

Amendment Report

Application for Licence Amendment

Part V Division 3 of the Environmental Protection Act 1986

Licence Number	L6266/1991/10
Licence Holder	Water Corporation
File Number	DER2014/00608
Premises	Broome South Sewage Facility 34 Clementson Street MINYIRR WA 6725
	Lot 1639 on Plan 184761 and Lot 512 on Plan 409418 As defined by the map in Schedule 1 of this Licence
Date of Report	13/09/2022
Decision	Revised licence granted

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Officer delegated under section 20 of the Environmental Protection Act 1986

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1. Decision summary

Licence L6266/1991/10 is held by Water Corporation (Licence Holder) for the Broome South Wastewater Treatment Plant (the Premises), located at 34 Clementson Street Minyirr WA.

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 decommissioning of Emergency Pond 3. As a result of this assessment, Revised Licence L6266/1991/10 has been granted.

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 18 February 2022, the Licence Holder submitted an application to the department to amend Licence L6266/1991/10 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). The following amendments were sought:

- Decommission Emergency Pond 3 (also refer to as the Old Shire Pond);
- Remove the pond from the prescribed premise boundary; and
- Remove the reuse facilities from the licence to allow non-potable water to supplement the scheme.

The department notes that there is a requirement for the reuse scheme to be in operation during the decommissioning of Emergency Pond 3 and for the decommissioning works to be captured under the licence. The department will therefore not facilitate the removal of the reuse scheme and the changes to the premises boundary as part of the current licence amendment.

Should the Water Corporation wish to apply to remove the reuse scheme form the licence and amend the prescribed premises boundary, this will need to be done via a licence amendment application upon the completion of the decommissioning works and compliance reporting.

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 decommissioning of Emergency Pond 3 have been considered in this Amendment Report are detailed in Table 1 below. Table 1 also details the proposed control measures the Licence Holder has proposed to assist in controlling these emissions, where necessary.

Emission	Sources	Potential pathways	Proposed controls
Dust	Decommissioning of Emergency Pond 3, removal of at least 200mm of material from the base of the pond, vehicle and plant movement, lift- off from stockpiles, earthworks etc.	Air/windborne pathway	A suitable method of dust control will be implemented on site at all times during decommissioning works (e.g. water carts).
Noise	Decommissioning of Emergency Pond 3, removal of at least 200mm of material from the base of the pond, vehicle and plant movement, earthworks etc.	Air/windborne pathway	Decommissioning works will be undertaken during the hours of 7am and 7pm Monday to Friday, however should works be required outside these times Water Corporation will seek relevant approvals from DWER and the Local Government authority, prepare a Noise Management Plan and undertake community consultation in accordance with the <i>Environmental Protection (Noise)</i> <i>Regulations 1997.</i>
Spills	Decommissioning of Emergency Pond 3, vehicle and plant movement, earthworks etc.	Seepage to soils and groundwater	All hazardous chemicals and hydrocarbons required on site are to be stored in appropriately bunded areas to contain any potential leaks or spills. Appropriate spill kits, containment and recovery equipment, personal protective equipment and relevant operator instructions/emergency procedure guides for the management of waste and chemicals associated with activities will be kept and maintained on site. Spill kits will be strategically located throughout the site. Appropriate spill response equipment for hazardous materials will be identified and readily accessible in areas where hazardous materials are stored. All waste products will be stored in appropriate rubbish bins and removed from
			All waste products will be stored in appropriate rubbish bins and removed from the premises.

