



# Amendment Notice 1

**Licence Number** L6246/1991/8

**Licence Holder** Water Corporation

**ACN** 28 033 434 917

**File Number:** DER2013/001027-1

**Premises** South Hedland Wastewater Treatment Plant  
Reserve 31687, Lot 2040 Golf Course Road  
SOUTH HEDLAND WA 6722  
Being Lots 356 on Plan 74206. Lots 6035, 341, 342,  
343 and Part of Lot 344 on Plan 72901 and Part of Lot  
6067 on Plan 220454  
As depicted in Schedule 1.

**Date of Amendment** 24 April 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
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 10 JOONDALUP DC WA 6919 <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>
EPA, 2003	<i>Guidelines for Environmental Management: Use of reclaimed water</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
Noise Regulations	<i>Environmental Protection (Noise) Regulations 1997 (WA)</i>
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>
TTP	Tertiary Treatment Plant
TWW	Treated Waste Water
WRP	Water Recycling Plant
WWTP	Wastewater Treatment Plant

## 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.

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 South Hedland WWTP operates under Licence L6246/1991/8 as a category 54 prescribed premises which treats wastewater to a secondary standard via 2 anaerobic primary ponds, 4 facultative ponds and 3 maturator ponds. The treated wastewater is stored in a compensation pond before it is either reused for irrigation via the Tertiary Treatment Plant (TTP) (Class A (ANZECC 1997)/ High exposure risk (DoH 2011) end use water) by the Town of Port Hedland, or disposed of to the offsite contingency disposal site.

The Licence Holder submitted an application for an amendment to Licence L6246/1991/8 on 14 March 2019. The requested amendment is to enable contingency treatment and storage infrastructure to allow the continued supply of Class C (ANZECC 1997)/ Low exposure risk (DoH 2011) end use water to the Golf Course when the TTP is undergoing maintenance or repairs. Currently when the TTP is offline, all treated wastewater is either held in the 3 onsite storage lagoons for disposal via evaporation/infiltration, or is discharged to an offsite contingency disposal area. The TTP is currently offline due to a recent membrane treatment failing, resulting in the inability to produce Class A water for the reuse scheme. The Licence Holder expects repairs to the TTP could take anywhere between 9 – 11 months.

The Licence Holder has requested an amendment to the Licence to allow the construction of a temporary bypass system to bypass the TTP and deliver Class C recycled water from compensation pond No. 1 to the Golf Course pumpset. The change from Class A to Class C water will remain compliant with the Licence Holders current Department of Health approvals. The bypass system will allow for emergency maintenance on the TTP without increasing the risk of overtopping the offsite disposal pond. As the Golf Course typically uses 1200- 1600kL/day of water, it is expected that diverting water to the Golf Course while the TTP is offline will significantly reduce the risk of an overflow event occurring at the WWTP. The Licence Holder considers there is no material change to the emissions from the premises and states that all works will be constructed in accordance with the relevant standards and managed with existing operational controls. No changes to discharge points have been requested. The amendment will utilise existing infrastructure where possible and requires the following proposed works;

- Installation of 2 60kL storage tanks (on concrete slab foundations),
- Construction of WRP to Bypass tank rising main,
- Construction of Bypass tank to Golf Course pumpset manifold,
- Construction of tank cross-section pipework, and

- Construction of scour and overflow pipework.

## Amendment history

Table 2 provides the licensing history for L6246/1991/8 since 8/10/2000.

**Table 2:** Licence amendments

Instrument	Issued	Amendment
L6246/1991/1	08/10/2000	Licence re-issue
L6246/1991/2	08/10/2001	Licence re-issue
L6246/1991/3	08/10/2002	Licence re-issue
L6246/1991/4	08/10/2003	Licence re-issue
L6246/1991/5	08/10/2004	Licence re-issue
L6246/1991/6	01/11/2006	Licence re-issue
L6246/1991/7	01/11/2008	Licence re-issue
L6246/1991/7	24/03/2011	Licence amendment
L6246/1991/7	04/04/2013	Licence amendment for the operation of the onsite irrigation field
L6246/1991/8	01/11/2013	Licence re-issue
L6246/1991/8	02/07/2015	Licence amendment to new format to include works completed under Works Approval's W5109/2011/1 and W5451/2013/1.
L6246/1991/8	24/04/2019	Amendment Notice 1: to allow the construction of temporary bypass system to bypass the TTP during maintenance or emergency shutdown.

