



Decision Document

Environmental Protection Act 1986, Part V

Proponent: Shire of Yilgarn

Licence: L8367/2009/2

Registered office: 23 Antares Street
SOUTHERN CROSS WA 6426

Premises address: Southern Cross Sewage Ponds
Koolyanobbing Rd
SOUTHERN CROSS WA 6426
Being Lot 94 on Plan 188816, Crown Reserve 16597

Issue date: Thursday, 13 November 2014

Commencement date: Sunday, 16 November 2014

Expiry date: Tuesday, 15 November 2022

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, they have taken into account all relevant considerations.

Decision Document prepared by: Abnesh Chetty
Licensing Officer

Decision Document authorised by: Steve Checker
Delegated Officer



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1 Purpose of the Decision 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 <input type="checkbox"/> New Licence <input type="checkbox"/> Licence Amendment <input checked="" type="checkbox"/> Works Approval Amendment <input type="checkbox"/>	
Activities that cause the premises to become prescribed premises	Category Number(s)	Design Capacity
	54	120 cubic metres per day
Application Verified	Date: N/A	
Application Fee Paid	Date: N/A	
Works Approval has been complied with Compliance Certificate received	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	
Commercial-in-confidence claim	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Commercial-in-confidence claim outcome	Not applicable	
Is the proposal a Major Resource Project?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the <i>Environmental Protection Act 1986</i> ?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Referral Decision No: Managed under Part V <input type="checkbox"/> Assessed under Part IV <input type="checkbox"/>
Is the proposal subject to Ministerial Conditions?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	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 <i>Environmental Protection Act 1986</i>)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Department of Water consulted Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Is the Premises within an Environmental Protection Policy (EPP) Area Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If Yes include details of which EPP(s) here.		
Is the Premises subject to any EPP requirements? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If Yes, include details here, eg Site is subject to SO ₂ requirements of Kwinana EPP.		



3 Executive summary of proposal

The Southern Cross Sewage Ponds (sewage ponds) are situated on Reserve 16597 Lot 94 Koolyanobbing-Southern Cross Road, Southern Cross and have been in operation since 1982. The ponds are situated in the south-west corner of the lot as the main feature of the lot is a large semi-permanent natural salt lake situated to the north and east of the ponds. The ponds are approximately 700 metres from the edge of the town.

There is a small salt lake of approximately 0.4km² within Crown Reserve 16597, approximately 20 metres from the ponds. A V drain (overflow pipe) leads from the ponds to the small lake. The section of the lake that the pipe is directed to is dry and historically, discharge from the ponds does not reach the water within the lake in a normal rainfall year. Discharges to date have been contained within a section of vegetation and as such, could be considered as a discharge to land. The lake does not appear to be connected on the surface to the Lake Polaris system that is situated to the south of the reserve or the surrounding lakes that occur to the north and west of the reserve. The exception is during heavy rainfall events (eg. one in twenty year storm events), when water is covering the entire surface of all lakes and interconnecting systems.

The groundwater resources in the area are hypersaline with greater than 14,000mg/L TDS and are only used by the mining industry for the purposes of dust suppression and mineral processing. Historically, water levels have been well below ground level, but with increasing dryland salinity, groundwater would be approaching the surface in low lying areas such as this location. It is apparent that the area is being impacted by rising groundwater levels and dryland salinity.

Immediate surrounding land uses are recreation, with the ponds built on the north eastern edge of reserve 7478. The nearest residential land use is a caravan park approximately 1km from the ponds. This caravan park contains one of the pumping stations for the sewer main. The other pumping stations are at Reserve 41128 and Reserve 30822. These are parks or open areas within the township.

Waste received at the premises:

The Southern Cross WWTP (sewage ponds) has a maximum design capacity of 120m³/day. The sewage ponds receive the following waste type:

- Sewerage from the township of Southern Cross via a reticulated sewerage system (from the three pumps stations within Southern Cross).
- One of the pumping stations are located at a caravan park approximately 1.1km from the ponds and the other pumping stations are at Reserves 41128 and 30822 (these are parks or open areas within the township).

