



<b>Licence Number</b>	L8004/2005/3
<b>Licence Holder</b>	Water Corporation
<b>ABN</b>	28 003 434 917
<b>File Number:</b>	2012/006870-1
<b>Premises</b>	Kambalda Wastewater Treatment Plant Crown Reserve 38893 Kambalda 6391
<b>Date of Amendment</b>	14 March 2019

## Amendment

The Chief Executive Officer (CEO) of the Department of Water and Environmental Regulation (DWER) has amended the above Licence in accordance with section 59 of the *Environmental Protection Act 1986* (EP Act) as set out in this Amendment Notice. This Amendment Notice constitutes written notice of the amendment in accordance with section 59B(9) of the EP Act.

**STEVE CHECKER  
MANAGER WASTE INDUSTRIES  
REGULATORY SERVICES**

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

# Definitions and interpretation

## Definitions

In this Amendment Notice, the terms in Table 1 have the meanings defined.

**Table 1: Definitions**

Term	Definition
ACN	Australian Company Number
AER	Annual Environment Report
Amendment Notice	refers to this document
Category/ Categories/ Cat.	categories of Prescribed Premises as set out in Schedule 1 of the EP Regulations
CEO	means Chief Executive Officer. CEO for the purposes of notification means: Director General Department Administering the <i>Environmental Protection Act 1986</i> Locked Bag 33 Cloisters Square PERTH WA 6850 <a href="mailto:info@dwer.wa.gov.au">info@dwer.wa.gov.au</a>
Delegated Officer	an officer under section 20 of the EP Act
Department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> and designated as responsible for the administration of Part V, Division 3 of the EP Act.
DWER	Department of Water and Environmental Regulation
EPA	Environmental Protection Authority
EP Act	<i>Environmental Protection Act 1986 (WA)</i>
EP Regulations	<i>Environmental Protection Regulations 1987 (WA)</i>
Existing Licence	The Licence issued under Part V, Division 3 of the EP Act and in force prior to the commencement of and during this Review
Licence Holder	Water Corporation
m <sup>3</sup>	cubic metres
Minister	the Minister responsible for the EP Act and associated regulations
NEPM	National Environmental Protection Measure

Occupier	has the same meaning given to that term under the EP Act.
Prescribed Premises	has the same meaning given to that term under the EP Act.
Premises	refers to the premises to which this Decision Report applies, as specified at the front of this Decision Report.
Risk Event	as described in <i>Guidance Statement: Risk Assessment</i>
UDR	<i>Environmental Protection (Unauthorised Discharges) Regulations 2004 (WA)</i>

## Amendment Notice

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

This notice is limited only to an amendment for Category 54.

The following guidance statements have informed the decision made on this amendment:

- *Guidance Statement: Regulatory Principles (July 2015)*
- *Guidance Statement: Setting Conditions (October 2015)*
- *Guidance Statement: Land Use Planning (February 2017)*
- *Guidance Statement: Licence Duration (August 2016)*
- *Guidance Statement: Decision Making (February 2017)*
- *Guidance Statement: Risk Assessment (February 2017)*
- *Guidance Statement: Environmental Siting (November 2016)*

## Amendment description

The licence is amended in response to an amendment application submitted by the Water Corporation (Licence Holder) on 14 December 2018, requesting the inclusion of the Kambalda East and West wastewater ponds into the premises boundary and correcting references to incorrect reserve number to reflect the actual location of the infrastructure.

The following information in relation to the two ponds and the actual location of the water treatment plant (WWTP) has been summarised from the application:

