Government of Western Australia
Department of Environment Regulation

Licence

Environmental Protection Act 1986, Part V

Licensee: RAC Tourism Assets Pty Ltd
Licence: L7426/2000/8

Registered office: 832 Wellington Street
PERTH WA 6000

ACN: 168 253 085

Premises address: Monkey Mia Dolphin Resort
Monkey Mia Road
SHARK BAY WA 6537
Being Lot 556 on Plan 404665; portion of Lot 555 on Plan 404665 (15 metre wide parallel easement for the rising main); portion of Lot 300 on Plan 51888 (15 metre wide parallel easement for the rising main); portion of Lot 130 on Plan 54332 (15 metre wide parallel easement for the rising main); and portion of Lot 130 on Plan 54332 (macerator pit) as depicted in Schedule 1.

Grant date: Thursday, 2 April 2015

Commencement date: Tuesday, 7 April 2015

Expiry date: Monday, 6 April 2029

Prescribed premises category
Schedule 1 of the *Environmental Protection Regulations 1987*

Category number	Category description	Category production or design capacity	Approved premises production or design capacity
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.	100 cubic metres or more per day	150 cubic metres per day (monthly average)

Conditions
This Licence is subject to the conditions set out in the attached pages.

Date signed: 10 November 2016
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Steve Checker
Manager Licensing (Waste Industries)
Officer delegated under section 20
of the *Environmental Protection Act 1986*

Contents

Introduction

This Introduction is not part of the Licence conditions.

DER's industry licensing role
The Department of Environment Regulation (DER) is a government department for the state of Western Australia in the portfolio of the Minister for Environment. DER's purpose is to advise on and implement strategies for a healthy environment for the benefit of all current and future Western Australians.

DER has responsibilities under Part V of the *Environmental Protection Act 1986* (the Act) for the licensing of prescribed premises. Through this process DER regulates to prevent, control and abate pollution and environmental harm to conserve and protect the environment. DER also monitors and audits compliance with works approvals and licence conditions, takes enforcement action as appropriate and develops and implements licensing and industry regulation policy.

Licence requirements
This Licence is issued under Part V of the Act. Conditions contained within the Licence relate to the prevention, reduction or control of emissions and discharges to the environment and to the monitoring and reporting of them.

Where other statutory instruments impose obligations on the Premises/Licensee the intention is not to replicate them in the licence conditions. You should therefore ensure that you are aware of all your statutory obligations under the Act and any other statutory instrument. Legislation can be accessed through the State Law Publisher website using the following link: http://www.slp.wa.gov.au/legislation/statutes.nsf/default.html

For your Premises relevant statutory instruments include but are not limited to obligations under the:

- *Environmental Protection (Unauthorised Discharges) Regulations 2004* – these Regulations make it an offence to discharge certain materials such as contaminated stormwater into the environment other than in the circumstances set out in the Regulations.

- *Environmental Protection (Controlled Waste) Regulations 2004* - these Regulations place obligations on you if you produce, accept, transport or dispose of controlled waste.

- *Environmental Protection (Noise) Regulations 1997* – these Regulations require noise emissions from the Premises to comply with the assigned noise levels set out in the Regulations.

You must comply with your licence. Non-compliance with your licence is an offence and strict penalties exist for those who do not comply.

Licence holders are also reminded of the requirements of section 53 of the Act which places restrictions on making certain changes to prescribed premises unless the changes are in accordance with a works approval, licence, closure notice or environmental protection notice.

Licence fees
If you have a licence that is issued for more than one year, you are required to pay an annual licence fee prior to the anniversary date of issue of your licence. Non-payment of annual licence fees will result in your licence ceasing to have effect meaning that it will no longer be valid and you will need to apply for a new licence for your Premises.

Ministerial conditions
If your Premises has been assessed under Part IV of the Act you may have had conditions imposed by the Minister for Environment. You are required to comply with any conditions imposed by the Minister.

Premises description and Licence summary
The Monkey Mia Wastewater Treatment Plant (WWTP) is located approximately 27 kilometres north east of Denham. The WWTP Premises boundary borders the Shark Bay Marine Park and lies within the Shark Bay World Heritage Area. The design capacity of the WWTP is 150 cubic metres per day (m^3/day), which exceeds the production or design capacity for category 54 of 100 m^3/day.

Wastewater generated from the Monkey Mia Dolphin Resort (MMDR), and adjacent Department of Parks and Wildlife visitors centre gravitates via a system of pipes to a pump station located within the MMDR. At this point the waste is macerated and pumped approximately 800 metres (m) south east of the resort to the WWTP. After maceration, wastewater from the rising main is passed through a 2mm drum screen to a wastewater balance tank. The wastewater balance tank is used to buffer diurnal flows, provide an opportunity for dilution and/or neutralisation, and provide a mechanism to temporarily halt processing of wastewater should there be a problem with the downstream equipment. Screened wastewater is then pumped to the biological reactor which involves a Modified Ludzack-Ettinger (MLE) activated sludge process. The movement of the wastewater between anoxic and aerobic zones enables high levels of Nitrogen (N) and Biochemical Oxygen Demand (BOD) reduction. To ensure the treated wastewater quality is achieved, key process indicators for the biological reactor such as flow, dissolved oxygen, mixed liquor suspended solids and pH is continuously monitored via the site Supervisory Control and Data Acquisition (SCADA) system.

Membrane filtration is then used to separate the treated wastewater from the mixed liquor. The small pore size of the membrane (0.04µm) results in the rejection of solids and the majority of pathogens. The filtered water is directed to the infiltration swale for disposal. The depth to groundwater at the Premises is 25 metres. To ensure membrane filtration performance is maintained key process indicators such as flow, trans-membrane pressure and permeate turbidity is also continuously monitored via the site SCADA system.

Due to a significant discharge event in 2010, the proponent was required to prepare and implement a Groundwater Monitoring Program which includes both groundwater and marine surface water monitoring requirements. Elements of this monitoring program have now been adopted under this licence.

The WWTP Premises also contains a 1930kVA power station and a reverse osmosis plant which discharges <37.5kL/day of brine waste into the swale. The proposed irrigation area (approximately 5,100 m^2) will receive approximately < 30 m^3/ day during autumn to spring months, and < 40 m^3/ day during summer months of treated wastewater from the WWTP.

This Licence is the result of an amendment application from the Licensee to include an irrigation area within the WWTP area (approximately 5,100 m^2), for the irrigation of treated wastewater.

The licences and works approvals issued for the Premises since 21/02/2000 are:

Instrument log		
Instrument	**Issued**	**Description**
W2939/2000/1	21/02/2000	Works Approval
L7426/2000/1	07/04/2000	Licence
L7426/2000/2	01/05/2001	Licence reissue
W3449/2000/1	17/10/2001	Works Approval
L7426/2000/3	17/04/2002	Licence reissue
L7426/2000/4	14/04/2003	Licence reissue

W3889/2000/1	12/01/2004	Works Approval
L7426/2000/4	07/04/2004	Licence reissue
L7426/2000/6	07/04/2007	Licence reissue
L7426/2000/7	07/04/2010	Licence reissue
W4851/2010/1	15/08/2012	Works Approval
L7426/2000/8	02/03/2015	Licence reissue
L7426/2000/8	04/02/2016	Licence amendment – Transfer of occupier
L7426/2000/8	10/11/2016	Licence amendment – Inclusion of irrigation area within WWTP

Severance

It is the intent of these Licence conditions that they shall operate so that, if a condition or a part of a condition is beyond the power of this Licence to impose, or is otherwise *ultra vires* or invalid, that condition or part of a condition shall be severed and the remainder of these conditions shall nevertheless be valid to the extent that they are within the power of this Licence to impose and are not otherwise *ultra vires* or invalid.

END OF INTRODUCTION

Licence conditions

1 General

1.1 Interpretation

1.1.1 In the Licence, definitions from the *Environmental Protection Act 1986* apply unless the contrary intention appears.

