(a) and 6(b)</p> <p>Condition 23(a)</p>	<p>Remove reference errors</p>	<p>Cross referencing link errors corrected.</p>