Government of Western Australia
Department of Water and Environmental Regulation

Amendment Report

Application for Licence Amendment

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

Licence Number	L9094/2017/1
Licence Holder	Water Corporation
File Number	DER2017/001655-1
Premises	Broome North Water Resource Recovery Facility Lot 1502 Crab Creek Road ROEBUCK WA 6725 Legal description - Lot 1502 on Plan 75036
Date of Report	02/04/2025
Decision	Revised licence granted

Abbie Crawford

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Abbie Crawford
Manager, Waste Industries

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

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1. Decision summary

Licence L9094/2017/1 is held by Water Corporation (Licence Holder) for the Broome North Water Resource Recovery Facility (the premises), located at Lot 1502 Crab Creek Road, Roebuck.

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 L9094/2017/1 has been granted. The revised licence has been granted in a new format with existing conditions being transferred, but not reassessed, to the new format.

The decision report for the existing licence will remain on the Department of Water and Environmental Regulation's (the department's) website for future reference and will act as a record of the department's decision making.

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 Amendment summary

On 29 August 2024, the licence holder applied to the department to amend licence L9094/2017/1 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). The following amendments are being sought:

- Increase the design capacity for the wastewater treatment plant and irrigation pivots;
- Include approved infrastructure, groundwater monitoring network and operations consistent with works completed under W6451/2020/1 and W6743/2022/1; and
- Removal of Pivot Irrigation Area ambient soil quality monitoring requirements.

Table 1 below outlines the proposed design capacity changes to the existing licence.

Table 1: Proposed design capacity changes

Category	Current design capacity	Proposed design capacity
Category 54: Sewage facility: premises – (a) on which sewage is treated (excluding septic tanks); or (b) from which treated sewage is discharged onto land or into waters.	3,500 cubic metres per day	4,770 cubic meters per day
Category 61: Liquid waste facility: premises on which liquid waste produced on other premises (other than sewerage waste) is stored, reprocessed, treated or irrigated.	1,200 tonnes per annual period	2,400 tonnes per annual period

In amending the licence, the delegated officer has also:

- updated the format and appearance of the licence;
- revised licence condition numbering, removed any redundant conditions and realigned condition numbers for numerical consistency; and
- corrected clerical mistakes and unintentional errors.

The obligations of the licence holder have not changed in these administrative revisions to the licence. The full list of amendments to conditions as they relate to this revised licence are detailed in Section 5.1.

3. Risk assessment

The department assesses the risks of emissions from prescribed premises and identifies the potential source, pathway and impact to receptors in accordance with the *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 operation which have been considered in this amendment report are detailed in Table 2 below. **Error! Reference source not found.** also details the proposed control measures the licence holder has proposed to assist in controlling these emissions, where necessary.

Table 2: Licence Holder controls

Source	Emission	Potential pathways	Proposed controls
Operation of infrastructure Receipt, processing and treatment of wastewater Irrigation of wastewater	Noise	Air/windborne pathway causing impacts to health and amenity	No additional controls proposed.
	Odour	Air/windborne pathway causing impacts to health and amenity	No additional controls proposed.
Discharge of treated wastewater	Treated wastewater	Discharge to land/ surface water, seepage to groundwater	Monitoring of groundwater at three new monitoring bore locations. Soil quality is proposed to be managed via monitoring of groundwater quality.
Loss of wastewater containment	Spill/ contaminated stormwater and treated wastewater	Overland flow and infiltration to soil and groundwater	
	Sewage and low-quality treated	Overland flow and infiltration to soil and	

Source	Emission	Potential pathways	Proposed controls
	wastewater	groundwater	
Accidental chemical spills or loss of containment Leaks from machinery/vehicles	Chemical spill	Overland flow and infiltration to soil and groundwater	No additional controls proposed.

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 3 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)). Figure 1 depicts referenced receptors and their location and proximity to the premises.

Table 3: Sensitive human and environmental receptors and distance from prescribed activity

Ref	Human receptors	Distance from activity / prescribed premises
H1	Nearest sensitive receptor - Residential dwelling within the Broome Common Stockyards (within Premises L7864)	790 m west of the premises.
H2	Morrell Park Aboriginal Community	1.4 km west of the premises boundary and 1.5 km west of the nearest irrigation area.
-	Yawuru Area Indigenous Land Use Agreement Area (ILUA) (Figure 2)	Several nearby lots, including Lot 561 immediately to the east of the premises, are subject to the ILUA.
H3	Broome townsite residential dwellings	2.7 km west of the premises to the nearest dwelling on Wattle Drive.
H4	Broome Caravan Park	2.9 km west of the premises.
H5	Industrial receptor – Cattle saleyard office/sheds (L7864/2003/4)	800 m west of the premises boundary and 1.4 km west of the nearest pond infrastructure.
H6	Broome Road Industrial Park	2 km north of the premises.
-	Aboriginal Cultural Heritage registered sites (Figure 3)	15 sites are registered within a 5km radius of the premises boundary. Closest sites are 1.2 km south and 2.2 km west of the premises boundary