1.1.2 For the purposes of this Licence, unless the contrary intention appears:

'Act' means the *Environmental Protection Act 1986;*

'Annual Audit Compliance Report' means a report in a format approved by the CEO as presented by the Licensee or as specified by the CEO from time to time and published on the Department's website;

'annual period' means a 12 month period commencing 1 April until 31 March in the following year;

'AS/NZS 2031' means the Australian Standard AS/NZS 2031 *Selection of containers and preservation of water samples for microbiological analysis;*

'AS/NZS 5667.1' means the Australian Standard AS/NZS 5667.1 *Water Quality – Sampling – Guidance of the Design of sampling programs, sampling techniques and the preservation and handling of samples;*

'AS/NZS 5667.9' means the Australian Standard AS/NZS 5667.9 *Water Quality – Sampling – Guidance on sampling from marine waters;*

'AS/NZS 5667.10' means the Australian Standard AS/NZS 5667.10 *Water Quality – Sampling – Guidance on sampling of waste waters;*

'AS/NZS 5667.11' means the Australian Standard AS/NZS 5667.11 *Water Quality – Sampling – Guidance on sampling of groundwaters;*

'averaging period' means the time over which a limit is measured or a monitoring result is obtained;

'CEO' means Chief Executive Officer of the Department of Environment Regulation;

'CEO' for the purposes of correspondence or notification means:

Chief Executive Officer
Department Div. 3Pt. V EP Act
Locked Bag 33 Cloisters Square
Perth WA 6850
info@der.wa.gov.au

'cfu/100mL' means colony forming units per 100 millilitres;

'Department' means the department established under s.35 of the *Public Sector Management Act 1994* and designated as responsible for the administration of Part V of the *Environmental Protection Act 1986*;

'freeboard' means the distance between the maximum water surface elevations and the top of retaining banks or structures at their lowest point;

'hardstand' means a surface with a permeability of 10^{-9} metres/second or less;

'leachate' means liquid released by or water that has percolated through waste and which contains some of its constituents;

'Licence' means this Licence numbered L7426/2000/8 and issued under the Act;

'Licensee' means the person or organisation named as Licensee on page 1 of the Licence;

'MPN/100mL' means most probable number per 100 millilitres;

'NATA' means the National Association of Testing Authorities, Australia;

'NATA accredited' means in relation to the analysis of a sample that the laboratory is NATA accredited for the specified analysis at the time of the analysis;

'Premises' means the area defined in the Premises Map in Schedule 1 and listed as the Premises address on page 1 of the Licence;

'**process equipment**' means any wastewater or sludge containment infrastructure or wastewater treatment vessel;

'reverse-osmosis process' means the treatment of groundwater via reverse osmosis process as undertaken within the wastewater treatment plant premises boundary;

'Schedule 1' means Schedule 1 of this Licence unless otherwise stated;

'Schedule 2' means Schedule 2 of this Licence unless otherwise stated;

'spot sample' means a discrete sample representative at the time and place at which the sample is taken;

'usual working day' means 0800 – 1700 hours, Monday to Friday excluding public holidays in Western Australia;

'µS/cm' means micro Siemens per centimetre.

'Waste Code' means the Waste Code assigned to a type of controlled waste for purposes of waste tracking and reporting as specified in the Department of Environment Regulation "Controlled Waste Category List" (July 2014), as amended from time to time;

'wastewater treatment vessels' means any vessel or tank containment infrastructure associated with the treatment of wastewater; and

'Works' means the construction of an irrigation area and installation of a sprinkler irrigation system.

1.1.3 Any reference to an Australian or other standard in the Licence means the relevant parts of the standard in force from time to time during the term of this Licence.

1.1.4 Any reference to a guideline or code of practice in the Licence means the version of that guideline or code of practice in force from time to time, and shall include any amendments or replacements to that guideline or code of practice made during the term of this Licence.

1.2 General conditions

1.2.1 The Licensee shall operate and maintain:
(a) all wastewater treatment equipment to the manufacturer's specifications; and
(b) all monitoring bores to the original design specifications.

1.2.2 The Licensee shall immediately recover, or remove and dispose of spills of sewage, sewage sludge or reverse-osmosis bitterns outside of the infiltration swale, sludge drying compound or an engineered containment system.

1.2.3 The Licensee must ensure that the proposed Works specified in Column 1 of Table 1.2.1 are designed and constructed to meet or exceed the specifications in Column 2 of Table 1.2.1 for the infrastructure in each row of Table 1.2.1.

1.2.4 The Licensee must not depart from the specifications in Table 1.2.1 except:
(a) where such departure is minor in nature and does not materially change or affect the infrastructure; or
(b) where such departure improves the functionality of the infrastructure and does not increase risks to public health, public amenity or the environment;
and all other Conditions in this Licence are still satisfied.

Table 1.2.1: Column 1 Infrastructure	**Works specifications** Column 2 Specifications (design and construction)
Irrigation area (See Schedule 1: Maps)	The Licensee must ensure that the irrigation area: 1. is contained within an area not exceeding 5,100 m^2; 2. is contained within the premises boundary; 3. is not accessible to the public (non-operational staff) at any time; 4. has a separation distance of at least 3 metres from the premises boundary fence internally, to assist in the management of wind drift of any treated wastewater irrigated to the irrigation area; 5. has signage placed around the boundary of the premises identifying irrigation of treated wastewater within the premises boundary; and 6. is irrigated with wastewater from the treated water tank only, and ensure wastewater levels are monitored to identify potential risk of excess wastewater discharge to the irrigation area.
Sprinkler system (See Schedule 1: Maps)	The Licensee must ensure that the sprinkler system: 1. is designed as a sprinkler header system installed with 'Rain Bird 18 Series VAN' nozzles or equivalent; 2. is designed to ensure no spray drift will occur beyond the premises boundary fence line; 3. is completely contained within the irrigation area; 4. has irrigation pipework that is identified by lilac coloured pipes (for identification of non-potable treated water use).

1.2.5 If departures under Condition 1.2.4 apply, then the Licensee must provide the CEO with a list of departures which are certified as complying with Condition 1.2.4 at the same time as the certifications under Condition 1.2.6.

1.2.6 The Licensee must submit a construction compliance document to the CEO, within one month, following the construction of the Works and prior to operating the new works at the premises.

1.2.7 The Licensee must ensure the construction compliance document:
(a) is certified by a suitably qualified professional engineer or builder that each item of infrastructure specified in Condition 1.2.3, Table 1.2.1 has been constructed in accordance with the Conditions of the Licence with no material defects; and
(b) be signed by a person authorised to represent the Licensee and contain the printed name and position of that person within the company.

1.3 Premises operation

1.3.1 The Licensee shall record and investigate the exceedance of any descriptive or numerical limit in this section.

1.3.2 The Licensee shall only allow waste to be accepted on to the Premises if:
(a) it is of a type listed in Table 1.3.1; and
(b) the quantity accepted is below any limit listed in Table 1.3.1; and
(c) it meets any specification listed in Table 1.3.1.

Table 1.3.1: Waste acceptance

Waste	Waste Code	Quantity limit[1]	Specification
Putrescible and Organic wastes			
Sewage	K130	150 m^3/day	1. Accepted through sewer inflow(s) from Monkey Mia Dolphin Resort and Department of Parks and Wildlife only; 2. Tankered into the premises and discharged via the WWTP pre-treatment works during emergency events or maintenance works from any part of Monkey Mia Dolphin Resort and Department of Parks and Wildlife facilities only.
Reverse osmosis brine waste	N/A	Not specified	1. Accepted for disposal into the infiltration swale or emergency evaporation ponds from the premises reverse-osmosis process only.

Note 1: Based on monthly average as per Table 3.3.1.

1.3.3 The Licensee shall ensure that where waste does not meet the waste acceptance criteria set out in conditions 1.3.2 it is removed from the Premises by the delivery vehicle or, where that is not possible, the Licensee shall contact the CEO to agree a course of action in relation to the waste.

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

Table 1.3.2: Waste processing

Waste type	Process	Process requirements
Sewage	Biological reaction process combined with a ultrafiltration membrane system	1. Treatment of sewage waste shall be at or below the treatment capacity of 150 m^3/day (monthly average).
Brine water	Reverse osmosis process on groundwater	1. Maximum of 35 m^3 per day discharged to the infiltration swale.
Treated wastewater	Irrigation area	1. Maximum of 30 m^3 per day discharged from the WWTP treated water tank to the irrigation area within the premises boundary, during 1March to 30 November annually; 2. Maximum of 40 m^3 per day discharged from the WWTP treated water tank to the irrigation area within the premises boundary, during 1 December to 29 February annually; 3. Irrigated during premises operational hours, between 7 am to 5 pm only; 4. Maintains a 3 m separation distance to the boundary fence; 5. No pooling or ponding to occur.
Sewage sludge	Storage	1. Stored in emergency holding pond 2 prior to disposal at an appropriate waste facility.

1.3.5 The Licensee shall ensure that waste material is only stored and/or treated within vessels or compounds, as defined within Table 1.3.3.

Table 1.3.3: Containment infrastructure

Vessel or compound	Material	Requirements
Main pump station	Raw sewage	Sump/pump
Macerator	Raw sewage	Pumps
Inlet screen (Drum Screen)	Grit and screenings	Stored in a sealed bin.
Wastewater balance tank	Wastewater	Concrete tanks designed to achieve a permeability of 10^{-9} m/s or less.
Anoxic zone		
Aerobic zone		
Membrane filtration		
Two holding tanks	Treated wastewater	Polypropylene.
Infiltration swale	Treated wastewater and reverse osmosis brine waste	Unlined in-situ soils.
Emergency holding pond 1 (former primary treatment pond)	Wastewater	HDPE lined. Wastewater to be returned to the start of the treatment process.
Emergency holding pond 2 (former secondary treatment pond)	Wastewater and sewage sludge	HDPE lined and capable of preventing surface run-off of leachate and sludge and which includes a leachate collection system. Wastewater to be returned to the start of the treatment process.

1.3.6 The Licensee shall manage all wastewater holding ponds and infiltration swale such that:
- (a) overtopping of the ponds/ swale does not occur;
- (b) a freeboard equal to, or greater than, 300 mm is maintained;
- (c) the integrity of the containment infrastructure is maintained;
- (d) trapped overflows are maintained on the outlet of ponds to prevent carry-over of surface floating matter;
- (e) vegetation and floating debris (emergent or otherwise) is prevented from encroaching onto pond/swale surfaces; and
- (f) vegetation is prevented from encroaching onto the inner pond embankments.