Water treatment process:

The Southern Cross WWTP is a two parallel primary pond and secondary pond system with ingress splitter chamber and gravity overflow connections between primary, secondary ponds and a re-use storage tanks.

Processes at the ponds involve raw sewage being collected from the town via sewers and pump stations. There are four aerobic ponds, two primary ponds and two smaller secondary ponds. The primary oxygenation ponds allow for settling of the solids from the wastewater and beginning of the digestion by aerobic bacteria. The water then flows to the secondary treatment pond where the waste is further digested before being sent for chlorination. The effluent re-use storage is an open round concrete tank of 13,000L capacity installed in the earth bank behind the secondary ponds.

The storage volumes for each pond are as follows:



Primary pond 1: 4840m³
Primary pond 2: 4840m³
Secondary pond 1: 1584m³
Secondary pond 2: 1584m³

In addition to the above, the Shire has installed a number of treated water storage tanks adjacent to the Southern Cross Sporting Oval and within a Water Corporation Reserve situated on elevated land on Wimmera Hill to the West of the township. These tanks allow for the storage of sufficient volumes of water for irrigation purposes. The storage tanks at the sports oval are connected and are also connected to scheme water whereby the treated water can be diluted. From the oval tanks, the recycled water can also be pumped to the storage tanks on Wimmera Hill. Dilution is required as treated water had caused detrimental impact to the vegetation within the irrigation areas in the past.

Under previous licences, excess wastewater has been discharged either through irrigation of the Southern Cross Sports Oval or Constellation Park, or via the overflow pipe to the nearby salt lake. Discharge through irrigation and via the overflow pipe ceased in January 2013 upon request from DER and is now authorised to recommence under this licence amendment. The Licensee was not permitted to discharge to land or surface water until improvement condition IR1 is fulfilled.

The Licensee has submitted a report to the CEO in accordance with Licence condition 4.1.1 (IR1) which required an environmental assessment of the receiving environment for the overflow pipe and evaluation of the site's soil, groundwater depth and quality and an assessment of the likely impact of long term discharge on soil, surface water bodies, groundwater and down-gradient groundwater users and environmental receptors.

The report also details infrastructure changes (auto shut-off mechanism for the chlorine gas injection system and an auto shut-off mechanism for the filling of the storage tanks at the sports oval) that was carried out following advice from Department of Health (DoH) in line with the requirements set by the Department of Health in the document titled 'Guidelines for the Non-potable Uses of Recycled Water in Western Australia' DoH, 2011.

The application details the following system procedure:

- Water pumping will be triggered via a pressure transmitter in the tank;
- The receiver at the WWTP triggers the transfer/booster pump to start;
- The SK10 chlorine regulator will begin to feed chlorine gas into the system at a set rate;
- If the chlorine cylinder is empty the regulator will close the circuit, triggering an alarm;
- The alarm will stop the pumps and send an sms message to the nominated system operator;
- The system will also detect no/low flow events, and trigger pump shutdown; and
- The operator will then attend site to rectify issues and reset the alarms.

The irrigation (please refer to maps in appendix) will be limited to turfed areas within the listed reserves, and are as follows.

- Sports oval (2.1 hectares);
- Dog Park (0.4 hectares); and
- Constellation Park (0.5 hectares).

The irrigation infrastructure in place consists of pumps and in-ground sprinkler systems.

The application details that treated effluent is expected to meet the criteria designated Low Risk in the *Guidelines for Non-potable Uses of Recycled Water in Western Australia* (DoH, 2011) and the



Department of Water guidelines (Water Quality Protection Note- Irrigation with nutrient-rich wastewater (DoW 2008).

The following information in relation to location and siting has been summarised from the application:

Groundwater:

The groundwater within the Southern Cross hydrozone is from 10 to 30 metres below ground level, is hypersaline at greater than 14,000mg/L, The groundwater in the area due to high salinity is generally only used for mining purposes.

Vegetation:

The environmental assessment carried out has shown that the measured vegetation parameters are similar between the Southern Cross Sewage Ponds Salt Lake and Lake Polaris which is situated approximately 1.1km from the site. Visually, areas in the vicinity of the overflow pipe support increased density and abundance of grasses, which are likely the result of effluent overflow.