Ref	Environmental receptors	Distance from activity / prescribed premises
-	Underlying groundwater – Pindan Sands aquifer Broome Sandstone aquifer	The premises is located within the Broome Groundwater Area, proclaimed under the *Rights in Irrigation and Water Act 1914*. Groundwater monitoring conducted by the licence holder indicates that the two aquifers are hydraulically connected in the area, as the lower part of the Pindan Sands is difficult to distinguish from the upper Broome Sandstone (GHD 2020a). This is consistent with the existing regional interpretation that the Pindan Sands and Broome Sandstone are hydraulically continuous and considered to be a single unconfined groundwater resource in the Broome area (DOW 2012). Regional hydrogeological mapping indicates that the groundwater table underneath the site is approximately 10-15 mbgl, with depth to groundwater increasing to the north-east and east of the site. Annual reporting for the 2022/23 period recorded the following depths to groundwater at the premises and offsite monitoring network: • Pindan Sands aquifer: ~6 mbgl (3 - 6 m AHD) • Broome Sandstone aquifer: ~5.5 mbgl (2.5 – 5 m AHD) Regional information indicates that groundwater flow is in a southwesterly direction towards Roebuck Bay and Dampier Creek. There are two existing groundwater licenses within the premises (GWL 168987 – commercial irrigation & product processing washdown purposes & GWL 205749 - earthwork and construction (dewatering) purposes). There are two existing groundwater bores on the adjacent stockyard (premises L7864/2003/4) that are used to abstract water for stock purposes (**H5 -** Figure 1**)**. The stockyard does not have a current abstraction licence and both bores are not registered. No other licensed/registered groundwater abstraction bores are located within 1 km of the premises.
E1	Threatened Fauna – Specially Protected Migratory Bird species	Sitings recorded within the premises.
E2	Roebuck Bay – Important Wetland	The Roebuck Bay wetland area (intertidal mudflats and monsoon thickets) is approximately 900m southwest from the premises boundary (upper reaches of the system wetlands inundation area).
E3	Dampier Creek – Minor non-perennial watercourse	Approximately 2 km southwest of the premises boundary, 2.4 km southwest of the nearest irrigation area and 2.75 km southwest of the treated wastewater storage pond, mostly within the Roebuck Bay wetland area.
-	Roebuck Bay Plains System – Important Wetland	5.9 km south-east of the premises.
-	RAMSAR Wetland - Roebuck	The defined area of the Roebuck Bay RAMSAR wetland is

	Bay Site ID: 479	located approximately 5.5 km southeast of the premises boundary.
-	Threatened Ecological Communities (TEC) - Species-rich faunal community of the intertidal mudflats of Roebuck Bay	The premises is situated within the buffer area of the TEC, which is located 1km southwest of the premises. The TEC is listed as vulnerable under the *Biodiversity Conservation Act 2016* (WA) (BC Act).
-	Priority Ecological Communities (PEC) – Kimberley Vegetation Association 73 (Priority 3)	Approximately 1 km south west of the premises. The PEC is listed as Priority 3 under the *Biodiversity Conservation Act 2016* (WA) (BC Act).
-	Threatened Ecological Communities (TEC) Monsoon (vine) thickets on coastal sand dunes of the Dampier Peninsula	Endangered under the *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth) (EPBC Act). Habitat includes the coastal inundation areas surrounding Dampier Creek, the upper reaches of which are approximately 900 m southwest from the Premises boundary. These thickets make up less than 0.01% of the Peninsula but support 25% of the plant species. Roebuck Bay Marine Park covers 304 km^2 and includes the coastal inundation areas surrounding Dampier Creek. The upper reaches of Dampier Creek flood plain are approximately 900 m west from the Premises boundary.
-	Public Drinking Water Source Area - Broome Water Reserve (P1)	2.4 km north and up hydraulic gradient of the premises boundary.