1.3.7 The Licensee shall:
- (a) implement security measures at the site to prevent as far as is practical unauthorised access to the site;
- (b) undertake regular inspections of all security measures and repair damage as soon as practicable; and
- (c) ensure the entrance gates are closed and locked when the site is closed or unmanned.

2 Emissions

2.1 General

2.1.1 The Licensee shall record and investigate the exceedance of any descriptive or numerical limit specified in any part of section 2 of this Licence.

2.2 Emissions to land

2.2.1 The Licensee shall ensure that where waste is emitted to land from the emission points in Table 2.2.1 and identified on the Map of Emission Points and monitoring locations in Schedule 1 it is done so in accordance with the conditions of this licence.

Table 2.2.1: Emissions to land

Emission point reference	Emission point reference on Map of emission points and monitoring locations	Description	Source including abatement
L1	Final effluent discharge point	Discharge from WWTP to infiltration swale.	Treated wastewater pipeline from wastewater treatment plant.
L2	Irrigation area (< 5,100 m^2)	Discharge from WWTP to irrigation area for evaporation and infiltration.	Treated wastewater discharged from the WWTP (post treatment process only).

2.2.2 The Licensee shall not cause or allow emissions to land greater than the limits listed in Table 2.2.2.

Table 2.2.2: Emission limits to land

Emission point reference	Parameter	Limits (including units)	Averaging period
L1 & L2	Biochemical Oxygen Demand	< 30 mg/L	Spot sample
	Total Nitrogen	< 40 mg/L	
	Total Phosphorus	< 10 mg/L	
L2	Volumetric flow rate – treated wastewater	< 40 m^3/ day	Continuous

3 Monitoring

3.1 General monitoring

3.1.1 The licensee shall ensure that:
(a) all water samples are collected and preserved in accordance with AS/NZS 5667.1;
(b) all marine water sampling is conducted in accordance with AS/NZS 5667.9;
(c) all wastewater sampling is conducted in accordance with AS/NZS 5667.10;
(d) all groundwater sampling is conducted in accordance with AS/NZS 5667.11;
(e) all microbiological samples are collected and preserved in accordance with AS/NZS 2031; and
(f) all laboratory samples are submitted to and tested by a laboratory with current NATA accreditation for the parameters being measured.

3.1.2 The Licensee shall ensure that all monitoring equipment used on the Premises to comply with the conditions of this Licence is calibrated in accordance with the manufacturer's specifications.

3.1.3 The Licensee shall, where the requirements for calibration cannot be practicably met, or a discrepancy exists in the interpretation of the requirements, bring these issues to the attention of the CEO accompanied with a report comprising details of any modifications to the methods.

3.2 Monitoring of emissions to land

3.2.1 The Licensee shall undertake the monitoring in Table 3.2.1 according to the specifications in that table.

Table 3.2.1: Monitoring of emissions to land

Emission point reference	Monitoring point reference	Parameter	Units	Averaging period	Frequency
L1 (Infiltration swale) and L2 (Irrigation area)	M1 - Final effluent discharge point from WWTP	pH[1]	None specified	Spot sample	January April June July September October
		Biochemical Oxygen Demand	mg/L		
		Total Dissolved Solids			
		Nitrate as N			
		Nitrite as N			
		Ammonia as N			
		Total nitrogen as N			
		Total phosphorus as P			
		Total Aluminium			
		Escherichia coli	cfu/100 mL		

Note 1: In-field non-NATA accredited analysis permitted.

3.3 Monitoring of inputs and outputs

3.3.1 The Licensee shall undertake the monitoring in Table 3.3.1 according to the specifications in that table.

Table 3.3.1: Monitoring of inputs and outputs

Input/output	Monitoring point reference and location	Parameter	Units	Averaging period	Frequency
Inflow – main sewer inlet	Inflow meter	Volumetric flow rate (cumulative)	m^3/day	Monthly	Continuous
Discharge –treated wastewater and brine water to swale (L1)	Outflow meter	Volumetric flow rate (cumulative)	m^3/day	Monthly	Continuous
Discharge – treated wastewater to irrigation area (L2)	Outflow meter	Volumetric flow rate (cumulative)	m^3/day	Monthly	Continuous

3.4 Ambient environmental quality monitoring

3.4.1 The Licensee shall undertake the monitoring in Table 3.4.1 according to the specifications in that table.

Table 3.4.1: Monitoring of ambient groundwater quality at the WWTP

Monitoring point reference and description	Parameter	Units	Averaging period	Frequency

Groundwater monitoring bore locations: WWTP1 WWTP2 WWTP3 WWTP4 WWTP5 WWTP6 WWTP7 WWTP8	pH[1]	None specified	Spot sample	January April July October
	Standing water level[1]	mBGL		
	Total Dissolved Solids	mg/L		
	Nitrate as N			
	Nitrite as N			
	Total Nitrogen as N			
	Total Phosphorus as P			
	Total Aluminium			

Note 1: In-field non-NATA accredited analysis permitted.

3.4.2 The Licensee shall undertake the monitoring in Table 3.4.2 according to the specifications in that table.

Table 3.4.2: Monitoring of ambient groundwater quality at the Monkey Mia Resort

Monitoring point reference and description	Parameter	Averaging period	Frequency
Monitoring bores at the Monkey Mia Resort: MB1 MB2 MB2-1 MB2-3 MB3 MB4 MB6 MB7 MB8 T1 T2 T3 RM1 RM2 RM3	Enterococci	Spot sample	January April July October
	Escherichia coli		

3.4.3 The licensee shall undertake a repeat sample as soon as practicable of any monitoring bore specified in Table 3.4.2 where a sample collected under condition 3.4.2 exceeds either 10 MPN/ 100ml for enterococci or 10 cfu/ 100 ml for *Escherichia coli*.

3.4.4 The Licensee shall undertake the following contingency measures when a repeat sample collected under condition 3.4.3 is found to exceed either 10 MPN/ 100 ml for enterococci or 10 cfu/ 100 ml for *Escherichia coli*.

a) Immediately investigate to find and repair the source of any leak;
b) Undertake weekly groundwater sampling from the bore(s) that exceed, either 10 MPN/ 100ml for enterococci or 10 cfu/ 100 ml for *Escherichia coli*, and one bore either side of the affected bore(s); and
c) Undertake the monitoring specified in Table 3.4.3 according to the specifications in that table.

Table 3.4.3: Monitoring of ambient sea water quality

Monitoring point reference and description	Parameter	Units	Averaging period	Frequency
Sea water monitoring locations:	Enterococci	MPN/ 100ml	Spot sample	Weekly

SW1 SW2 SW3 SW4	*Escherichia coli*	cfu/ 100ml		

3.4.5 The Licensee shall continue the weekly sampling outlined in conditions 3.4.4 (b) and 3.4.4 (c) until two consecutive samples of the affected groundwater bore(s) fall below 10 MPN/ 100 ml for enterococci or 10 cfu/ 100 ml for *Escherichia coli*.

4 Information

4.1 Records

4.1.1 All information and records required by the Licence shall:
- (a) be legible;
- (b) if amended, be amended in such a way that the original and subsequent amendments remain legible or are capable of retrieval;
- (c) except for records listed in 4.1.1(d) be retained for at least 6 years from the date the records were made or until the expiry of the Licence or any subsequent licence; and
- (d) for those following records, be retained until the expiry of the Licence and any subsequent licence:
  - (i) off-site environmental effects; or
  - (ii) matters which affect the condition of the land or waters.

4.1.2 The Licensee must submit to the CEO within 91 days after the end of the annual period, an Annual Audit Compliance Report indicating the extent to which the Licensee has complied with the Conditions of this Licence for the annual period.

4.1.3 The Licensee shall:
- (a) implement a complaints management system that shall record the following information (if known or provided) about complaints received at the Premises concerning any environmental impact of the activities undertaken at the Premises:
  - (i) name and address of the complainants (if consented);
  - (ii) date and time of complaint;
  - (iii) date and time of alleged incident;
  - (iv) alleged source of the incident;
  - (v) general description of the alleged incident, including any environmental or health impacts reported by the complainant;
  - (vi) wind direction, wind speed and temperature at time of alleged incident;
  - (vii) likely source of the alleged incident; and
  - (viii) actions taken by the Licensee to address the complaint, including the outcome of any investigation(s) and action(s) to verify any impacts.
- (b) complete an annual analysis and review of complaints recorded under 5.1.4(a) to identify any common factors and root cause of complaints and proposals to address these.

4.2 Reporting

4.2.1 The Licensee shall submit to the CEO an Annual Environmental Report within 91 calendar days (i.e. by 30 June) after the end of the annual period. The report shall contain the information listed in Table 4.2.1 in the format or form specified in that table.