## Location and receptors

Table 3 below lists the relevant sensitive land uses in the vicinity of the Prescribed Premises which may be receptors relevant to the proposed amendment.

**Table 3: Receptors and distance from activity boundary**

Residential and sensitive premises	Distance from Prescribed Premises
Golf Course.	~ 530m NNE Receives direct discharge of treated wastewater.
Township of South Hedland.	~1.5km km north
A low density light industrial area.	Immediately north west of the site.

Table 4 below lists the relevant environmental receptors in the vicinity of the Prescribed Premises which may be receptors relevant to the proposed amendment.

**Table 4: Environmental receptors and distance from activity boundary**

Environmental receptors	Distance from Prescribed Premises
Unnamed tributary's – ephemeral creek's which (when flowing) drain into Taylor Inlet, Port Hedland.	~800m east of site, and ~1.5km west of site

## Consultation

The Department of Health (DoH) were provided with a copy of the application for comment. DoH advised on 5/4/2019 that they had no objection to the bypass subject to the following conditions:

1. Installation of a filtration system before chlorination
2. Minimum chlorine contact time of 30 minutes before recycled water is pumped to the golf course
3. Storage tanks installed in accordance to relevant Australian Standards
4. Submission of the Recycled Water Quality Management Plan as per Annexure B of the Recycled Water Supply Agreement of June 2012 by June 2020.

## Risk assessment

Tables 5 and 6 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 5: Risk assessment for proposed amendments during construction**

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 premises	Construction of bypass infrastructure	<b>Dust:</b> Associated with construction activities	Golf Course: ~530m NNE of site  Light industrial area: ~100m N of site	Air: Wind dispersal	Health and amenity impacts	Slight	Possible	Low	Dust is not expected to have a significant impact on the health and amenity of the surrounding land uses and the proposed works are minimal in nature and the Licence Holder has committed to taking all reasonable and practical measures to prevent or minimize the generation of windborne dust, sand or debris during construction.
<b>Cat 54:</b> Sewage facility premises	Construction of bypass infrastructure	<b>Noise:</b> Associated with construction activities	Golf Course: ~530m NNE of site  Light industrial area: ~100m N of site	Air: Wind dispersal	Amenity impacts causing nuisance	Slight	Unlikely	Low	Licence Holder controls include the use of silencing equipment.  Noise impacts can be managed under the Noise Regulations.

**Table 6: 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					
Cat 54: Sewage facility premises	Irrigation of Class C recycled water at Golf Course	<p><b>Odour:</b> Associated with Class C treated wastewater</p>	<p>Golf Course</p> <p>Light industrial area immediately North of Premises</p>	Air: Wind dispersal	Amenity impacts causing nuisance	Slight	Unlikely	Low	<p>Currently when the TTP is operational, Class A recycled water is directed to the Golf Course for irrigation purposes. The proposed amendment will allow for Class C recycled water to bypass the TTP and be directed directly to the Golf Course for irrigation.</p> <p>Class C recycled water is suitable for "restricted public access areas e.g. Sporting facilities and golf courses given that a 4 hour drying period is allowed before public access (<i>EPA, 2003</i>).</p> <p>The operations are unlikely to generate odour. However current licence conditions 1.3.9 and 1.3.10 requires that the Licence Holder complies with their Odour Management Plan (2014) and their Operational Odour Management Plan (2015). These plans help ensure odour emitted from the Premises does not unreasonably interfere with the health, welfare, convenience, comfort or</p>



Risk Event					Consequence rating	Likelihood rating	Risk	Reasoning	
Source/Activities	Potential emissions	Potential receptors	Potential pathway	Potential adverse impacts					
								amenity of the public.	
		<b>Class C treated wastewater</b>	Groundwater and groundwater dependent ecosystem  Surrounding land, vegetation, and surface water	Infiltration of wastewater  Overland flow	Groundwater contamination from excessive nutrients  Contamination of surrounding land and surface water from excessive nutrients.  Public Health	Slight	Unlikely	Low	<p>Class C recycled water is suitable for "restricted public access areas e.g. Sporting facilities and golf courses given that a 4 hour drying period is allowed before public access (<i>EPA, 2003</i>).</p> <p>As the TTP does not improve the nutrient quality of the TWW, bypassing the TTP will have no impact on the nutrients levels or BOD being discharged to the Golf Course therefore, there is no change in risk of contamination.</p> <p>Due to the scarcity of groundwater data at the golf course, distance to groundwater is estimated as &lt;9mBGL - given the nearby groundwater bores at the WWTP and in South Hedland, and the assumption that the topography is reasonably flat.</p> <p>The reuse water will remain chlorinated via a new chlorine dosing point as indicated in Appendix 3, further reducing the risk to</p>