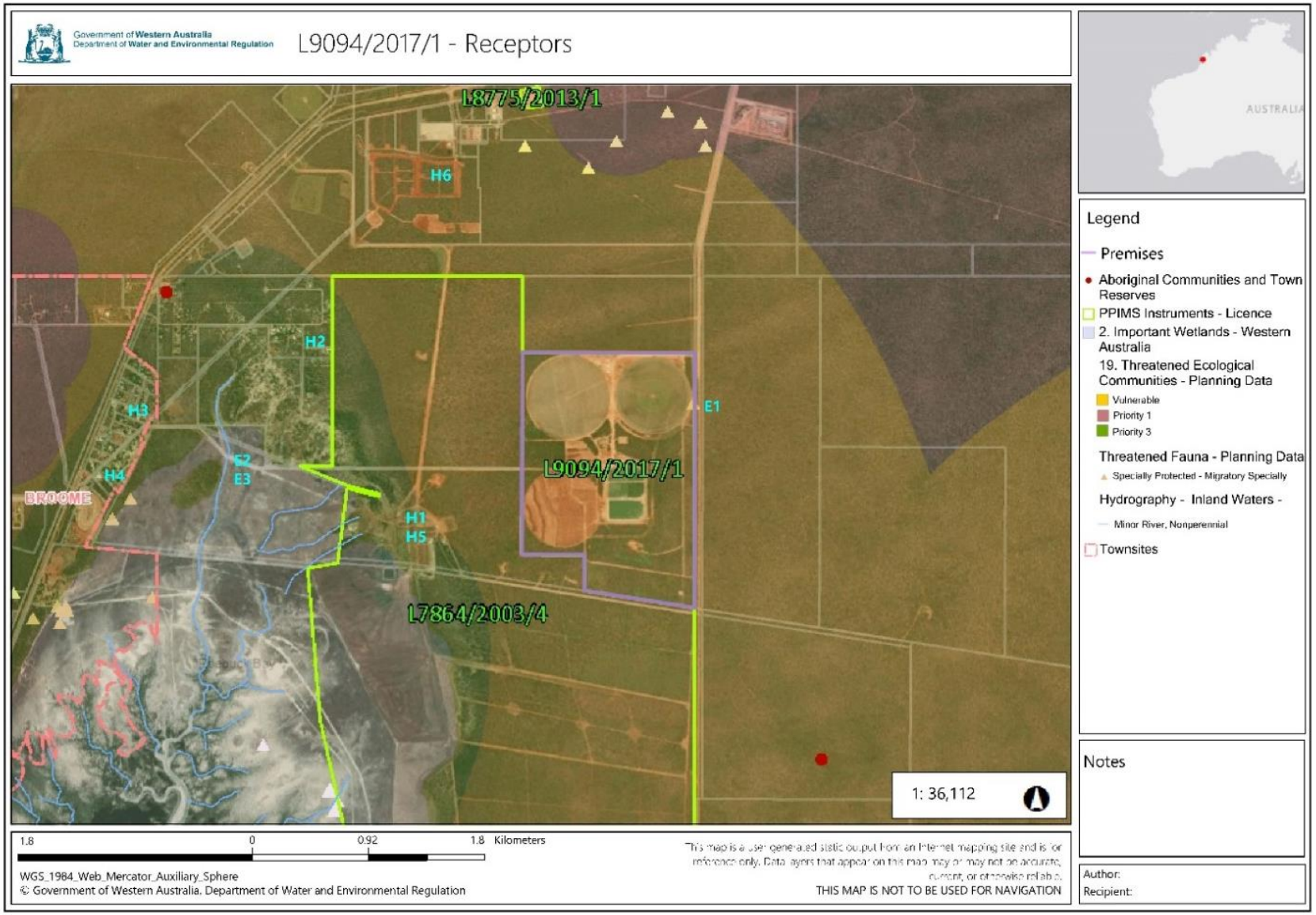

Figure 1: Distance to sensitive receptors

Licence: L9094/2017/1

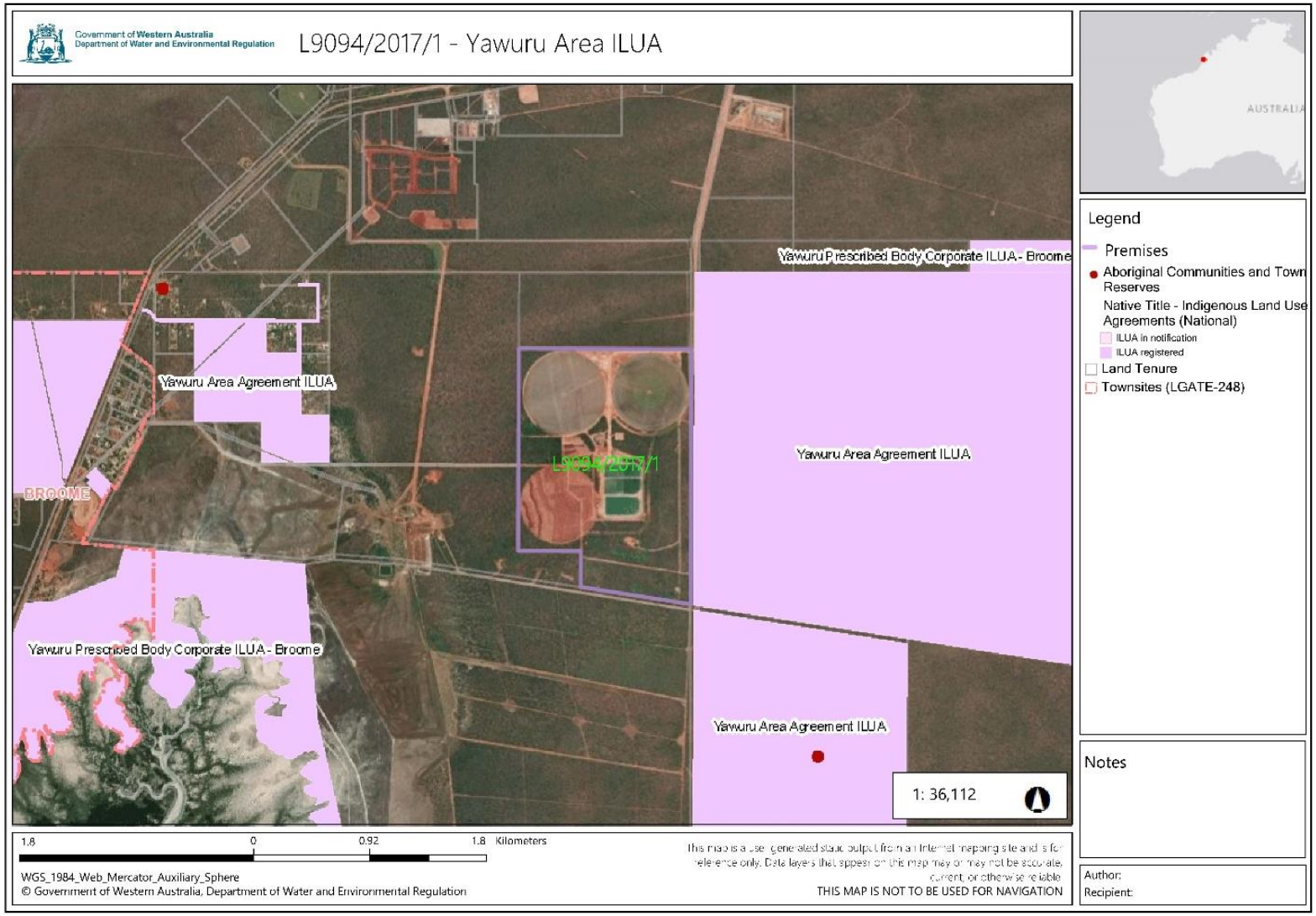

Figure 2: Yawuru Area ILUA

Licence: L9094/2017/1

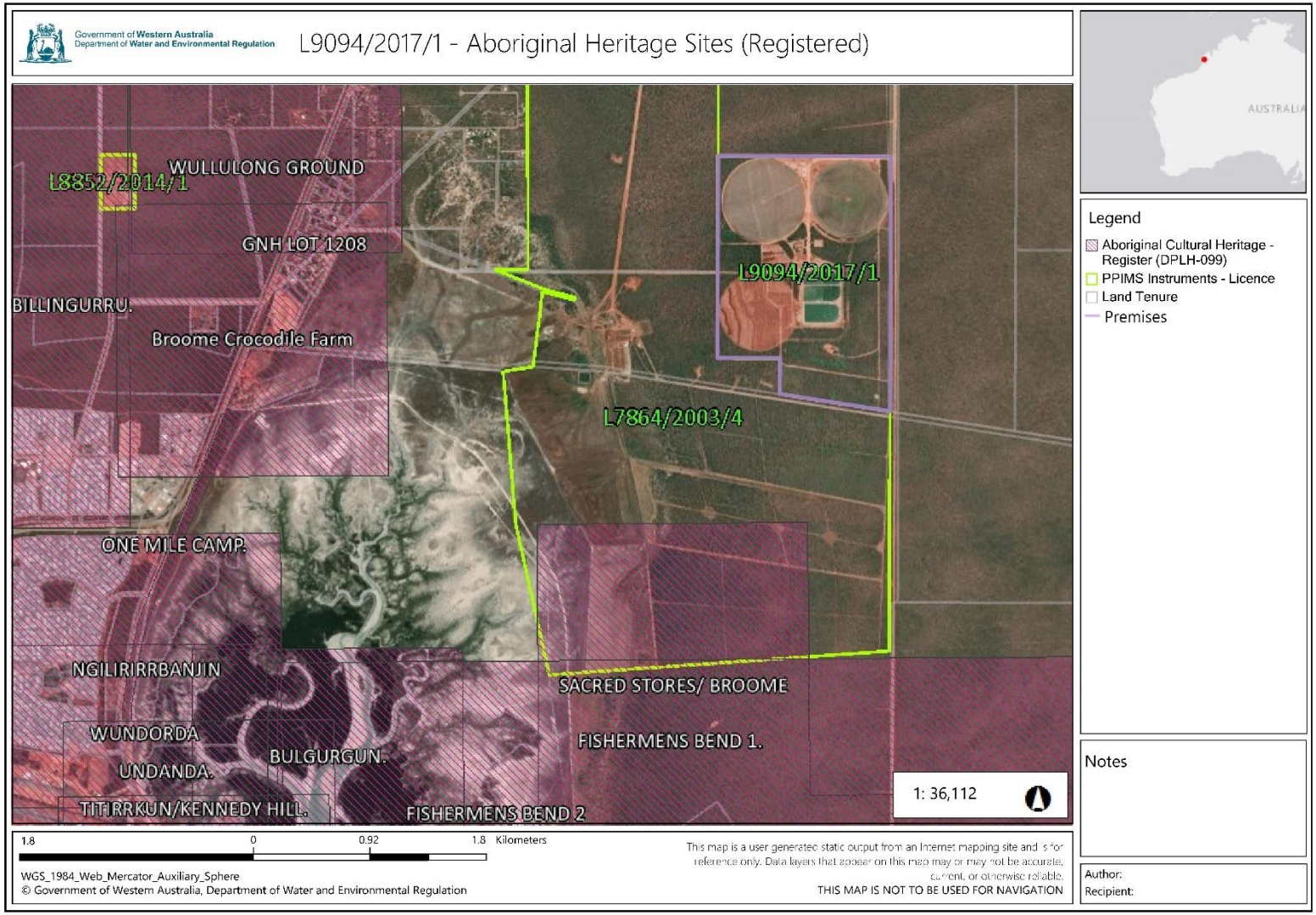

Figure 3: Aboriginal Cultural Heritage registered sites

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 considers 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 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

.

The revised licence L9094/2017/1 that accompanies this amendment report authorises emissions associated with the operation of the premises i.e. Category 54 and Category 61 activities. The conditions in the revised licence have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

Table 4: Risk assessment of potential emissions and discharges from the premises during 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**				
Operation of infrastructure Receipt, processing and treatment of wastewater Irrigation of wastewater	Noise	Air/windborne pathway causing impacts to health and amenity	Residential receptors 790 m west		C = Minor L = Unlikely **Medium Risk**	Yes	N/A	The delegated officer considers that the provisions of the *Environmental Protection (Noise) Regulations 1997* are sufficient to regulate noise emissions during operations.