Table 4.2.1: Annual Environmental Report

Condition or table (if relevant)	Parameter	Format or form[1]
-	Summary of any failure or malfunction of any pollution control equipment and any environmental incidents that have occurred during the annual period and any action taken	None specified
-	A list of any monitoring methods used to collect and analyse the data required	
-	Summary of any changes to site boundaries, surface drainage channels and on-site or off-site impacts or pollution	
-	Summary of any issues raised by DER (including inspections) during the reporting period	
-	Record of all sludge removal from ponds	

1.3.5	Summary of any freeboard limit exceedances and any action taken	
	Summary of any overtopping events and action taken	
Table 1.3.4	Summary of corrective actions and notifications	
Table 3.2.1	Monitoring of any emissions to land	
	Contaminant loading (kg/day) to swale at emission points L1 of parameters monitored in Table 3.2.1 (all except pH and *Escherichia coli*)	
Table 3.3.1	Monitoring of inputs and outputs	
Table 3.4.1	Monitoring results of ambient groundwater quality at WWTP	
Table 3.4.2	Monitoring results of ambient groundwater quality at Monkey Mia Resort	
4.1.3	Complaints summary	None specified

Note 1: Forms are in Schedule 2

4.2.2 The Licensee shall ensure that the Annual Environmental Report also contains:
(a) any relevant process, production or operational data; and
(b) an assessment of the information contained within the report against previous monitoring results and Licence limits.

4.2.3 The Licensee shall submit the information in Table 4.2.2 to the CEO according to the specifications in that table.

Table 4.2.2: Non-annual reporting requirements

Condition or table (if relevant)	Parameter	Reporting period	Reporting date (after end of the reporting period)	Format or form[1]
-	Copies of original monitoring reports submitted to the Licensee by third parties	Not Applicable	Within 14 days of the CEOs request	As received by the Licensee from third parties

4.3 Notification

4.3.1 The Licensee shall ensure that the parameters listed in Table 4.3.1 are notified to the CEO at the Contact Address and in accordance with the notification requirements of the table.

Table 4.3.1: Notification requirements

Condition or table (if relevant)	Parameter	Notification requirement[1]	Format or form[2]
-	Taking process equipment offline for maintenance works that may result in increased odour emissions.	No less than 72 hours in advance of works.	None specified
-	Removal of sewage sludge from a treatment pond, wastewater treatment vessel, sewage sludge storage pond or Geobag/s.	No less than 14 days in advance of works[3].	
1.3.1; 2.1.1; and 2.2.2	Breach of any limit specified in the Licence	Part A: As soon as practicable as but no later than 5pm of the next working day.	N1

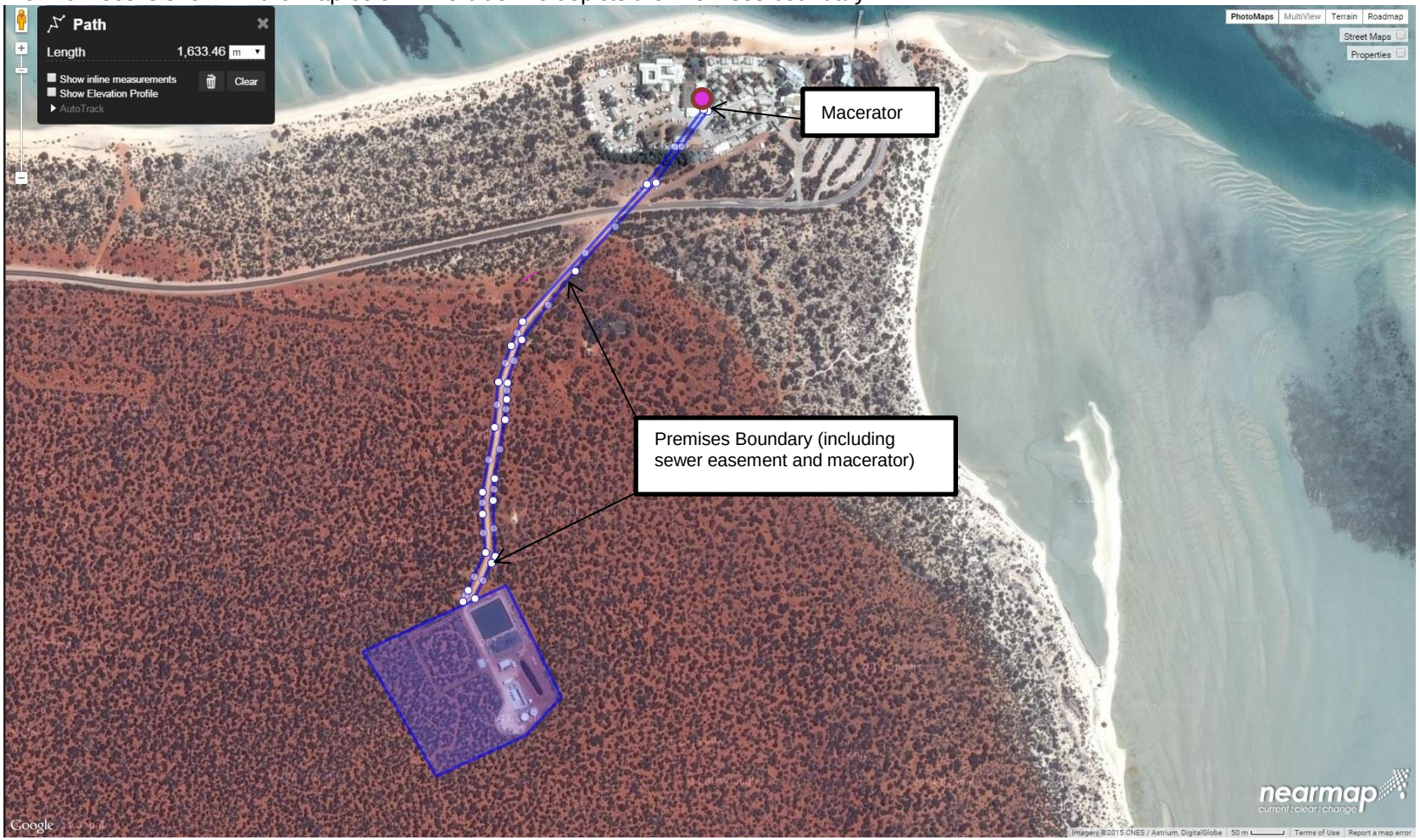
		Part B: As soon as practicable.	
3.4.3	Repeat sample	Notification of the taking of a repeat sample is to occur as soon as practicable as but no later than 5pm of the next working day. Notification of the results of a repeat sample is to occur as soon as practicable after the licensee's receipt of results from the laboratory, but no later than 5pm of the next working day.	None specified
3.1.3	Calibration report	As soon as practicable.	None specified

Note 1: No notification requirement in the Licence shall negate the requirement to comply with s72 of the Act.
Note 2: Forms are in Schedule 2
Note 3: The following information shall be included: (i) when desludging is proposed to occur, (ii) the desludging method, (iii) action to mitigate potential odour impacts.

Schedule 1: Maps

Premises map

The Premises is shown in the map below. The blue line depicts the Premises boundary.



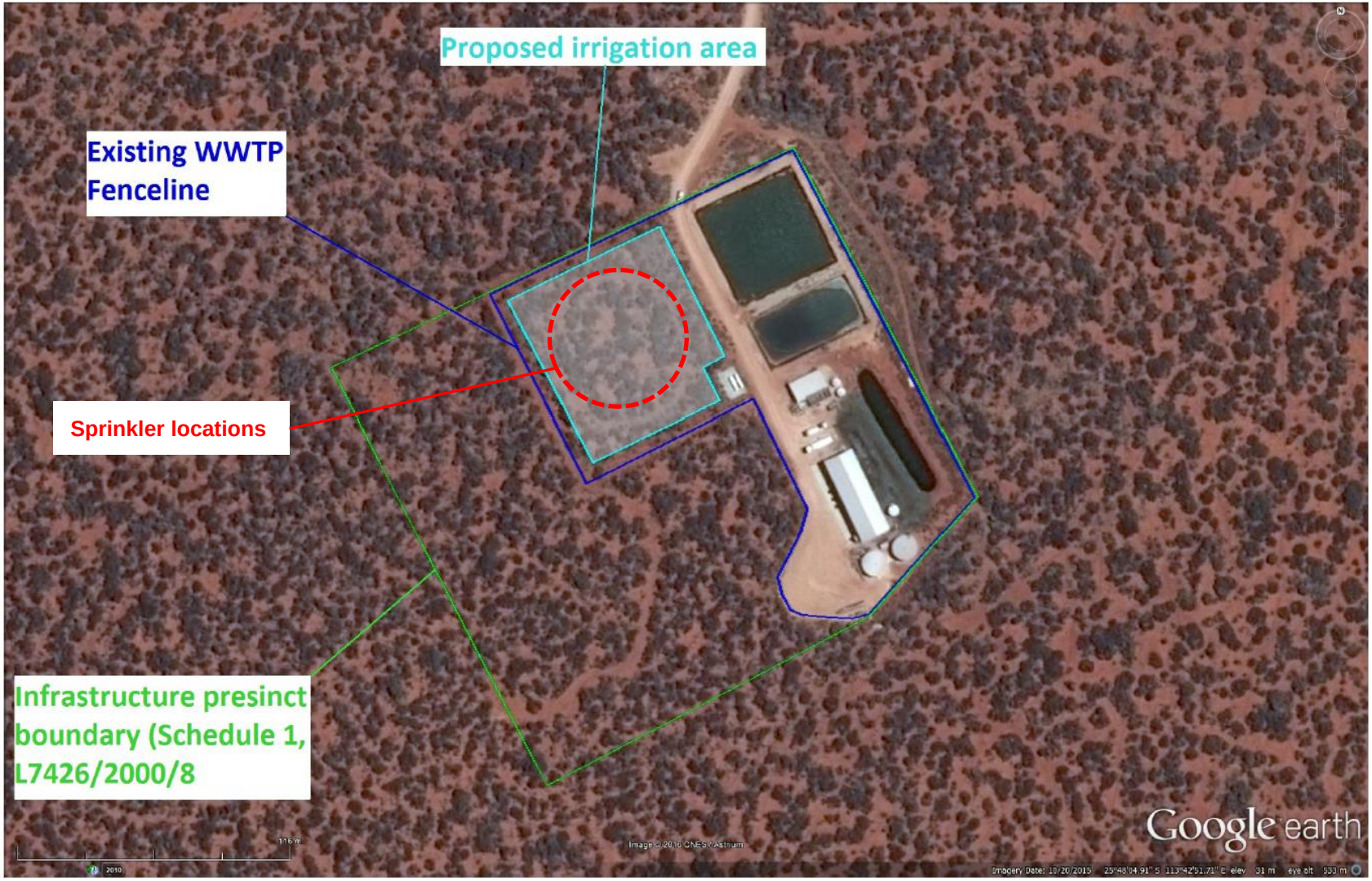
Monitoring bores at the Monkey Mia Resort