Risk Event					Consequence rating	Likelihood rating	Risk	Reasoning	
Source/Activities	Potential emissions	Potential receptors	Potential pathway	Potential adverse impacts					
								human health from irrigation of Class C water.	
	Spill of Class C recycled water from bypass infrastructure prior to Golf Course pumpset	<b>Class C treated wastewater:</b> Spillage	Surrounding land, vegetation, and surface water	Overland flow	Contamination of surrounding land and surface water from excessive nutrients.	N/A	N/A	N/A	The Delegated Officer considers that as the WWTP is banded, the infrastructure footprint is on a hardstand, the nature of Class C TWW and the existing spill management practices on site, the risk from a potential spill of Class C water before it reaches the Golf Course pumpset is negligible.

## Decision

The Delegated Officer considers the construction of temporary bypass infrastructure to allow for the reinstatement of the Licence Holder's water reuse scheme with the Golf Course as an acceptable means to mitigate the risk of overflow at the offsite contingency disposal site. The risks of odour, groundwater contamination and surface water contamination have all been assessed and the Delegated Officer considers the low risk events are acceptable to grant the amendment, with the amended conditions below.

## Licence Holder's comments

The Licence Holder was provided with the draft Amendment Notice on 10 April 2019. Comments received from the Licence Holder have been considered by the Delegated Officer as shown in Appendix 2.

## Amendment

1. Condition 1.3.3 of the Existing Licence is amended by the deletion of the text shown in strikethrough and the insertion of the red text shown in underline below:

- 1.3.3 The Licensee shall ensure that the wastes accepted onto the Premises are only subjected to the processes set out in Table 1.3.2 and in accordance with any process requirements described in that table.

Waste type	Process	Process requirements
Sewage	<ul style="list-style-type: none"><li>Physical, biological and chemical treatment</li><li><u>Storage and disposal</u></li></ul>	<ul style="list-style-type: none"><li>Treatment of sewage waste shall be limited at or below the treatment capacity of 9 500 m<sup>3</sup>/day; and</li><li><u>TWW is permitted to be processed through the temporary bypass system for offsite reuse.</u></li></ul>
Sewage Sludge	Storage and disposal	<ul style="list-style-type: none"><li>Collected leachate to be returned to treatment ponds; and</li><li>Removal of sludge and biosolids in accordance with the document Western Australian guidelines for biosolids management, Department of Environment and Conservation, (December 2012 or updated version), or to a <del>to a</del> licensed landfill facility.</li></ul>

2. Condition 1.3.4 of the Existing Licence is amended by the insertion of the red text shown in underline below:

- 1.3.4 The Licensee shall ensure that waste material is only stored and/or treated within vessels or compounds provided with the infrastructure detailed in Table 1.3.3.

**Table 1.3.3: Containment infrastructure**

Vessel or compound	Material	Requirements
Inlet works (Drum Screen)	Grit and Screenings	Stored in a sealed bin which is surrounded by a bunded hardstand area which returns sludge leachate to the start of the treatment process
Anaerobic Ponds 1 and 2	Wastewater	Geosynthetic clay lined to achieve a permeability of $<10^{-9}$ m/s or equivalent
Primary Ponds 1,2 and 3 (Aerated Ponds)	Wastewater	Lined with compacted in-situ soils
Secondary Ponds 1,2 and 3 (Maturation Pond 1)	Wastewater	Lined with compacted in-situ soils
Treatment Pond 4	Wastewater	Lined with compacted in-situ soils
Compensating Basin 1	Treated wastewater	Lined with geotextile to achieve a permeability of $<10^{-9}$ m/s or equivalent
Compensating Basin 2 and 3	Treated wastewater	Unlined
Evaporation Basins	Treated wastewater	Unlined
Sewage sludge compound	Sewage sludge	Contained in sludge drying beds
<u>2x 60kL storage tanks</u>	<u>Treated wastewater</u>	<u>On concrete slab foundations</u> <u>Within bunded area</u>