Table 1: Licence Holder controls

Emission	Sources	Potential pathways	Proposed controls
Overtopping of emergency ponds	Decommissioning of Emergency Pond 3, overtopping of emergency ponds due to heavy rainfall events.	Overland flow and seepage to soils and groundwater	 Keep Emergency Ponds 1 and 2 in operation. An updated water balance has been supplied as part of the licence amendment package. The water balance includes the removal of Emergency Pond 3 from the WWTP network. Limit inflows to the WWTP to reduce the likelihood of an overtopping event from occurring

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 environme activity	ental receptors and distance from prescribed					
Human receptors Distance from prescribed activity						

Human receptors	Distance from prescribed activity
Residential Premises	Residences located approximately 470 m to the east, separated from the Premises by vacant land zoned 'Development', extending further to the east and north.
	Residences located approximately 600 m to the northeast, separated from the Premises by vacant land zoned 'Development', the light industrial area and extending further to the north.
	Broome Vacation Village Caravan Park, located approximately 720 m to the west, separated from the Premises by the Broome Golf Club.
Light industrial area	Adjacent to the north, separated from the Premises by a thin (20 m) vegetated strip and extending over 500 m to the north.
Recreational area – Broome Golf Club	Adjacent to the east, extending for approximately 500 m east and a further 2 kilometres to the southwest.
Recreation area – Roebuck Bay shoreline	200 m to the southeast, extending to 400 m to the east and south.

Environmental receptors	Distance from prescribed activity			
Specified ecosystems				
Roebuck Bay marine ecosystem:	(a) 200 m to the southeast, extending to 400 m to the east and south.			
(a) Shoreline and Threatened Ecological Community – Roebuck Bay mudflats (vulnerable)	(b) Starts 2 km east and 9 km south, having the Port of Broome area excised.			
(b) Yawuru Nagulagun/ Roebuck Bay Marine Park.	(c) Starts 3 km east and again approximately 3 kilometres southwest and northwest across the			
(c) West Kimberley National Heritage listing (relevant under Section 15B and 15C of the	Broome Peninsula. Gazetted 31 August 2011, No. S132.			
Environmental Protection and Biodiversity Conservation Act 1999).	(d) Starts 8.8 km east extending around to the south along the Roebuck Bay shoreline and intertidal areas.			
(d) Ramsar wetland boundary (relevant under Section 16 and 17 of the Environmental Protection and Biodiversity Conservation Act 1999).				
Dampier Creek: Directory of Important Wetlands and mangrove forest (high value ecosystem)	Starts 1.5 km east, extending approximately 3 km east and 5 km north.			
Groundwater - Current and future non- potable use.	Groundwater at the top of the unconfined superficial aquifer displays water quality characteristics consistent with non-potable beneficial uses for industry and domestic users; therefore, can be considered a groundwater resource. Groundwater abstraction and use occurs within the Broome town site.			
Yawuru Birragun Conservation Park	Starts approximately 5 km north east and extends along the eastern shoreline of Dampier Creek.			

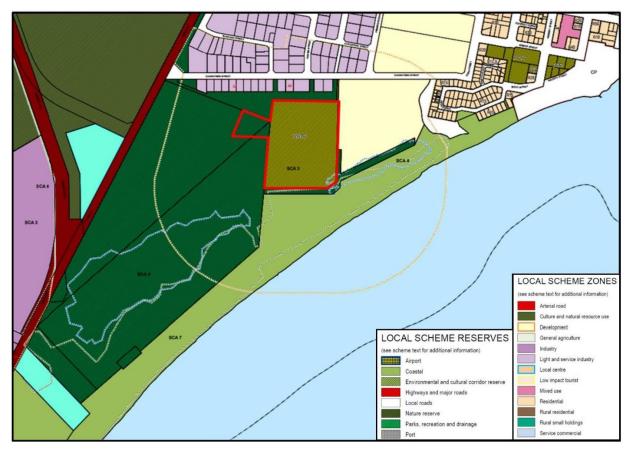


Figure 1: Premises location (red line) and zoning of adjacent lands

3.1.3 Revised water balance

In 2017, three unlined storage ponds (Emergency Ponds 1, 2 and 3), were removed from the formal WWTP process flow via the commissioning of the effluent transfer pump station on the outlet of the final effluent storage pond.