- Kambalda Wastewater Treatment Plant is located on Crown Reserve 51526 and not on 38893;
- Kambalda East WWTP pond is located on Crown Reserve 38893;
- Kambalda West WWTP is located on Crown Reserve 51525;
- The ponds whilst located outside of the prescribed premises boundary, are currently utilized for emergency storage during planned maintenance and emergency shutdown periods;
- Kambalda East comprises five ponds and Kambalda West comprises three ponds (dimensions provided below);
- Untreated wastewater can only be diverted to the old ponds prior to the influent being received at the Kambalda WWTP,
- Wastewater is not able to be pumped from the WWTP to the old ponds;
- Stored wastewater will be tankered to the WWTP from the old ponds for treatment,
- Wastewater is not able to be pumped from the old ponds to the WWTP for treatment;
- Under normal operations no wastewater is discharged from the WWTP,
- There is a recycled water agreement between Water Corporation and BHP;
- Kambalda East - sewer line into the plant is 150mm AC pipeline;
- Kambalda West – sewer line into the plant is 380mm AC pipeline;
- Kambalda East pond permeability is approximately  $1 \times 10^{-8}$  m/s; and

- Kambalda West pond permeability is approximately  $1 \times 10^{-7} \text{m/s}$

The Licence Holder has submitted a revised prescribed premises boundary with the application.

The amendment to revise the prescribed premises boundary is made by the Delegated Officer pursuant to section 59(1)(c) of the EP Act.

**Table 2: Kambalda East pond details**

	m	m	m	m	m	m <sup>2</sup>	m <sup>2</sup>	m <sup>3</sup>
Component Name	Length (TWL)	Width (TWL)	Length (Base)	Width (Base)	Depth (TWL)	Surface Area (TWL)	Surface Area (Base)	Volume (TWL)
Pond 1	136	61	124	49	2.00	8,296	6,076	14,300
Pond 2	141	81	129	69	2.00	11,421	8,901	20,250
Pond 3	116	31	104	19	2.00	3,596	1,976	5,500
Pond 4	101	36	89	24	2.00	3,636	2,136	5,700
Pond 5	46	41	34	29	2.00	1,886	986	2,800

**Table 3: Kambalda West pond details**

Units =>	m	m	m	m	m	m <sup>2</sup>	m <sup>2</sup>	m <sup>3</sup>
Component Name	Length (TWL)	Width (TWL)	Length (Base)	Width (Base)	Depth (TWL)	Surface Area (TWL)	Surface Area (Base)	Volume (TWL)
Pond 1	85	30	79	24	1.00	2,550	1,896	2,214
Pond 2	85	30	79	24	1.00	2,550	1,896	2,214
Pond 3	180	75	174	69	1.00	13,500	12,006	12,744

## Amendment history

Table 4 provides the amendment history for L8004/2005/3.

**Table 4: Licence amendments**

Instrument	Issued	Amendment
L8004/2005/3	29/04/2016	Licence amendment for the extension of the Licence duration to 4 July 2025
L8004/2005/3	14/03/2019	Amendment Notice 1 to add Kambalda East and West wastewater ponds into the premises boundary and correcting references to incorrect reserve number to reflect the actual location of the infrastructure

## Location and receptors

Table 5 below lists the relevant sensitive land uses in the vicinity of the Prescribed Premises which may be receptors relevant to the proposed amendment.

**Table 5: Receptors and distance from activity boundary**

Residential and sensitive premises	Distance from Prescribed Premises
<i>Mac Kambalda Village</i>	<i>Approximately 1 km from the premises boundary</i>

Table 6 below lists the relevant environmental receptors in the vicinity of the Prescribed Premises which may be receptors relevant to the proposed amendment.

**Table 6: Environmental receptors and distance from activity boundary**

Environmental receptors	Distance from Prescribed Premises
-------------------------	-----------------------------------

<i>Lake Lefroy</i>	<i>Approximately 1.5 km from the premises boundary</i>
<i>Depth to groundwater</i>	<i>3 metres below ground level</i>

## **Risk assessment**

Table 7 below describe the Risk Events associated with the amendment consistent with the *Guidance Statement: Risk Assessments*. Both tables identify whether the emissions present a material risk to public health or the environment, requiring regulatory controls.