The locations of the monitoring locations defined in Table 3.4.2 are shown below.

Map of emission points and monitoring locations

The locations of the emission points and monitoring locations defined in Tables 2.2.1, 3.2.1 and 3.3.1 are shown below.

Proposed sprinkler irrigation location

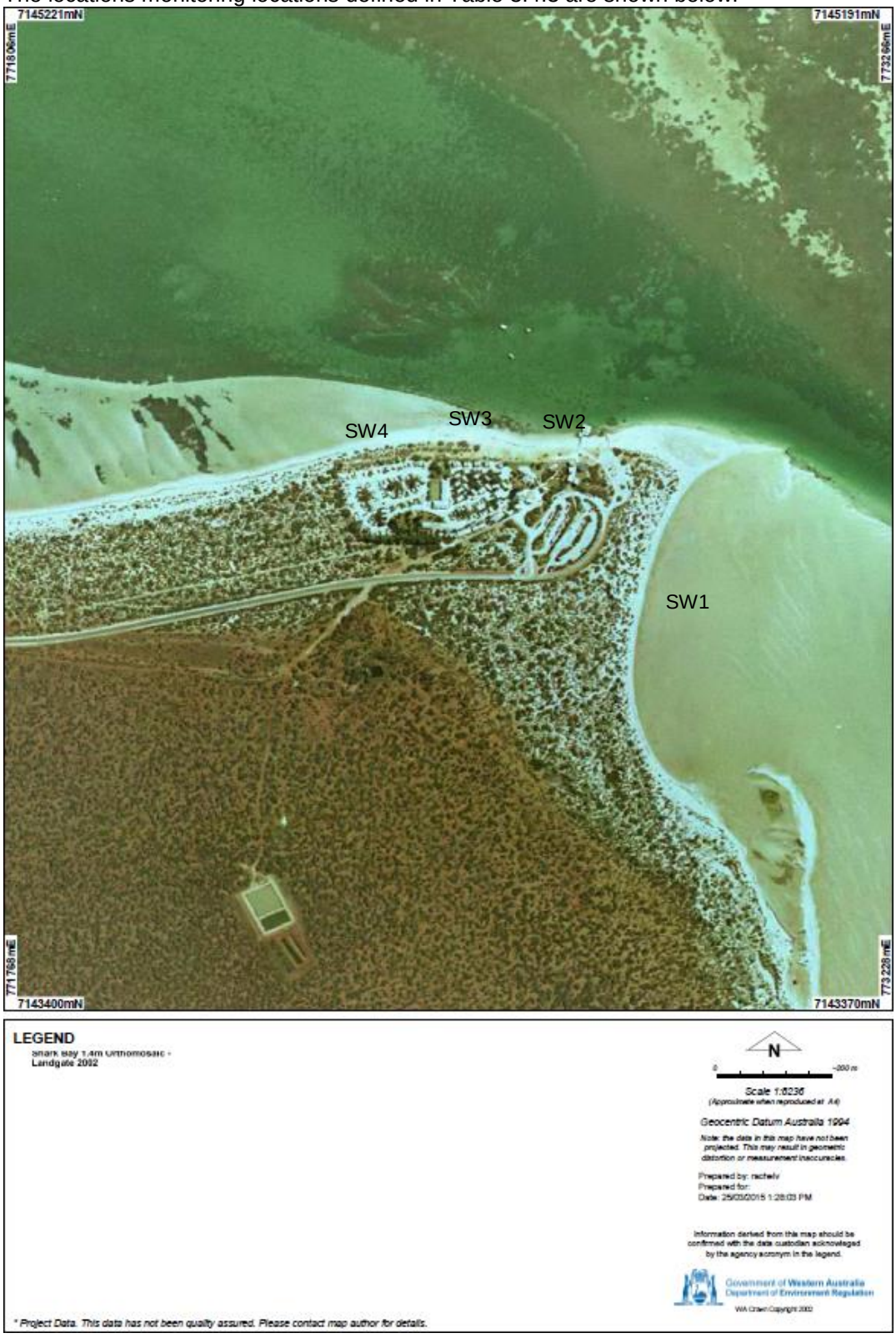


Groundwater monitoring bore locations

The locations of the monitoring locations defined in Table 3.4.1 are shown below.

Map of sea water sampling points

The locations monitoring locations defined in Table 3.4.3 are shown below.



Schedule 2: Notification form

Licence: L7426/2000/8 Licensee: RAC Tourism Assets Pty Ltd
Form: N1 Date of breach:

Notification of detection of the breach of a limit.

These pages outline the information that the operator must provide.
Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

Part A

Licence Number	
Name of operator	
Location of Premises	
Time and date of the detection	

Notification requirements for the breach of a limit	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value	
Date and time of monitoring	
Measures taken, or intended to be taken, to stop the emission	

Part B

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident.	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission.	
The dates of any previous N1 notifications for the Premises in the preceding 24 months.	

Name	
Post	
Signature on behalf of	
Date	

Government of Western Australia
Department of Environment Regulation

Decision Document

Environmental Protection Act 1986, Part V

Proponent: RAC Tourism Assets Pty Ltd

Licence: L7426/2000/8

Registered office:	Level 3, 129 St Georges Terrace PERTH WA 6000
ACN:	168 253 085
Premises address:	Monkey Mia Dolphin Resort Monkey Mia Road SHARK BAY WA 6537 Being Lot 556 on Plan 404665, portion of Lot 555 on Plan 404665 (15 metre wide parallel easement for the rising main), portion of Lot 300 on Plan 51888 (15 metre wide parallel easement for the rising main), portion of Lot 130 on Plan 54332 (15 metre wide parallel easement for the rising main), and portion of Lot 130 on Plan 54332 (macerator pit).
Grant date:	Thursday, 2 April 2015
Commencement date:	Tuesday, 7 April 2015
Expiry date:	Monday, 6 April 2029

Decision

Based on the assessment detailed in this document, the Delegated Officer has decided to issue an amended licence. The Delegated Officer considers that in reaching this decision, all relevant considerations have been taken into account.

Decision Document prepared by:	Caroline Conway-Physick Licensing Officer
Decision Document authorised by:	Steve Checker Delegated Officer

Contents

1 Purpose of this Document

This decision document explains how DER has assessed and determined the application for a works approval or licence, and provides a record of DER's decision-making process and how relevant factors have been taken into account. Stakeholders should note that this document is limited to DER's assessment and decision making under Part V of the *Environmental Protection Act 1986.* Other approvals may be required for the proposal, and it is the proponent's responsibility to ensure they have all relevant approvals for their Premises.

2 Administrative summary

Administrative Details		
Application Type	Works Approval ☐ New Licence ☐ Licence Amendment ☒ Works Approval Amendment ☐	
Activities that cause the premises to become prescribed premises	**Category Number(s)**	**Design Capacity**
	54	150 cubic metres per day
Application Verified Application Fee Paid	Date: N/A Date: N/A	
Works Approval has been complied with Compliance Certificate received	Yes ☐ No ☐ N/A ☒ Yes ☐ No ☐ N/A ☒	
Commercial-in-confidence claim	Yes ☒ No ☐ Requested within application supporting documentation submitted (Attachment 3, pg 2).	
Commercial-in-confidence claim outcome	N/A	
Is the proposal a Major Resource Project?	Yes ☐ No ☒	
Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the *Environmental Protection Act 1986*?	Yes ☐ No ☒	Referral Decision No: Managed under Part V ☐ Assessed under Part IV ☐
Is the proposal subject to Ministerial Conditions?	Yes ☐ No ☒	Ministerial Statement No: EPA Report No:
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the *Environmental Protection Act 1986*)?	Yes ☐ No ☒ Department of Water consulted Yes ☐ No ☒	
Is the Premises within an Environmental Protection Policy (EPP) Area Yes ☐ No ☒ If Yes include details of which EPP(s) here.		
Is the Premises subject to any EPP requirements? Yes ☐ No ☒ If Yes, include details here, eg Site is subject to SO_2 requirements of Kwinana EPP.		