These ponds were retained for emergency purposes, to manage peak flow events and/or maintenance activities only, and mitigate the risk of an uncontrolled loss of wastewater. The emergency ponds have been calculated as having storage volumes of approximately 10 megalitres (ML), 4ML, and 9ML respectively. To allow for the construction of new irrigation tanks at the adjacent Broome Golf Course, Emergency Pond 3 will be decommissioned to make way for the tank pad and tanks to be installed. The construction and use of the new irrigation infrastructure does not meet the definition of a prescribed premises and will not be captured under the Part V licence.

As part of the licence amendment, Water Corporation supplied an updated water balance and management options to ensure the risk of an uncontrolled loss of wastewater during a heavy rainfall event is managed appropriately.

The results of the water balance indicates that the storage ponds will overflow to the emergency ponds for a period of 11 weeks in the year, during the wet season. The discharge from the storage ponds to the emergency ponds is not expected to result in an uncontrolled loss of wastewater for a 10% AEP rainfall event. The likelihood of a significant rainfall event between May and December is considered to be unlikely based on historical rainfall data for the premises. However, should a significant rainfall event occur and an overflow is likely to occur, the Water Corporation has the ability to limit inflows to the WWTP to reduce the likelihood of an overtopping event from occurring.

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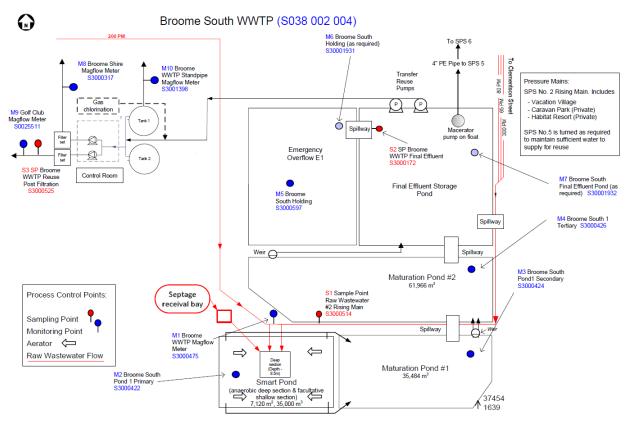


Figure 2: Process flow diagram

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 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 Table 3.

The Revised Licence L6266/1991/10 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).

Risk Event					Risk rating ¹	Licence		hustification for
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence Holder's controls	C = consequence L = likelihood	Holder's controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls
	Dust		Residences located 470 m to the east of the premises. Residences located 600 m northeast of the premises.	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Y	N/A	N/A
Decommissioning of Emergency Pond 3 Disposal of contaminated soils offsite	Noise	Air/windborne pathway causing impacts to health	Broome Vacation Village Caravan Park, located 720 m to the west Light industrial area located immediately north of the	Refer to Section 3.1	C = Minor L = Possible Medium Risk	Y	N/A	N/A
Vehicle movement Use of machinery and equipment	Litter	and amenity	premises. Broome Golf Club located to the immediate west of the premises. Roebuck Bay recreational users located 200 m to the southeast of the premises.	Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	N/A	N/A
Discharge to land due to overtopping due to the decommissioning of Emergency Pond 3 Discharge to land during disconnection of Emergency Pond 3 from	Discharge of sewerage to land	Direct discharge/ overland flow causing human health impacts. Ecosystem service impacts.	Adjacent lands, being the coastal vegetated strip behind the primary dunes, includes: <i>Corymbia paractia</i> ecological communities. Groundwater discharging into Roebuck Bay marine and intertidal ecosystem (discharge area not known at this time). Surface water discharge to Roebuck Bay.	Refer to Section 3.1	C = Moderate L = Unlikely Medium Risk	Y	<u>Condition</u> <u>10, 11, 15,</u> <u>21</u>	Additional regulatory controls have been added to the licence to require the Licence Holder to limit inflows to the WWTP to reduce the likelihood of an overtopping event from occurring.
Broome South WWTP.		Seepage through soil and within groundwater causing: nutrient loading of soils and	Adjacent lands, being the coastal vegetated strip behind the primary dunes, includes: <i>Corymbia paractia</i> ecological communities. Groundwater discharging into	Refer to Section 3.1	C = Moderate L = Unlikely Medium Risk	Y	<u>Condition</u> <u>10, 11, 15,</u> <u>21</u>	The Delegated Officer considers it appropriate to condition the requirement to undertake validation sampling following the decommissioning of