Sediment:

Sediment sampling was undertaken to obtain a baseline measure of sediment quality at the Southern Cross Sewage Ponds Salt Lake and Lake Polaris. All sediment parameters were found to be within acceptable ranges with the exception of a number of metals including Chromium, Copper, Lead, Nickel and Zinc. These elevated concentrations were likely the result of historic landfill at this location.

Potential sensitive receptors:

Immediate surrounding land uses area recreational, with the ponds built on the north eastern edge of the Southern Cross Sporting Oval and vacant land. The nearest residential land use is a caravan park approximately 1km from the ponds.

There is a small salt lake within crown reserve 16597, approximately 20 metres from the pond. An overflow pipe leads from the ponds to the small lake. Historically discharges from the ponds do not reach the water within the lake in a normal rainfall year according to the environmental assessment report submitted with the application. The assessment carried out revealed that discharges to date have been contained within a section of vegetation and therefore the lake does not appear to be connected on the surface to the Lake Polaris system that is situated to the south of the reserve or the surrounding lakes that are situated to the north and west of the reserve.

This licence is the result of an application to amend Licence L8367/2009/2 to authorise the discharge of treated wastewater on recreational grounds within the townsite and remove Licence condition 4.1.1. During this process a Decision Document has been developed that assesses in detail all emissions and discharges associated with the Premises. A number of amendments have also been made in line with the DER's current licensing protocol.

The Southern Cross Sewage Ponds has been assessed as presenting a moderate risk to the environment during operations. The Decision Table below outlines potential emissions and discharges identified from the operation of this facility.

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	The licence expiry date was amended by notice on 29 April 2016 to 15 November 2022 in line with DER's Guidance Statement, Licence Duration November 2014 (revised May 2015). The expiry date has been updated accordingly.	DER's Guidance Statement, Licence Duration November 2014 (revised May 2015)
Introduction	N/A	Table of contents updated. Administrative changes have been included within the Licence amendment process in accordance with DER protocol. Premises description and Licence summary section updated. Instrument log table updated.	N/A
Interpretation	L1.1.1	Administrative changes have been to reflect DER's current licensing process.	N/A
General conditions	L1.2.1 L1.2.2 L1.2.3 L1.2.4 L1.2.5	Previous Licence Condition 1.2.1 has been removed from the licence as it was not consistent with DER's <i>Guidance Statement: Setting Conditions</i> as it relates to general advice and is not a valid or enforceable condition. This condition was worded as follows: <i>"Nothing in the Licence shall be taken to authorise any emission that is not mentioned in the Licence, where the emission amounts to:</i> (a) <i>pollution;</i> (b) <i>unreasonable emission;</i> (c) <i>discharge of waste in circumstances likely to cause pollution;</i> <i>or</i> (d) <i>being contrary to any written law."</i>	General provisions of the <i>Environmental Protection Act 1986</i> . <i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i> DER's <i>Guidance Statement: Regulatory</i>



DECISION TABLE			
Licence Section	Condition Number L= Licence	Justification (including risk description & decision methodology where relevant)	Reference Documents
		<p>Previous Licence Condition 1.2.2, relating to the maintenance of pollution control and monitoring equipment, has been removed as it was not consistent with DER's <i>Guidance Statement: Setting Conditions</i> in that the condition was not enforceable as the specific equipment or internal management system endorsed was not clearly designated. This condition was worded as follows: <i>"The Licensee shall operate and maintain all pollution control and monitoring equipment to the manufacturer's specification or any relevant and effective internal management system."</i></p> <p>Previous Licence Condition 1.2.3, relating to the storage of environmentally hazardous material in accordance with the code of practice for the storage and handling of dangerous goods has been removed as it related to a code of practice which is not administered by DER. The storage of dangerous goods is regulated by the Department of Mines and Petroleum. Previous Licence Condition 1.2.3 was worded as follows: <i>"The Licensee, except where storage is prescribed in section 1.3, shall ensure that environmentally hazardous materials are stored in accordance with the code of practice for the storage and handling of dangerous goods."</i></p> <p>Previous Licence Condition 1.2.4, now 1.2.1, which related to immediately recovering or removing and disposing of spills of environmentally hazardous materials outside an engineered containment system has been updated to only reference wastes approved under the licence rather than the previous broad term "environmentally hazardous materials" which may potentially regulate materials beyond the scope of the licence and is not in accordance with DER's <i>Guidance Statement: Licence and works approval process</i>. Previous Licence Condition 1.2.4 was worded as follows: <i>"The Licensee shall immediately recover, or remove and dispose of environmentally hazardous materials outside an engineered containment system."</i></p>	<p><i>Principles</i></p> <p>DER's <i>Guidance Statement: Setting Conditions</i></p> <p>DER's <i>Guidance Statement: Licence and works approval process</i></p> <p>DER's <i>Guidance Statement: Decision Making</i></p>
Premises operation	L1.3.1 – 1.3.6 &	Licence Condition 1.3.1, relating to the investigation of exceedances has been updated to reflect wording in current Licence template. The word "target" was	General provisions of the <i>Environmental Protection</i>