3 Executive summary of proposal and assessment

Location and siting
The Monkey Mia Wastewater Treatment Plant (WWTP) is located approximately 27 kilometres north east of Denham. The WWTP Premises boundary borders the Shark Bay Marine Park and lies within the Shark Bay World Heritage Area. The design capacity of the WWTP is 150 cubic metres per day (m^3/day). The WWTP is located approximately 800m from the Indian Ocean.

Wastewater generated from the Monkey Mia Dolphin Resort (MMDR), and adjacent Department of Parks and Wildlife visitors centre, gravitates via a system of pipes to a pump station located within the MMDR. At this point the waste is macerated and pumped approximately 800 metres (m) south east of the resort to the WWTP. After maceration, wastewater from the rising main is passed through a 2mm drum screen to a wastewater balance tank. The wastewater balance tank is used to buffer diurnal flows, provide an opportunity for dilution and/or neutralisation, and provide a mechanism to temporarily halt processing of wastewater should there be a problem with the downstream equipment. Screened wastewater is then pumped to the biological reactor which involves a Modified Ludzack-Ettinger (MLE) activated sludge process. The movement of the wastewater between anoxic and aerobic zones enables high levels of Nitrogen (N) and Biochemical Oxygen Demand (BOD) reduction. To ensure the treated wastewater quality is achieved, key process indicators for the biological reactor such as flow, dissolved oxygen, mixed liquor suspended solids and pH is continuously monitored via the site Supervisory Control and Data Acquisition (SCADA) system.

Membrane filtration is then used to separate the treated wastewater from the mixed liquor. The small pore size of the membrane (0.04µm) results in the rejection of solids and the majority of pathogens. The filtered water is directed to the infiltration swale for disposal.

To ensure membrane filtration performance is maintained key process indicators such as flow, trans-membrane pressure and permeate turbidity is also continuously monitored via the site SCADA system.

Due to a significant discharge event in 2010, the proponent was required to prepare and implement a Groundwater Monitoring Program which includes both groundwater and marine surface water monitoring requirements. Elements of this monitoring program have now been adopted under the Licence. An emergency discharge was undertaken in July 2014 due to the capacity of the infiltration swale being exhausted. This was attributed to high tourist numbers and lower than expected evaporation rates.

The WWTP Premises also contains a 1,930 kVA power station and a reverse osmosis plant which discharges <37.5kL/day of brine waste into the swale. Currently the HDPE lined evaporation ponds are considered as emergency storage ponds and desludging ponds only, with the primary emission for treated wastewater and brine water going to the swale for infiltration.

Proposed activities
The Licensee applied for an amendment to the Licence L7426/2000/8 for:

1. Redefining plant capacity to 150 m^3 per day as a 7 day average (1,050 m^3 per 7 consecutive days) rather than 150 m^3 per day to allow for occasional peak loads in tourist season;
2. Implementation of irrigation area for recycled water disposal.

The Licensee is proposing to incorporate an irrigation area (approximately 5,100 m^2) within the current fenced WWTP area for the irrigation of approximately <30 m^3/ day (during autumn to spring months) and <40 m3/day (during summer months) of treated wastewater from the WWTP, during daytime operations.

The irrigation area has historically been used for irrigation of treated wastewater which was halted due to the activity occurring outside the premises boundary. The boundary of the WWTP has subsequently been amended and now incorporates the old irrigation area which has the majority of the irrigation infrastructure already in place.

The Delegated Officer considered that the proposed 7 day averaging period for plant capacity is a reasonable request and is consistent with the application of plant capacity in similar WWTP licenses. It is noted that inflow in busy periods is not able to be controlled by the occupier and therefore occasional peak events are largely unavoidable and do not increase the environmental risk of the premises.

Potential emissions

The irrigation area consists of sporadic native vegetation cover with areas of exposed in-situ sandy soils. Geology in the area is considered to consist of Peron Sandstone (anticline) underlain by tertiary Calcarenite and forms part of the Carnarvon Basin. Monkey Mia forms part of the Sharks Bay World Heritage List with significant biodiversity conservation value.

The depth to groundwater at the Premises is approximately 25 metres.

The current emissions from the Premises include emissions to land via infiltration (swale) and also potential fugitive emissions in the form of odour. The proposed changes to the premises operation process will result in a transfer of a portion of the treated wastewater from direct infiltration (swale) to reduced infiltration via irrigation with higher evaporation potential. The irrigation area will result in increased nutrient enrichment of a second area within the WWTP premises boundary. Nutrient enrichment may cause native vegetation die off, exposing greater areas of soil to wind erosion.

Occupation and planning approval

The Licensee submitted the 'Record of Certificate of Crown Land Title' Volume LR3165 folio 413 for Lot 556 on Deposited Plan 404665 which permits power generation, effluent treatment and disposal, water treatment, resort infrastructure and related purposes. The title is held by the Shire of Shark Bay and was registered on 22 December 2014 with power to lease for any term not exceeding 99 years, subject to the consent of the Minister for Lands, and leased to RAC Tourism Assets Pty Ltd (as registered on 15/09/2015).

The Lease transfer from 'Aspen Monkey Mia Pty Ltd' to 'RAC Tourism Assets Pty Ltd' was undertaken on 15 September 2015 (Landgate).

Consultation

The Licensee has not undertaken any consultation as a result of the proposed changes to operational processes. All other consultation undertaken by DER is stated within Table 5 'Advertisement and Consultation' of the Decision Document.

The Licensee has not referred the application under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) for the current proposed activity. The last referral made in August 2003 (EPBC 2003/1146) for the expansion of the Monkey Mia Resort and upgrade of the WWTP proposed that the premises would dispose of effluent via "evaporation ponds, taking advantage of the very local high evaporation rates, and creating a zero discharge system" (Bowman Bishaw Gorham). The decision issued in October 2003 confirmed that the proposed action was not a controlled action. The Licensee is currently undertaking consultation under the EPBC Act to confirm if there are any matters of national environmental significance in relation to the proposal.

Approval of works

This Licence amendment is to include an irrigation area (approximately 5,100 m^2) as an additional method of disposal.

The Delegated Officer considered:

- The proposed method of disposal (disposal to land via irrigation) presents a similar level of environmental risk compared to the current method of disposal (disposal to land via infiltration).
- Disposal via irrigation is expected to increase the disposal capacity of the plant via through increased evaporation.
- Disposal via irrigation is expected to reduce the disposal load on the existing swales, increasing their performance.

The Delegated Officer therefore considers the proposal for the addition of a 5,200 m^2 irrigation area to be acceptable.

A full assessment of all emissions, discharges and existing regulatory controls has been undertaken for the site and is documented within the Decision Table in Section 4 of this document.

4 Decision table

All applications are assessed in line with the *Environmental Protection Act 1986*, the *Environmental Protection Regulations 1987* and DER's Operational Procedure on Assessing Emissions and Discharges from Prescribed Premises. Where other references have been used in making the decision they are detailed in the decision document.

DECISION TABLE			
Licence Section	**Condition Number L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference Documents**
Front page	N/A	**Operation** An administrative change has been included to improve the format of the front page details, as per DER formatting requirements. Operation is subject to the general provisions of the *Environmental Protection Act 1986* and relevant subsidiary legislation.	General provisions of the *Environmental Protection Act, 1986*. DER guidance statement, *'Licences and Works Approvals Process'.*
Interpretation	L1.1	**Operation** Conditions 1.1.1 – 1.1.4 require that terminology used within the Licence is referenced to the appropriate definitions where applicable, and that any reference to a standard or guideline is to the most current version of that standard or guideline. An administrative change has been undertaken to update the definitions within the Licence. Operation is subject to the general provisions of the Environmental Protection Act 1986. Category 54 falls under Schedule 1 Part 1 of the *Environmental Protection Regulation 1987,* and is subject to Licence. The premises currently operates under Licence L7426/2000/8.	General Provisions of the *Environmental Protection Act 1986.*
General conditions	L1.2.1-L1.2.7	**Operation** Previous condition 1.2.2 has been amended and renumbered to condition 1.2.1. The Delegated Officer determined that the requirement to continue maintenance of wastewater treatment and monitoring equipment is necessary to validate the risk determinations and regulatory controls for 'emissions to	General provisions of the *Environmental Protection Act, 1986*. *Environmental Protection*