Table 3. Risk assessment of potential emissions and discharges from the Premises during decommissioning of Emergency Pond 3

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Risk Event					Risk rating ¹	Licence		Justification for
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence Holder's controls	C = consequence L = likelihood	Holder's controls sufficient?	Conditions ² of licence	additional regulatory controls
		groundwater, pore water and marine waters; suppression of ecosystem services; impacts to fauna and flora; contamination of marine ecosystem.	Roebuck Bay marine and intertidal ecosystem (discharge area not known at this time). Surface water discharge to Roebuck Bay.					Emergency Pond 3 to ensure that remaining organic material does not seep into the underlying aquifer. The groundwater monitoring requirements of the current licence are considered appropriate to identify any release of organics as a result of the pond decommissioning works.
Accidental spills or loss of containment Leaks from machinery/vehicles	Chemical spill	Overland flow and infiltration to soil and groundwater causing ecosystem disturbance	Soil profile Groundwater dependent vegetation and beneficial uses of groundwater	Refer to Section 3.1	C = Minor L = Rare Low Risk	Y	N/A	N/A

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. Bold and 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
Local Government Authority advised of proposal on 26 May 2022	No comments received	N/A
Licence Holder was provided with draft amendment on 14 June 2021	Comments were received on 12 July 2022.	See 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
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Condition no.	Proposed amendments
N/A	Inclusion of new Environmental Compliance Report definitions to the definitions table.
Condition 7 Table 5	Removal of operation requirement for Emergency Pond 3.
Condition 8	Removal of Emergency Pond 3 from the management for extreme rainfall events conditions.
Condition 10	Requirement to limit inflows to the WWTP to reduce the likelihood of an overtopping event from occurring.
Condition 11 Table 6	Decommissioning works for Emergency Pond 3.
Condition 15 Table 7	Updated discharge monitoring points.
Condition 21	Reporting requirements for decommissioning works.
Condition 23 Table 9	Updated numbering.
Schedule 1	Updated process flow diagram.

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.
- 4. Water Corporation 2022, Broome South Wastewater Treatment Plant Emergency Pond 3 Decommissioning Licence Amendment (L6266/1991/10) Supporting Information.

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 10	Amend Condition 10 to remove the requirement to transfer treated effluent to Broome North WWTP.	The condition has been updated. This change does not alter the risk assessment.
Condition 21 Environmental compliance report	Submit documents within 90 days not 60 days. Water Corporation seek to alignment the reporting timeframes with other Water Corporation reporting timeframes.	The condition has been updated. This change does not alter the risk assessment.
Condition 22 Annual Audit Compliance Report	Water Corporation seek to alignment the reporting timeframes with other Water Corporation reporting timeframes.	The condition has been updated. This change does not alter the risk assessment
Condition 23 Annual Environmental Report	Water Corporation seek to alignment the reporting timeframes with other Water Corporation reporting timeframes.	The condition has been updated. This change does not alter the risk assessment
Schedule 1 Process flow diagram and monitoring points	Process Flow Diagram in Schedule 1 requires update. Water Corporation sent an updated diagram to DWER on 25 May 2022.	The diagram used in the licence is the diagram supplied to the department on 25 May 2022. No change made

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Appendix 2: Application validation summary