DECISION TABLE			
Licence Section	Condition Number L= Licence	Justification (including risk description & decision methodology where relevant)	Reference Documents
	Tables 1.3.1 – 1.3.3	<p>removed from condition 1.3.1 as targets have been removed from the licence in accordance with DER licensing protocol.</p> <p>Licence Condition 1.3.2, details waste that is permitted to be received on-site. Table 1.3.1 has also been updated to reflect correct waste code for sewage waste received at the WWTP.</p> <p>Licence Condition 1.3.3, ensures waste brought to the premises are directed to the appropriate approved treatment/storage infrastructure. Condition 1.3.3 also ensures that disposal of treated water to irrigation areas only where no pooling or run-off is to occur.</p> <p>Licence Condition 1.3.4, ensures that all waste is stored within suitable containment infrastructure onsite.</p> <p>Licence Condition 1.3.5 relates to the management of the treatment vessel.</p>	<p><i>Act 1986</i></p> <p><i>DER's Guidance Statement: Setting Conditions</i></p> <p><i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i></p> <p><i>DER's Guidance Statement: Regulatory Principles</i></p> <p><i>DER's Guidance Statement: Decision Making</i></p>
Emissions general	L2.1.1 – 2.1.2 2.2–2.7	<p>Further information relating to the assessment and decision-making in relation to Emissions to land is provided in Appendix A.</p> <p>Sections with no specified conditions have been removed in accordance with DER protocol.</p>	<p><i>General provisions of the Environmental Protection Act 1986</i></p> <p><i>DER's Guidance Statement: Setting Conditions</i></p>



DECISION TABLE			
Licence Section	Condition Number L= Licence	Justification (including risk description & decision methodology where relevant)	Reference Documents
Odour	L2.7	<p><u>Emission Description</u> <i>Emission:</i> Odour from the WWTP facility. <i>Impact:</i> No nuisance odour impacts are expected since the site is 1 km away from the nearest receptors. DER is not aware of any odour complaints from the operation of the current WWTP facility. <i>Controls:</i> Site is in an isolated location with adequate buffer provided to the nearest residents. A complaints register is in place to record any complaints regarding the recycled water scheme and the WWTP. No complaints relating to the activities carried out on site has ever been received by the Shire of Yilgarn. The pond contains partially treated wastewater with lower potential for odour emissions. The daily maintenance schedule includes a check for any odours at the WWTP and if found the source of any odour is identified and any necessary repairs carried out. Sludge from the sludge storage tanks is collected by a licence contractor and transported to a facility licensed to accept the waste.</p> <p><u>Risk Assessment</u> <i>Consequence:</i> Insignificant <i>Likelihood:</i> Unlikely <i>Risk rating:</i> Low</p> <p><u>Regulatory Controls</u> The Delegated Officer has considered that separation to receptors and general onsite housekeeping is expected to mitigate any odour issues. Therefore the risk from odour has been determined as 'Low'. Odour emissions therefore can be sufficiently regulated under section 49 of the <i>Environmental Protection Act 1986</i>. In accordance with DER's licensing process, no specified conditions for fugitive emissions have been included on this licence.</p> <p><u>Residual Risk</u> <i>Consequence:</i> Insignificant <i>Likelihood:</i> Unlikely <i>Risk rating:</i> Low</p>	<p>General provisions of the <i>Environmental Protection Act 1986</i></p> <p>DER's <i>Guidance Statement: Regulatory Principles</i></p> <p>DER's <i>Guidance Statement: Setting Conditions</i></p> <p>DER's <i>Guidance Statement: Risk Assessment</i></p> <p>DER's <i>Guidance Statement: Decision Making</i></p>
Noise	L2.8	Consistent with DER's licensing protocol, this section was deleted because it did not contain any conditions.	DER Licence template v2.9