DECISION TABLE			
Licence Section	**Condition Number L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference Documents**
		land' and 'monitoring' (see relevant sections below). The condition has been updated to specify what equipment (i.e. wastewater treatment plant and monitoring bores) is required to be maintained and operated at the premises. Previous condition 1.2.4 has been renumbered condition 1.2.2. This condition relates to the management of spills at the premises in relation to activities within the wastewater treatment plant premises boundary and is covered under 'emissions to land' risk assessment. The premises boundary also includes the reverse-osmosis plant which supplies water to the resort and discharges brine water into the WWTP infiltration swale. The Delegated Officer considers the disposal of brine water from the reverse osmosis plant a contributory activity (as defined within DER guidance statement, 'Licences and Works Approvals Process', September 2015) within the WWTP premises boundary, which impacts upon the capacity and capability of the infiltration swale to operate effectively for the purposes intended (infiltration of treated wastewater). Condition 1.2.2 therefore includes not only sewage and sewage sludge waste types but reserve-osmosis bitterns under the management of spills within the premises boundary. Conditions 1.2.3-1.2.7 relate to the establishment of an irrigation area as applied for under this licence amendment application. A risk assessment for irrigation is detailed under 'emission to land below'. Condition 1.2.3 requires the proponent to ensure that construction meets or exceeds the standards defined within Table 1.2.1. These specifications are consistent with the application requirements submitted by the proponent for the construction of the works. Condition 1.2.4 relates to potential deviations/ departures from the proposed upgrade construction requirements (as based upon any variations to the works specifications, Table 1.2.1), and how these should be addressed.	*(Unauthorised Discharges) Regulations 2004* DER's *Guidance Statement: Regulatory Principles.* DER's *Guidance Statement: Setting Conditions.* DER's *Guidance Statement: Licence and works approval process.*

DECISION TABLE			
Licence Section	**Condition Number L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference Documents**
		Condition 1.2.5 requires upgrades or minor departures from the defined construction requirements to be listed and submitted through to DER within the construction compliance document, stated within condition 1.2.8. This ensures that departures from the approved works can be assessed and actioned as required. Conditions 1.2.6 and 1.2.7 require the submission of a construction compliance document prior to operation of the premises upgrade. This will ensure that upgrades undertaken (installation of the irrigation area) are certified as having been constructed in accordance with the Licence requirements, and that the appropriate testing has been conducted by the proponent for inclusion within the compliance report document.	
Premises operation	L1.3.2 to L1.3.7	**Operation** Emission Description *Emission:* Treated wastewater and brine water discharged through spills, overtopping and incorrect acceptance and treatment processes onsite. *Impact:* Contamination of surrounding land, surface water and groundwater with an increase of nutrients and other contaminants. *Controls:* The applicant only accepts effluent from its own ablutions and water treatment facilities onsite. The site operates a membrane filtration system which significantly reduces the parameter load from the wastewater treatment plant which has resulted in high quality treated wastewater discharged from the premises. Proposed disposal via irrigation is expected to mitigate historical capacity issues with the onsite swale. Risk Assessment *Consequence:* Moderate *Likelihood:* Possible *Risk Rating:* Moderate Regulatory Controls Condition 1.3.2, Table 1.3.1 details 'Waste acceptance' specifications to	General provisions of the *Environmental Protection Act, 1986*. Application supporting documentation. *Environmental Protection (Unauthorised Discharges) Regulations 2004.* DER's *Guidance Statement: Regulatory Principles* DER's *Guidance Statement: Setting Conditions*

DECISION TABLE			
Licence Section	**Condition Number L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference Documents**
		authorise the activities being undertaken at the premises for sewage receival and brine waste and to limit acceptance to waste generated by the Monkey Mia Dolphin Resort (and co-located Department of Parks and Wildlife office). The waste code for sewage has been included into the table. A change from the previous licence has been included with the addition of 'Note 1', Table 1.3.1, relating to a monthly average for sewage which is to be reflected within the reporting of sewage volume received to the premises. This is in response to the proponent requesting the reporting of volumes based upon an average flow as defined within Section 1, pg. 5, of the application supporting documentation. The Delegated Officer considered that the request is acceptable and does not materially impact the environmental risk of the premises. Condition 1.3.3 requires the proponent to contact the CEO in the event of any other forms of waste being accepted to the premises that are not permitted as per Table 1.3.1 of the Licence. The premises has limited capacity (infrastructure limits) to accept waste types due to the size of the WWTP and the sensitivity of the receiving environment (located within a World Heritage listed area). Condition 1.3.4, Table 1.3.2 details the requirements for waste processing based on the specifications of the onsite plant and operational aspects detailed in the application. The table has been updated from the previous licence to include the brine water processing already being undertaken at the premises and the inclusion of the treated wastewater to be discharged to the proposed irrigation area. Condition 1.3.5 authorises the containment infrastructure at the premises and specifies the appropriate infrastructure for the containment of specific wastes. The condition has been updated from the previous licence to improve sentence structure and to include brine storage.	

DECISION TABLE			
Licence Section	**Condition Number L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference Documents**
		Condition 1.3.6 has been retained from the previous licence and specifies the management requirements for the holding ponds and infiltration swale to ensure correct operation and minimise overtopping events. Condition 1.3.7 has been retained and relates to the security measures necessary to minimise the risk of unauthorised access to the premises which may lead to public exposure, sabotage or unauthorised emissions. <u>Residual Risk</u> *Consequence:* Moderate *Likelihood:* Unlikely *Risk Rating:* Moderate	

DECISION TABLE			
Licence Section	**Condition Number L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference Documents**
Odour	4.1.3	Emission Description *Emission:* Odour from effluent accepted and treated at the premises. *Impact:* Nuisance impacts in the vicinity. There are no residential receptors in the vicinity. The Delegated Officer considers that the management of any odour impacts from the premises to the licensee's adjacent resort is the responsibility of the licensee. *Controls:* High treatment standard of the onsite plant. Risk Assessment *Consequence:* Insignificant *Likelihood:* Possible *Risk:* Low Regulatory Controls The Delegated Officer noted that DER has no record of odour complaints from the facility. The Delegated Officer considered that general onsite housekeeping and the high treatment standard of the onsite plant is expected to mitigate any odour issues. As the risk from odour has been determined as 'Low', the Delegated Officer considers that impacts from odour emissions can be sufficiently regulated under section 49 of the *Environmental Protection Act 1986*. Condition 4.1.3 requires the licensee to record and investigate any complaints received concerning the environmental impact of the activities undertaken at the Premises. DER will review this information to validate the current controls and risk assessment. Residual Risk *Consequence:* Insignificant *Likelihood:* Possible *Risk:* Low	General provisions of the *Environmental Protection Act 1986* DER's *Guidance Statement: Regulatory Principles* DER's *Guidance Statement: Setting Conditions* DER's *Guidance Statement: Land Use Planning*

DECISION TABLE			
Licence Section	**Condition Number L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference Documents**
Noise	4.1.3	Emission Description *Emission:* Noise from wastewater treatment processes at the premises. *Impact:* Nuisance impacts in the vicinity. There are no residential receptors in the vicinity. The Delegated Officer considers that the management of any noise impacts from the premises to the licensee's adjacent resort is the responsibility of the licensee. *Controls:* Low noise plant operation. Risk Assessment *Consequence:* Insignificant *Likelihood:* Possible *Risk:* Low Regulatory Controls The premises is subject to the *Environmental Protection (Noise) Regulations 1997.* The Delegated Officer noted that DER has no record of noise complaints from the facility. The Delegated Officer considered that the onsite plant has a low noise generating potential. As the risk from noise has been determined as 'Low', the Delegated Officer considers that any impacts from emissions of noise can be sufficiently regulated under the *Environmental Protection (Noise) Regulations 1997*. Condition 4.1.3 requires the licensee to record and investigate any complaints received concerning the environmental impact of the activities undertaken at the Premises. DER will review this information to validate the current controls and risk assessment. Residual Risk *Consequence:* Insignificant *Likelihood:* Possible *Risk:* Low	*Environmental Protection (Noise) Regulations 1997* DER's *Guidance Statement: Regulatory Principles* DER's *Guidance Statement: Setting Conditions* DER's *Guidance Statement: Land Use Planning*

DECISION TABLE			
Licence Section	**Condition Number L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference Documents**
Emissions to land including monitoring	L2.1.1 L2.2.1 L3.1.1 – L3.1.3 L3.2.1 L3.4.1 L3.4.2	Emission Description *Emission:* Discharge of treated wastewater to the irrigation area and infiltration swale. *Impact:* Potential contamination of surrounding land with nutrient rich wastewater and infiltration to groundwater (approximately 25 mBGL). Premises located in a World Heritage Area. *Controls:* The application outlines that the following steps will be in place to manage discharges to land: 1) Membrane filtration system which significantly reduces the parameter load from the wastewater treatment plant which has resulted in high quality treated wastewater 2) Operator on-site daily; 3) Water production and treated water tank levels are monitored remotely and will identify excess water discharge; 4) Irrigation buffer to premises boundary of 3 m will be in place; 5) Site is relatively flat minimising run-off from irrigation; 6) Signage for non-potable water use will be present at the irrigation area; 7) Lilac pipework used for identification of non-potable treated water; 8) Irrigation design to ensure treated water contained on-site (i.e.: no spray drift beyond fence line); 9) Lined emergency storage pond available. The Delegated Officer agrees that the above controls are appropriate in mitigating risks from emissions to land. Department of Health document *Guidelines for the Non-potable Uses of Recycled Water in Western Australia, August 2011* has effluent compliance values for recycled water for the irrigation for municipal use with unrestricted access.	Application supporting documentation. General provisions of the *Environmental Protection Act, 1986*. DER's *Guidance Statement: Regulatory Principles* DER's *Guidance Statement: Setting Conditions* Australian guidelines for sewerage systems 1997. *Guidelines for the Non-potable Uses of Recycled Water in Western Australia, August 2011,* Department of Health.