3. The Licence is amended by the insertion of condition 1.3.11 to 1.3.14 below.

1.3.11 *The Licence Holder must install and undertake the Works for the infrastructure and equipment:*

*Specified in Column 1;*

*To the requirements specified in Column 2; and*

*At the location specified in Column 3 of Table 1.3.4 below.*

**Table 1.3.4: Infrastructure and equipment requirements table**

Column 1	Column 2	Column 3
Infrastructure/ Equipment	Requirements (design and construction)	Site plan reference
2x storage tanks	<ul style="list-style-type: none"> <li>2x 60kL storage tanks;</li> <li>Constructed on concrete slab foundations within bunded area</li> </ul>	Appendix 3; and Appendix 4
Bypass tank to golf course pumpset manifold	To the design represented in Appendix 3 and Appendix 4	Appendix 3; and Appendix 4
WRP to bypass tank rising main	To the design represented in Appendix 3 and Appendix 4	Appendix 3; and Appendix 4
Tank cross-section pipework	To the design represented in Appendix 3 and Appendix 4	Appendix 3; and Appendix 4

Scour and overflow pipework	To the design represented in Appendix 3 and Appendix 4	Appendix 3; and Appendix 4
Pre-chlorination filtration system	800 um self-cleaning filtration unit installed prior to bypass storage tanks	N/A

1.3.12 The Licence Holder must not depart from the requirements specified in Column 2 of Table 1.3.4 except:

- a) Where such departure does not increase risks to public health, public amenity or the environment; and
- b) All other Conditions in this Licence are still satisfied.

1.3.13 Subject to Condition 1.3.12, within 30 days of the completion of the Works specified in Column 1 of Table 1.3.4, the Licence Holder must provide the CEO a report confirming each item in Column 1 of Table 1.3.4 has been constructed with no material defects and to the requirements specified in Column 2.

1.3.14 Where a departure from the requirements specified in Column 2 of Table 1.3.4 occurs and is of a type allowed by Condition 1.3.12, the Licence Holder must provide to the CEO a description of, and explanation for, the departure along with the certification required by Condition 1.3.13.

4. Condition 2.1.1 of the Existing Licence is amended by the deletion of the text shown in strikethrough and the insertion of the red text shown in underline below.

2.1.1 The Licensee shall ensure that where waste is emitted to land from the emission points in Table ~~2.5.4~~ 2.1.1 [and identified on the map of emission points in Schedule 1] it is done so in accordance with the conditions of this Licence.

<b>Table 2.1.1: Emissions to land</b>		
<b>Emission point reference</b>	<b>Description</b>	<b>Source including abatement</b>
L1	TWW not used for offsite <del>Shire</del> reuse discharged into Compensating Basins 2 & 3	TWW pumped from Compensation Basin 1 to Compensation Basins 2 & 3.
L2	TWW not used for offsite <del>Shire</del> reuse discharged into Evaporation Basins	TWW pumped from Compensating Basin 1 to Evaporation Bays