DECISION TABLE			
Licence Section	Condition Number L= Licence	Justification (including risk description & decision methodology where relevant)	Reference Documents
Monitoring		<p>Licence conditions 3.1.1, 3.1.2, 3.1.3, 3.1.4, 3.2.1, and 3.3.1 outline the environmental monitoring requirements.</p> <p><u>Emission Description</u> <i>Emission:</i> Wastewater (treated and untreated) <i>Impact:</i> Public health impacts to members of the public from exposure to wastewater. <i>Controls:</i> Wastewater monitoring. Groundwater monitoring.</p> <p><u>Risk Assessment</u> <i>Consequence:</i> Medium <i>Likelihood:</i> Possible <i>Risk Rating:</i> Moderate</p> <p><u>Regulatory Controls</u></p>	<p>General provisions of the <i>Environmental Protection Act 1986</i></p> <p>DER's <i>Guidance Statement: Setting Conditions</i></p> <p>DER's <i>Guidance Statement: Regulatory Principles</i></p> <p>DER's <i>Guidance Statement: Risk Assessment</i></p>
	L3.1.1	<p>Licence condition 3.1.1 (a-c) ensures that sampling is conducted in accordance with the methodology outlined in the appropriate Australian Standard for preserving water samples, wastewater and microbiological sampling. Licence condition 3.1.1 (d) requires for all laboratory samples are submitted to and tested by a laboratory with current NATA accreditation for the parameters being measured.</p>	<p>DER's <i>Guidance Statement: Decision Making</i></p>
	L3.1.2	<p>Licence condition 3.1.2 has been added to the Licence which requires requires all quarterly monitoring to be undertaken 45 days apart.</p>	
	L3.1.3	<p>Licence condition 3.1.3 has been added to the Licence to ensure that all monitoring equipment used on the Premises Licence is calibrated in accordance with the manufacturer's specifications.</p>	
	L3.1.4	<p>Licence condition 3.1.4 has been added to the Licence which requires the Licensee to notify CEO where the requirements for calibration cannot be</p>	
<p><i>Environmental Protection Act 1986</i> Decision Document: L3367/2009/2 File Number: DER2014/00271 and Table 3.2.1</p>	L3.3	<p>Amendment date: Friday, 24 March 2017</p>	<p>Page 11 of 22 IRLB_TI0669 v2.7</p>



DECISION TABLE			
Licence Section	Condition Number L= Licence	Justification (including risk description & decision methodology where relevant)	Reference Documents
	L3.2.1 L3.3.1	<p>practicably met, or a discrepancy exists in the interpretation of the</p> <p>Licence condition 3.2.1 requires the monitoring of a number of parameters for discharge to land. Limits have been imposed in condition 2.1.2 for E. coli, pH, Total Suspended Solids and Residual Chlorine as these are directly related to mitigating risk to public health through control of pathogen levels and in ensuring that effective chlorination is able to be achieved. Further detail of DER's assessment process is included in Appendix A.</p>	
Improvements	L4.1	<p>Previous Licence condition 4.1 which required the Licensee to undertake an environmental assessment of the receiving environment for the overflow pipe or submitting a report detailing a program of improvements to bring the irrigation of wastewater in line with the requirements set by the Department of Health has been removed as it related to issues which are now addressed under the current licence amendment. The condition was worded as follows:</p> <p><i>The Licensee shall;</i></p> <p style="padding-left: 40px;">a) <i>undertake an environmental assessment of the receiving environment for the overflow pipe. This assessment shall include but is not limited to;</i></p> <p style="padding-left: 80px;">i. <i>an evaluation of the site's soil, groundwater depth and quality through the installation of at least three groundwater monitoring bores; and</i></p> <p><i>an assessment of the likely impact of long term discharge on soil, surface water bodies, groundwater and down-gradient groundwater users and environmental receptors.</i></p> <p><i>OR</i></p> <p><i>submit to the CEO a report detailing a program of improvements to bring the irrigation of wastewater from the Southern Cross Sewage Ponds in line with the requirements set by the Department of Health in the document titled 'Guidelines for the Non-potable Uses of Recycled Water in Western Australia' Department of Health, 2011.</i></p>	<p>General provisions of the <i>Environmental Protection Act 1986</i></p> <p>DER's <i>Guidance Statement: Setting Conditions</i></p> <p>DER's <i>Guidance Statement: Regulatory Principles</i></p> <p>DER's <i>Guidance Statement: Licence and Works Approval Process</i></p> <p>DER's <i>Guidance Statement: Decision Making</i></p>