DECISION TABLE			
Licence Section	**Condition Number L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference Documents**
		Risk Assessment *Consequence*: Minor *Likelihood:* Possible *Risk Rating:* Moderate Regulatory Controls As the licence contains numerical limits, Condition 2.1.1 requires the recording and investigation of any limit exceedances. Condition 2.2.1 provides authorisation for emissions to land and has been updated to reflect the additional discharge area to the irrigation area as 'L2'. Condition 2.2.2 has been retained from the previous licence and specifies the limits for emissions to land. The Delegated Officer has reviewed the limits which were based on Department of Health document *Guidelines for the Non-Potable Uses of Recycled Water in Western Australia, August 2011* and considers them appropriate for protecting the environment and public health. The condition has been amended to include the continuous monitoring of the volumetric flow rate for treated wastewater to the new emission point 'L2' (irrigation area). Condition 3.1.1 specifies the appropriate methodology for required. Conditions 3.1.2 and 3.1.3 relate to the calibration of monitoring equipment which will ensure that monitoring equipment is sufficiently accurate. Condition 3.2.1 specifies the monitoring requirements for emissions to land and has been retained from the previous licence. The Delegated Officer has reviewed the monitoring requirements and considers that they are appropriate for monitoring the quality of effluent discharged to land. Table 3.2.1 has had additional 'Aluminium' monitoring parameters included as the proponent 'alum' doses the treated wastewater prior to discharge to land which will influence aluminium levels in the soils.	
		Residual Risk *Consequence*: Minor *Likelihood:* Possible *Risk Rating:* Low Depth to groundwater is approximately 25 mBGL.	

DECISION TABLE			
Licence Section	**Condition Number L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference Documents**
		Conditions 3.4.1 to 3.4.5 specify ambient groundwater and marine monitoring requirements at the resort and have been retained from the previous licence. Due to the sensitivity of the receiving environment consisting of a World Heritage and high-tourism value marine (dolphin interaction) area, the Delegated Officer considers the monitoring of groundwater for chemical and microbiological parameters to be appropriate. Monitoring parameters, locations and actions have been taken from the 'Groundwater Monitoring Program – Monkey Mia Dolphin Resort (Revision 3)' August 2011 (Program) which was submitted to DER in response to requirement 4 of an Environmental Protection Notice served on the previous occupier Aspen Parks Property Management Ltd in relation to a 2010 seepage incident and adopted into the previous licence thereafter. Table 3.4.1 has been updated to include 'Total Aluminium' as a result of the proponent 'Alum' dosing to manage phosphorus levels within the treated wastewater. 'Alum' is used as a flocculant for the settling out of particulate matter and assists in the reduction of phosphorus in wastewater which predominantly becomes held up in the sediment.	

<table>
<tr><th colspan="4">DECISION TABLE</th></tr>
<tr><th>Licence Section</th><th>Condition Number
L= Licence</th><th>Justification (including risk description & decision methodology where relevant)</th><th>Reference Documents</th></tr>
<tr><td>Monitoring of inputs and outputs</td><td>L3.3</td><td>Condition 3.3.1 has been retained as it requires the monitoring of inflows and outflows which are necessary to determine compliance, nutrient loading and potential impacts. The condition has been updated to include monitoring of volumes discharged to the irrigation area, with minor administrative changes to wording in other sections of Table 3.3.1.</td><td>General provisions of the Environmental Protection Act 1986.</td></tr>
<tr><td>Improvements</td><td>L4.1.1 – L4.1.2</td><td>Previous conditions 4.1.1 and 4.1.2 have been removed as they related to a previous improvement requirement which was submitted 9/9/2016. The conditions were worded as follows:

4.1.1 The Licensee shall complete the improvements in Table 4.1.1 by the date of completion in Table 4.1.1.

4.1.2 The Licensee, for improvements not specifically requiring a written submission, shall write to the CEO stating whether and how the Licensee is compliant with the improvement within one week of the completion date specified in Table 4.1.1.

Table 4.1.1 : Improvement program<table><tr><th>Improvement reference</th><th>Improvement</th><th>Date of completion</th></tr><tr><td>IR1</td><td>The Licensee shall prepare and submit to the CEO a Wastewater Disposal Plan (WDP). The WDP shall include but not be limited to, an assessment of the potential impacts to the environment on-site, and the disposal capacity associated with the disposal of reverse osmosis brine waste and wastewater effluent.</td><td>30/06/2015</td></tr></table></td><td>DER’s Guidance Statement: Setting Conditions.</td></tr>
</table>

DECISION TABLE			
Licence Section	**Condition Number L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference Documents**
Information	L4.1.1 L4.1.2 L4.1.3	Condition 4.1.1 which relates to the keeping of records related to the licence has been retained on the licence. The Delegated Officer considers that this requirement is necessary to enable proper review and investigation of incidents, trends or elevated monitoring results. Condition 4.1.2 has been updated as the AACR requirement is now 'standalone' and the required form has been updated and is now accessed online. The Licensee is able to utilise the form template for the Compliance report as per DER website www.der.wa.gov.au. Previous condition 5.1.2 has not been retained in the amended license as the Delegated Officer considers that the awareness of licence conditions in not a relevant facor in determining compliance. The condition was worded as follows: : *The Licensee shall ensure that:* *(a) any person left in charge of the Premises is aware of the conditions of the Licence and has access at all times to the Licence or copies thereof; and* *(b) any person who performs tasks on the Premises is informed of all of the conditions of the Licence that relate to the tasks which that person is performing.* Condition 4.1.3 relating to complaints management has been retained. Condition 4.2.1 and 4.2.2 outline annual reporting requirements. Condition 4.2.1 has been updated to reflect the requirements of the amended licence. Condition 4.3.1 and 4.2.3 outline non-annual reporting and notification requirements.	General provisions of the *Environmental Protection Act 1986.* DER's Guidance Statement: *Regulatory Principles.* DER's *Guidance Statement: Setting Conditions.*
Licence Duration	N/A	The Licence duration was extended on 29 April 2016. The Licensee was notified by letter of the change to duration period. The Licence expiry date is	DER's Guidance Statement, *Licence*

DECISION TABLE			
Licence Section	**Condition Number L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference Documents**
		now 06 April 2029. The Licence duration has been determined in accordance with 'DER guidance statement, Licence duration, May 2015'.	*Duration*

5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
06/10/2016	Proponent sent a copy of draft instrument	Response received back from Jason Jetten (Operations Manager, Permeate Partners) via email on 24/10/2016 with one change requested for consideration, as follows: Irrigation volume to irrigation area to be changed from 25 m^3/ day to 30 m^3/day during autumn to spring months, and 40 m^3/ day during summer months.	The premises currently infiltrates to the infiltration swale. The increased opportunity for evaporation of treated wastewater is considered an improved approach for discharge of treated wastewater, and the increased volumes for irrigation do not result in an increase to throughput at the premises. The Delegated Officer has considered the increase in volumes to the irrigation area acceptable, and the amendment to the irrigation volume has been incorporated within the Licence conditions.
10/08/2016 October 2016	Consultation undertaken with interested parties: Shire of Shark Bay Department of the Environment - Commonwealth	Email sent through to Shire of Shark Bay CEO, Paul Anderson, for request for comment on the proposed application. Nil comment/s received. The proponent referred the application for consideration under the *Environment Protection and Biodiversity Conservation Act 1999*. DER were advised by Jarrod Livingstone-	Not applicable. Not applicable.

Date	Event	Comments received/Notes	How comments were taken into consideration
		Foggo (Project Engineer, Permeate Partners) via email on 2/9/2016 that: "…*early feedback we have is that it is highly unlikely that there will be any 'Matters of national environmental significance' impacted and will not be a controlled act, however we are working through the due diligence and will provide the additional information in relation to this as soon as it comes to hand."* No further information has been submitted through to DER.	

6 Emissions and discharges risk assessment matrix

Note: This matrix is taken from the DER Corporate Policy Statement No. 07 - Operational Risk Management

Table 1: Emissions Risk Matrix

Likelihood	Consequence				
	Insignificant	Minor	Moderate	Major	Severe
Almost Certain	Moderate	High	High	Extreme	Extreme
Likely	Moderate	Moderate	High	High	Extreme
Possible	Low	Moderate	Moderate	High	Extreme
Unlikely	Low	Moderate	Moderate	Moderate	High
Rare	Low	Low	Moderate	Moderate	High