	Odour	Air/windborne pathway causing impacts to health and amenity	Residential receptors 790 m west		C = Minor L = Possible **Medium Risk**	Yes	N/A	The odour assessment generated for the premises did not identify any increased risk to receptors. The delegated officer considers odour emissions can be effectively regulated by the general provisions of the EP Act, the Local Planning Scheme zoning and Special Control Area 3 - Essential Services Buffer Area..
Irrigation of treated wastewater	Treated wastewater	Discharge to land/ surface water, seepage to groundwater causing ecosystem disturbance	Soil profile beneath the premises Underlying groundwater (~5.5 mbgl) flowing southwesterly and discharging into Dampier Creek (900m southeast) and Roebuck Bay PEC - Species-rich faunal community of the intertidal mudflats of Roebuck Bay TEC - Monsoon (vine) thickets on coastal sand dunes of the Dampier Peninsula	Refer to Section 3.1	C = Moderate L = Possible **Medium Risk**	No	Conditions 2, 3, 4, 5, 6, 9 **<u>Condition 18</u>**	Soil quality monitoring conditions were applied to licence L8556/2011/1 on 4 July 2011. The 2012 Nutrient and Irrigation Management Plan (360 Environmental, 2012) was developed to identify and manage long term risks (50 years+) from the potential accumulation of nutrients and other contaminants, including copper. The revised 2020 NIMP (360 Environmental, 2020) is based on retaining the existing monitoring regime required by the licence. The decision report for works approval W6451/2020 as granted on 23/04/2021 identified the need for a soil monitoring strategy to be included in the licence when amended to include Stage 2 upgrades. A review of monitoring data for the premises indicates that soil copper levels remain variable, with the 2022/2023 annual environmental report (AER) reported results above the laboratory limit of reporting (LOR), and recommended that soil monitoring continue. On this basis, the delegated officer considers that soil monitoring should remain, however the delegated officer has reduced the frequency of the monitoring to annually. This ongoing monitoring will continue to inform long term risk, validate site-specific assessment predictions and provide assurance over the effectiveness of outcomes, process, management and improvement conditions. The decision report for works approval W6451/2020 also identified the need for additional groundwater monitoring parameters to include major ions as these can be early indicators of contamination.
Loss of containment	Spill/ contaminated stormwater and treated wastewater	Overland flow and infiltration to soil and groundwater causing	Soil profile beneath the premises Groundwater 5.75 m	Refer to Section 3.1	C = Moderate L = Unlikely **Medium Risk**	Yes	Conditions 2, 3, 4, 5, 6, 9, 11-26	The delegated officer considered the proposed controls and existing conditions within the licence to be adequate to address emissions form loss of containment, accidental