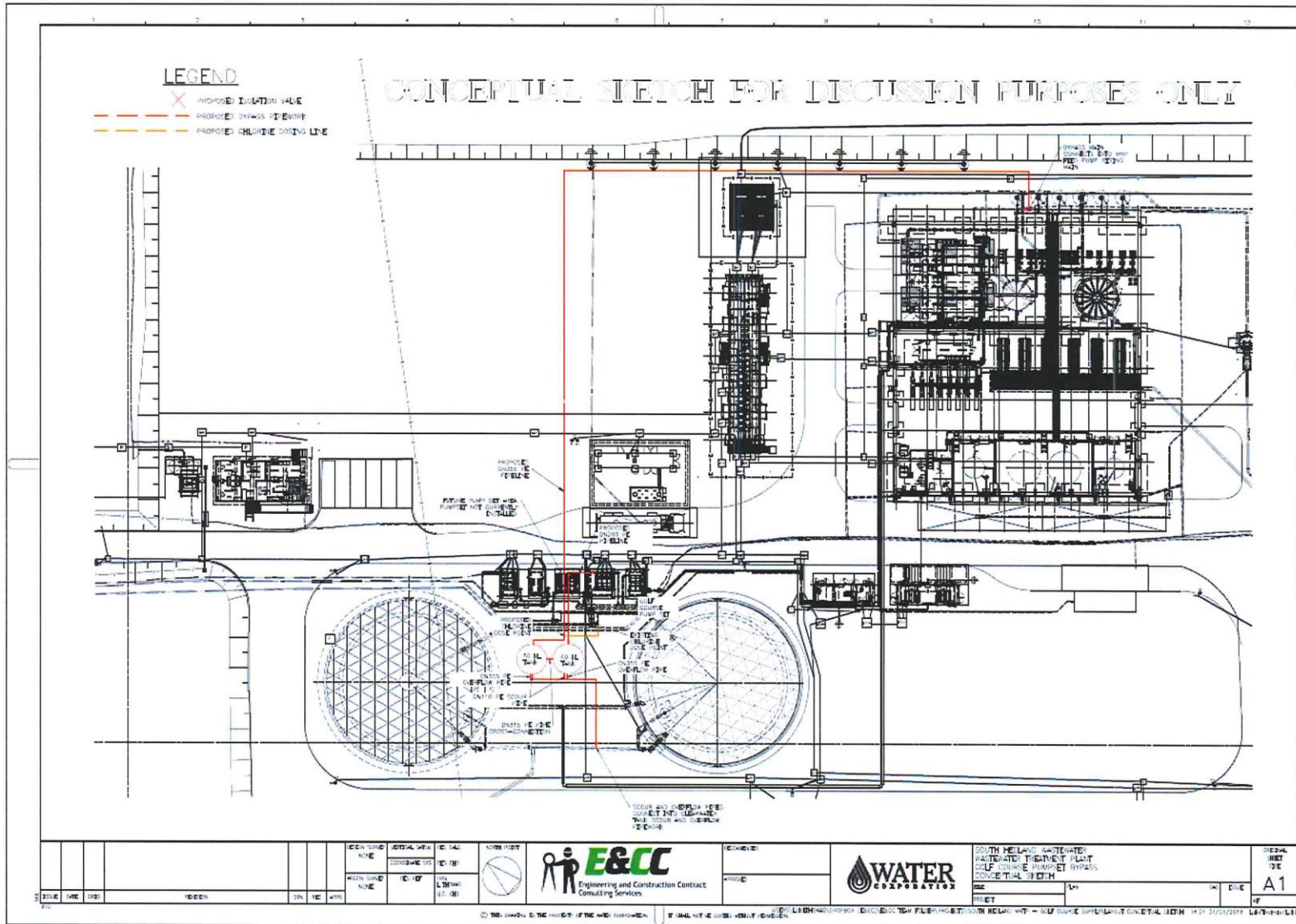
## Appendix 1: Key documents

	Document title	In text ref	Availability
1	Licence L6246/1991/8 – South Hedland WWTP	L6246/1991/8	accessed at <a href="http://www.dwer.wa.gov.au">www.dwer.wa.gov.au</a>
2	DoH, 2011, <i>Guidelines for the Non-potable Uses of Recycled Water in Western Australia</i> , Department of Health, Perth	DoH 2011	accessed at <a href="http://www.health.wa.gov.au">www.health.wa.gov.au</a>
3	ANZECC, 1997, <i>Australian Guidelines for Sewerage Systems, Effluent Management</i> , Australian and New Zealand Environment and Conservation Council.	ANZECC 1997	accessed at <a href="http://www.waterquality.gov.au">www.waterquality.gov.au</a>
4	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>
5	DER, October 2015. <i>Guidance Statement: Setting conditions</i> . Department of Environment Regulation, Perth.	DER 2015b	
6	DER, August 2016. <i>Guidance Statement: Licence duration</i> . Department of Environment Regulation, Perth.	DER 2016a	
7	DER, November 2016. <i>Guidance Statement: Risk Assessments</i> . Department of Environment Regulation, Perth.	DER 2016b	
8	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 10 April 2019 for review and comment. The Licence Holder responded on 12 April 2019 waiving the remaining comment period. No comments were submitted on the draft Amendment Notice.

# Appendix 3: Bypass Layout





# Appendix 4: Bypass tank layout