**Table 2: Risk assessment for proposed amendments during operation**

Risk Event					Consequence rating	Likelihood rating	Risk	Reasoning	
Source/Activities	Potential emissions	Potential receptors	Potential pathway	Potential adverse impacts					
<b>Cat 54</b> Sewage Facility	Emergency discharge and storage of untreated wastewater to Kambalda East and West Ponds	<b>Odour:</b> associated with storage of untreated effluent	None	-	-	NA	NA	NA	No receptor present in the close proximity. The Delegated Officer has noted that there have been no complaints in the previous 10 years. In the event that odour issues arise, the Delegated Officer considers that the provisions of the existing licence and Section 49 of the Environmental Protection Act 1986 are sufficient to regulate odour emissions during operation.

		<p><b>Sewage discharge:</b> containing high concentrations of TN, TP associated with overtopping or infrastructure failure</p>	<p>Vegetation adjacent to the ponds</p> <p>Groundwater (located 3mbgl) has not been considered as a sensitive receptor as it is hypersaline with limited beneficial use.</p>	<p>Direct Discharge</p> <p>Groundwater</p>	Vegetation death/damage	Moderate	Possible	Medium	<p>The Delegated Officer has reviewed information relating to the risk of waste water discharging to land and groundwater due to infrastructure failure/overtopping and has determined that:</p> <ul style="list-style-type: none"> <li>• As the ponds are to be used intermittently there is limited storage time/volume of effluent proposed</li> <li>• Ponds have been used over the last 10 years without known failure or overtopping,</li> <li>• discharge to the Kambalda East and West ponds will only be allowed during extreme weather conditions or during operational malfunction or maintenance of the main treatment ponds in accordance with the application;</li> <li>• Licence condition 4 will be included that requires a freeboard level of 300mm is maintained to mitigate risk of overtopping.</li> </ul>
--	--	--	--	--	-------------------------	----------	----------	--------	---



		<p><b>Seepage of untreated wastewater from storage ponds</b></p>	<p><i>Vegetation adjacent to ponds</i></p> <p><i>Groundwater (located 3mbgl) has not been considered as a sensitive receptor as it is hypersaline with limited beneficial use.</i></p>	<p><i>Groundwater</i></p>	<p><i>Soil and groundwater contamination with wastewater containing high concentrations of TN, TP,</i></p>	<p>Minor</p>	<p>Unlikely</p>	<p>Medium</p>	<p><i>The Delegated Officer has reviewed information relating to the risk of seepage of untreated wastewater from storage ponds and has determined that:</i></p> <ul style="list-style-type: none"> <li><i>• the ponds lining does not meet an 'effectively impervious' standard of <math>1 \times 10^{-9}</math> m/s</i></li> <li><i>• given the location of the ponds in a hypersaline environment as well as the intermittent storage proposed, the standard of the pond lining is considered acceptable</i></li> <li><i>• Licence condition 4 has been included to require that minimum liner infrastructure requirements be maintained to mitigate the risk of seepage from the ponds.</i></li> </ul>
--	--	--	--	---------------------------	--	--------------	-----------------	---------------	--

## Decision

The Delegated Officer has determined that an amendment be made to the Licence with the inclusion of additional licence conditions to allow for the operation of the Kambalda East and West wastewater ponds.

The Delegated officer has also considered that since the operation does not involve discharge of effluent water to land (100% re-use by BHP) effluent water quality monitoring will not be required.

## Licence Holder's comments

The Licence Holder was provided with the draft Amendment Notice on 25 February 2019. A summary of licence holder comments is provided in Appendix 2.

## Amendment

- The front page of the Licence is amended by the deletion of the text shown in strike through below and the insertion of the red text shown in the underline below:

### NAME AND LOCATION OF PREMISES

Kambalda Wastewater Treatment Plant

Crown Reserve ~~38893~~51526; Crown Reserve 38893, & Crown Reserve 10023

- The licence is amended by the insertion of the text shown below:

### **Premises and Licence Summary:**

The Kambalda Wastewater Treatment Plant (WWTP) treats wastewater to a secondary standard utilising an Extended Aeration Activated Sludge Plant. All treated wastewater is chlorinated via decanting tank and transported via pipeline conveyance to BHP Nickel-West in Kambalda East for industrial reuse purposes. Two decommissioned pond systems (Kambalda East and West) are currently utilized for emergency storage of untreated effluent during planned maintenance and emergency shutdown periods.