	Sewerage and low quality treated wastewater	ecosystem disturbance	AHD flowing southwesterly and discharging into Dampier Creek (900m southeast) and Roebuck Bay. PEC - Species-rich faunal community of the intertidal mudflats of Roebuck Bay TEC - Monsoon (vine) thickets on coastal sand dunes of the Dampier Peninsula		C = Moderate L = Unlikely **Medium Risk**	Yes		chemical spills and leaks from machinery/vehicles. Minor hydrocarbon and chemical spillages can be adequately regulated by the *Environmental Protection (Unauthorised Discharges) Regulations 2004.*
Accidental chemical spills or loss of containment Leaks from machinery/vehicles	Chemical spill	Overland flow and infiltration to soil and groundwater causing ecosystem disturbance			C = Slight L = Rare **Low Risk**	Yes		

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 or existing regulatory controls are depicted by standard text. **Bold and underline text** depicts additional regulatory controls imposed by department.

4. Consultation

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

Table 5: Consultation

Consultation method	Comments received	Department response
Licence Holder was provided with draft amendment on 21/01/2025	Comments on the draft package were received on 24/03/2025. Comments are summarised in 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 6 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 6: Summary of licence amendments

Existing condition	Revised condition	Condition amendment summary
Cover page	Cover page	Updated to revised licensing format. DWER file number updated. Production/design capacity table amended.
Introduction and instrument log	Licence History	Updated to revised licensing format.
1.2.2	deleted	Redundant condition
1.2.3 (Table 1.2.1)	1 (Table 1)	Table 1 amended to include additional capacity.
1.2.4 (Table 1.2.2)	2 (Table 2)	Table 2 amended to include additional capacity and remove references to disused Seedling Irrigation Area.
1.2.5 (Table 1.2.3)	3 (Table 3)	Table 3 amended to include new/upgraded infrastructure constructed under W6451/2020/1 and W6743/2022/1. Wording of requirements has been revised to provide for clear outcomes-based conditions as appropriate.
1.2.6	4	Amended to include new/upgraded infrastructure constructed under W6451/2020/1 and W6743/2022/1.

Existing condition	Revised condition	Condition amendment summary
		Wording has been revised to provide for clear outcomes-based conditions as appropriate.
1.2.8	5	Updated to current wording with no changes to requirements or intentions of conditions.
1.2.7	6	Amended to include new/upgraded infrastructure constructed under W6451/2020/1 and W6743/2022/1. Revised for consistency with Condition 14 Table 3 Row 6 of W6451/2020/1 (time-limited operational requirements)
1.2.1	7	Updated to current wording with no changes to requirements or intentions of conditions.
1.2.9	8	Updated to current wording. Amended condition to state that grit, screenings, sludge and biosolids must be disposed of to a suitably licensed premises to incorporate suitable recycling facilities.
2.1.1	9	Updated to current wording and licensing format. Inclusion of Pivot 3 as an authorised discharge point and remove disused Seedling Irrigation Area.
2.1.2	10	Updated to current wording with no changes to requirements or intentions of conditions. S2 removed as not a discharge point.
3.1.1	11	Updated to current wording. Removal of redundant leachate monitoring requirement.
3.1.2	12	Updated to current wording with no changes to requirements or intentions of conditions.
3.1.3	13	Updated to current wording with no changes to requirements or intentions of conditions.
3.1.4	14	Updated to current wording with no changes to requirements or intentions of conditions.
3.1.5	15	Updated to current wording with no changes to requirements or intentions of conditions.
3.2.1 (Table 3.2.1)	16 (Table 6)	Amended to add S3 Monitoring point reference, S2 removed as not a discharge point. ‘Averaging period’ and ‘Method’ added for clarity and consistency with current licensing format and wording.

Existing condition	Revised condition	Condition amendment summary
3.3.1 (Table 3.3.1)	17 (Table 7)	Amended to add monitoring point references for clarity.
3.4.1 (Table 3.4.1)	18 (Table 8)	Frequency amended from quarterly to annual. Additional parameters included to monitor soil sodicity and phosphorus leaching risk.
3.4.1 (Table 3.4.2)	18 (Table 9)	Monitoring bores 9/10, 13/10 and 3/20 replaced by newly-constructed 1/23, 2/23 and 3/23. Major ion parameters included.
4.1.1	19	Amended to current wording with no changes to requirements or intentions of conditions.
N/A	20	Inclusion of standard condition detailing book keeping requirements.
4.1.2	Deleted	Redundant condition
4.1.4	21	Amended to current wording with no changes to requirements or intentions of conditions.
4.1.3	22	Amended to current wording with no changes to requirements or intentions of conditions.
4.2.1	23	Amended to current wording. Removal of duplicated AACR requirement.
4.2.2	24	Amended to current wording.
4.2.3	24	Incorporated into Condition 24.
4.3.1	25	Amended to current wording with no changes to requirements or intentions of conditions.
1.1.2	Definitions	<u>Definitions added:</u> ‘discharge’ ‘emission’ ‘EP Act’ ‘EP Regulations’ ‘licence holder’ ‘monthly period’ ‘prescribed premises’ ‘spot sample’ ‘suitably licensed premises’ ‘waste’ <u>Definitions amended:</u> ‘Annual Audit Compliance Report’ ‘CEO’ ‘department; DWER’ ‘licence’ ‘Pivot Irrigation Area’ ‘premises’