SECTION 1: APPLICATION SUMMARY						
Application type						
Works approval						
		Relevant works approval number:		None		
		Has the works a complied with?	approval been	Yes 🗆 No 🗆		
Licence		Has time limited operations under the works approval demonstrated acceptable operations?		Yes 🗆 No 🗆 N/A 🗆		
		Environmental Compliance Report / Critical Containment Infrastructure Report submitted?		Yes 🗆 No 🗆		
		Date Report received:				
Renewal		Current licence	number:			
Amendment to works approval		Current works approval number:				
	×	Current licence number:		L6266/1991/10		
Amendment to licence		Relevant works approval number:		N/A		
Registration		Current works approval number:		None		
Date application received		18/02/2022				
Applicant and Premises details						
Applicant name/s (full legal name/s)	Water Corporation					
Premises name	Broome South Wastewater Treatment Plant					
Premises location	34 Clementson Street Minyirr WA 6725 Lot 1639 on Plan 184761 and Lot 512 on Plan 409418					
Local Government Authority	Shire of Broome					
Application documents						
HPCM file reference number:	DER2014/000608-1~1					
Key application documents (additional to application form):		CS03632 Broome South Wastewater Treatment Plant – Emergency Pond 3 Decommissioning Licence Amendment (L6266/1991/10) Supporting Information – January 2022				
Scope of application/assessment		<u> </u>				

		of Emerge	ency Por	nd 3 include:	plication for the decommission
Summary of proposed activities or chang	●Und	ertake v	alidation of so	ils within Emergency pond;	
existing operations.		 Appropriate disposal of any contaminated material at a licenced facility; and 			
		•Disconnection of Emergency Pond 3 from Broome South WWTP.			
Category number/s (activities that cau	se the p	premises t	o becon	ne prescribed	l premises)
Table 1: Prescribed premises categorie	es				1
Prescribed premises category and description	Production or design capacity		Proposed changes to the production or design capacity		
Category 54	2,000	m3 per day	/		No changes proposed
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.					
Category 61	1,000	m3 per anı	nual peri	od	No changes proposed
iquid waste facility: premises on which liquid waste produced on other remises (other than sewerage vaste) is stored, reprocessed, treated r irrigated.					
egislative context and other approval	ls				
Has the applicant referred, or do they intend to refer, their proposal to the EPA under Part IV of the EP Act as a significant proposal?		Yes 🗆	No 🖂	N/A	
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?		Yes 🗆	No 🖂	N/A:	
Has the proposal been referred and/or assessed under the EPBC Act?		Yes 🗆	No 🛛	N/A	
				Previously s	upplied
Has the applicant demonstrated occupancy (proof of occupier status)?		Yes 🛛	No 🗆		
Has the applicant obtained all relevant planning approvals?		Yes □ N/A ⊠	No 🗆	Under Section 137 of the Water Services Act 2012, the Water Corporation is exempt from the requirement (under the Planning and Development Act 2005) to obtain development approvals for Public Water Works under a Local Planning Scheme.	
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?		Yes □ ⊠	No	N/A	

Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes 🗆 No 🛛	No clearing is proposed.
Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes 🗆 No 🖂	Licence / permit not required.
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes 🗆 No 🖂	The premises is located on the Broome Groundwater Area as proclaimed in the RIWI Act 1914
Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes □ No ⊠	N/A
Is the Premises subject to any other Acts or subsidiary regulations (e.g. Dangerous Goods Safety Act 2004, Environmental Protection (Controlled Waste) Regulations 2004, State Agreement Act xxxx)	Yes 🗆 No 🛛	N/A
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes 🗆 No 🖂	N/A
Is the Premises subject to any EPP requirements?	Yes 🗆 No 🖂	N/A
Is the Premises a known or suspected contaminated site under the <i>Contaminated</i> <i>Sites Act 2003</i> ?	Yes ⊠ No □	The site was first classified under section 13 of the Act based on information submitted to DWER by January 2007. The site was classified again under section 13 of the Act to reflect additional technical information submitted to DWER by March 2015. The reasons for classification were updated to reflect additional technical information submitted to DWER by May 2018. The site has been reclassified under section 13 of the Act to reflect additional technical information submitted to DWER by May 2019