- The licence has been amended by the insertion of the following condition 3 below:

3 The Licensee shall only accept waste on to the premises if:

- it is of a type listed in Table 1.3.1;
- the quantity accepted is below any quantity limit listed in Table 1.3.1; and
- it meets any specification listed in Table 1;

**Table 1: Waste acceptance**

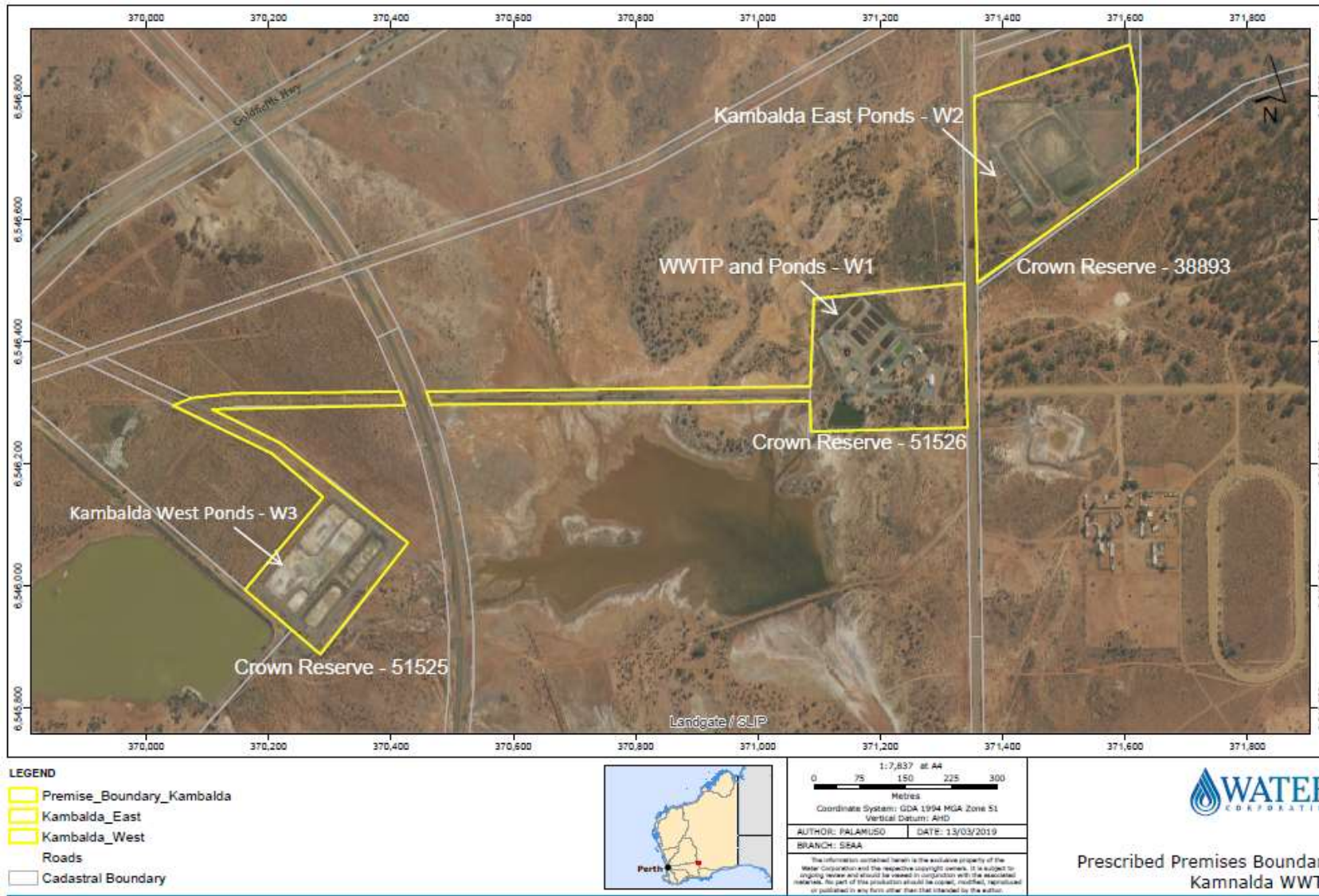
Waste	Waste Code	Quantity Limit	Specification
<b>Putrescible and Organic wastes</b>			
Sewage	K130	1,500m <sup>3</sup> /day cumulative volume as monthly average	Accepted through sewer inflow(s)