Existing condition	Revised condition	Condition amendment summary
		Definitions deleted: 'Act'
	Schedule 1 – Maps	Figures updated: Figure 1 – Premises Map Figure 2 – Emission monitoring points Figure 3 – Soil monitoring locations Figure 4 – Groundwater monitoring locations

References

1. 360 Environmental, 2012, Broome North WWTP Lot 67 Crab Creek Rd Broome WA: Nutrient and Irrigation Management Plan, Unpublished report. (A957696)
2. 360 Environmental, 2020, Broome North Wastewater Treatment Plant: Nutrient and Irrigation Management Plan 2020, Unpublished report. (A2308152)
3. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
4. Department of Water (DOW) 2012, Groundwater resource review: Dampier Peninsula, Hydrogeological record series report no. HG57, Perth, Western Australia.
5. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
6. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.
7. DWER 2021, *Decision Report W6451/2020/1*. Issued 23 April 2021. Accessed at IR-T04 Decision report template
8. GHD 2020a, Water Corporation Broome North Wastewater Treatment Plant. Baseline Assessment, Unpublished report. (A1946747).
9. GHD 2020b, Water Corporation Broome North Wastewater Treatment Plant. Environmental Site Assessment, Unpublished report. (A1940775)

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

Condition	Summary of Licence Holder's comment	Department's response
1 – Table 1	Request amendment to Table 1 to add 'as a monthly average' to the quantity limit at which waste is received. This provides consistency with condition 17, table 7 and is also consistent with other Water Corporation held Part V licences (e.g. Northam WRRF, Kununurra WWTP, Wagin WWTP etc).	The Premises has previously been assessed based on a maximum design capacity of 4,770 m^3 of sewage per day. The addition of a monthly average indicates that the plant's capacity can exceed this throughput. The Delegated Officer advises the Licence Holder to submit the actual maximum design capacity of the Premises so this can be assessed through a subsequent amendment. This will ensure that the actual maximum design capacity can also be reflected on the permitted premises throughput under Category 54.
3 – Table 2	Request amendment to Table 2 to add '(as a monthly average)' to the process requirements. This provides consistency with condition 17, table 7 and is also consistent with other Water Corporation held Part V licences (e.g. Northam WRRF, Kununurra WWTP, Wagin WWTP etc).	
	Seedling irrigation area is no longer used. Delete reference in Table 2.	Deleted as requested.
3 – Table 3	Tanker Receival Bay: Amendment requested to allow the receival of waste from Water Corporation conveyance, for example pumpstation clean out and overflow clean up.	Amended as requested.
	Pond 1 & 2, Storage Dam 1 & 2: Clarification is required as to which condition the "requirement" is referring to.	Error corrected. Updated to Condition 4
	Sludge Drying Beds: Remove reference to Ponds 1 and 2. The reference is over prescriptive. Amendment to reflect any/all or just sludge to be contained within Sludge Drying	Amended as requested as amendment has no material effect on condition.

Condition	Summary of Licence Holder's comment	Department's response
	Beds	
4 h) and i)	Request the additional wording "except as a result of an extreme rainfall event" around freeboard condition - will not be a non-compliance if freeboard is lost during an extreme rainfall event (one in ten- year rainfall event of 72 hours duration). Request to add 'extreme rainfall event' to definitions of licence.	The purpose of freeboard is to provide a safety margin to prevent wastewater from overflowing the pond's embankment. Adequate storage freeboard is crucial for the safe and effective operation of wastewater ponds, ensuring that they can handle fluctuations in water levels and prevent potential spills or overflows, and it is important the Department is made aware when freeboard is not maintained to ensure risk can be assessed and managed appropriately. If the Licence Holder is frequently reporting a loss of freeboard that suggests that infrastructure for additional capacity may be required through a separate licence amendment. The Delegated Officer does not support the requested amendment and considers that any compliance matters include the 'reasonableness' test. The reporting of any freeboard loss because of a one in ten-year rainfall event of 72 hours duration is not considered onerous.
9 -Table 4	Request to delete 'Seedling Irrigation Area' as it is no longer used.	Amended as requested.
	Request the addition of Storage Dam 2 Spillway as approved discharge point for use as a result of an extreme rainfall event (one in ten-year rainfall event of 72 hours duration). Request to add 'extreme rainfall event' to definitions of licence.	It is noted that the spillway exists on Storage Dam 2 however it has not been risk-assessed as an approved discharge point. Adequate storage and freeboard is crucial for the safe and effective operation of wastewater ponds ensuring that they can handle fluctuations in water