- The licence has been amended by the insertion of the following condition below:

- 4: *The Licensee shall ensure that waste is only stored and/or treated within vessels or compounds provided with the infrastructure detailed in Table 2.*

<b>Table 2: Containment infrastructure</b>		
<b>Vessel or compound</b>	<b>Material</b>	<b>Requirements</b>
<i>Wastewater Treatment plant Ponds(W1)</i>	<i>Wastewater</i>	<i>Permeability unknown</i>
<i>Kambalda East Ponds (W2)</i>	<i>wastewater</i>	<ol style="list-style-type: none"> <li>1) <i>wastewater directed to Kambalda east ponds for storage during planned maintenance and emergency shutdown periods;</i></li> <li>2) <i>wastewater tankered back to the WWTP for treatment when required;</i></li> <li>3) <i>maintain a liner permeability of less than <math>1 \times 10^{-8}</math>m/s;</i></li> <li>4) <i>Maintain a minimum one metre separation distance of between the base of the pond and the highest ground water level; and</i></li> <li>5) <i>A minimum top of embankment freeboard of 300 mm is maintained.</i></li> </ol>
<i>Kambalda West Ponds (W3)</i>	<i>wastewater</i>	<ol style="list-style-type: none"> <li>1) <i>wastewater directed to Kambalda west ponds for storage during planned maintenance and emergency shutdown periods;</i></li> <li>2) <i>wastewater tankered back to the WWTP for treatment when required;</i></li> <li>3) <i>maintain a liner permeability of less than <math>1 \times 10^{-7}</math>m/s;</i></li> <li>4) <i>Maintain a minimum one metre separation distance of between the base of the pond and the highest ground water level; and</i></li> <li>5) <i>A minimum top of embankment freeboard of 300 mm is maintained.</i></li> </ol>

5. *The Premises map in Schedule 1: Maps of the licence is replaced with the revised map shown below:*



## Appendix 1: Key documents

	Document title	In text ref	Availability
1	Licence L8004/2005/3 – Kambalda Wastewater Treatment Plant	L8004/2005/3	accessed at <a href="http://www.dwer.wa.gov.au">www.dwer.wa.gov.au</a>
2	DER, July 2015. <i>Guidance Statement: Regulatory principles.</i> Department of Environment Regulation, Perth.	DER 2015a	accessed at <a href="http://www.dwer.wa.gov.au">www.dwer.wa.gov.au</a>
3	DER, October 2015. <i>Guidance Statement: Setting conditions.</i> Department of Environment Regulation, Perth.	DER 2015b	
4	DER, August 2016. <i>Guidance Statement: Licence duration.</i> Department of Environment Regulation, Perth.	DER 2016a	
5	DER, November 2016. <i>Guidance Statement: Risk Assessments.</i> Department of Environment Regulation, Perth.	DER 2016b	
6	DER, November 2016. <i>Guidance Statement: Decision Making.</i> Department of Environment Regulation, Perth.	DER 2016c	

## Appendix 2: Summary of Licence Holder comments

The Licence Holder was provided with the draft Amendment Notice on 25 February 2019 for review and comment. Comments received from the Licence Holder have been considered by the Delegated Officer as shown below.

Condition	Summary of Licence Holder comment	DWER response
Amendment Description	<p>Please remove the statement “Stored wastewater will be directed to the WWTP from the old ponds for treatment” as this is not the treatment process.</p> <p>Proposed alternative “Wastewater is not able to be pumped from the old ponds to the WWTP, stored wastewater will be tankered to the WWTP from the old ponds for treatment”</p>	Changes adopted.
Premises Map	An updated premises boundary map has been attached.	Updated map included