Condition	Summary of Licence Holder's comment	Department's response
		levels and prevent potential spills or overflows, and it is important the Department is made aware when they overflow to ensure risk can be assessed and managed appropriately. If the Licence Holder is frequently reporting overflowing that suggests that infrastructure for additional capacity may be required through a separate licence amendment. The Delegated Officer does not support the requested amendment and considers that any compliance matters include the 'reasonableness' test. The reporting of overflow because of a one in ten-year rainfall event of 72 hours duration is not onerous.
10 – Table 5	Request the deletion of discharge point S2. Discharge point S3 is the sample point that is representative of water irrigated to the pivots, therefore the limits should only apply to S3.	Amended as requested.
13	Amendment to delete "and the requirements of the licence" suggested to remove ambiguity.	Amended to current standard wording.
16 - Table 6	Requested changes: • Change Nitrate as N to Nitrate + Nitrite as N. This aligns with the monitoring of ambient groundwater quality.	Amended as requested.
	• Delete chloride from parameter list. Chloride is not a contaminant of concern and does not provide interpretation value of TWW.	Chloride is a major ion. Monitoring this parameter in the discharge of treated wastewater to land can assist with identifying the source of any changes in the chemical composition of groundwater long

Condition	Summary of Licence Holder's comment	Department's response
		before widespread contamination by nutrients or other chemical constituents of environmental concern takes place. The Delegated Officer considers this parameter is required.
	• Replace monitoring point S2 with S3 to align with condition 10, table 5.	Amended as requested.
	• Delete double up parameters.	Amended as requested.
17 – Table 7	Request to delete monitoring of 'Treated wastewater discharged to the seedling irrigation area' as it is no longer used	Amended as requested.
18 – Table 8	Requested changes: • Updated soil monitoring locations so monitoring covers all three pivots used for irrigation. • Additional parameters added to allow data interpretation of sodicity risk to soil condition and vegetation health and to monitor phosphorus leaching risk. Updated Figure 3 provided.	Amended as requested.
19 – Table 9	Amendments requested to delete the following parameters: • Delete Electrical conductivity (EC)from parameter list, not required as TDS is measured.	TDS measures the total amount of dissolved solids in water, EC measures the ability of those dissolved solids to conduct electricity. EC provides a quantitative measure of the concentration of ions in the water, as an indicator of changes in water quality, whereas TDS provides a more detailed understanding of the types and amounts of dissolved substances. Using conversion factors

Condition	Summary of Licence Holder's comment	Department's response
		provide estimates based on the assumption that all dissolved solids contribute to electrical conductivity. However, this conversion factor may vary depending on the sample being tested and may not be entirely accurate. The Delegated Officer considers both parameters are required.
	• Delete sodium, potassium, calcium, magnesium, bicarbonate, sulfate and chloride from parameter list. These parameters are not contaminants of concern for TWW and offer no value in monitoring of groundwater or interpretation of groundwater impacts from WRRF operations.	These parameters are major cations and anions and identified for inclusion in groundwater monitoring through the risk assessment for works approval W6451/2020/1 (DWER 2021). Inputs of wastewater to an aquifer typically cause changes in the chemical composition of groundwater long before widespread contamination by nutrients or other chemical constituents of environmental concern takes place. Increases in bicarbonate, calcium and potassium ions, including changes to their relative proportions in groundwater, can be early-warning indicators of contamination or sodicity from irrigation. The Delegated Officer considers these parameters are required.
23 – Table 10	Requested changes: • Delete reference to S3002405 to align with condition 10, table 5.	Amended as requested
	Delete reporting contaminant loading requirement for BOD and there is no BOD limit on the licence and daily loading calculations does not provide value for interpreting potential environmental impacts from WRRF operations.	The Delegated Officer considers that all the parameters being monitored under conditions of the licence should be reported. The wording of the condition has been amended for clarity.

Condition	Summary of Licence Holder's comment	Department's response
25 – Table 11	Please clarify the requirement for an N1 notification. Incorrect reference, 1(h)1? Condition 9 does not refer to a limit.	Schedule 2 – N1 remains the most appropriate and consistent way to notify the breach of any limit. Incorrect cross-references have been corrected.
Figure 1	Update error to refer to Figure 1	Error corrected.
Figure 3	Updated figure 3 provided as requested	Figure 3 replaced with updated figure.
Figure 4	Update reference to Figure 4	Error corrected.
Schedule 2	Please clarify the requirement for an N1 notification as form may become redundant	Schedule 2 – N1 remains the most appropriate and consistent way to notify the breach of any limit.
Definitions	Request to add 'extreme rainfall event' to definitions of licence. (related to Condition 4 & 9 requested amendments)	The Delegated Officer does not support the requested amendments to Conditions 4 & 9 thus this definition is not required.