DECISION TABLE			
Licence Section	Condition Number L= Licence	Justification (including risk description & decision methodology where relevant)	Reference Documents
Information	L5.1.1 – 5.1.3	<p>Previous Licence condition 5.1.1, now 4.1.1 ensures all records required by the Licence are retained and be made available to the CEO.</p>	DER Licence template v2.9
		<p>Previous Licence condition 5.1.2 has been removed as it has been identified as redundant. This condition related to maintaining awareness of conditions of Licence, which is not considered a relevant factor in determining compliance. The wording of this condition was as follows: <i>“The Licensee shall ensure that:</i> <i>(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</i> <i>(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.”</i></p>	DER’s <i>Guidance Statement: Decision Making</i>
		<p>Previous Licence condition 5.1.3, now 4.1.2 relating to the Annual Audit Compliance Report (AACR) has been updated to reflect that the AACR template is now available on DER’s website.</p>	
		<p>Previous Licence condition 5.1.5, now 4.1.3 requires the Licensee to implement a complaints management system.</p>	
		<p>Previous table 5.2.1, now 4.2.1 has been updated to reflect the current requirements of the Licence. The requirement to submit the AACR with the AER has been removed from table 3.2.1 as the AACR submission is now a standalone requirement.</p>	
		<p>Previous Licence Condition 5.3, now 4.3 requires notification to the CEO, when there is a breach of any limit specified in the Licence, when there is a failure or malfunction of any pollution control equipment and when sludge will be removed from the sewage treatment pond.</p>	



DECISION TABLE			
Licence Section	Condition Number L= Licence	Justification (including risk description & decision methodology where relevant)	Reference Documents
Licence Duration	N/A	The licence was amended on 29/04/2016 to extend the expiry date until 15/11/22 in line with DER's Guidance Statement, Licence Duration November 2014 (revised May 2015). No further change of this date is proposed as part of this amendment.	DER's <i>Guidance Statement, Licence Duration November 2014</i> (revised May 2015).



5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
13/03/2017	Proponent sent a copy of draft instrument	Minor amendments to Premises description and Licence summary section.	Amendments incorporated



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



Appendix A

Emission to land

Operation

Emission: Potential sources of emissions to land as a result of the discharge of the treated effluent water are:

- (a) Containment failure: Potential emissions may arise from the failure of containment infrastructure within the sewage treatment system, storage dams or conveyance pipelines.
- (b) Seepage: Potential emissions may arise from failures in the integrity of containment infrastructure within the sewage treatment system, storage dams or conveyance pipelines.
- (c) Irrigation: Emissions to land are planned under controlled conditions year round with all treated wastewater discharged to the irrigation area. Commitment from the applicant that the WWTP is producing water to the Low Risk standard in accordance with the 'Guidelines for the Non-Potable Uses of Recycled Water in Western Australia' (DOH 2011).
- (d) Overflow pipe: Potential emissions may arise during extreme weather events when the freeboards of the Ponds are compromised.

The following components must be considered in all risks of emission:

- Nutrients: nitrogen and phosphorus; and
- Pathogens/ Escherichia coli;

Impact: Cause ponding of water in infrastructure areas. It may be possible for emissions to land to migrate across land to neighboring properties under exceptional circumstances such as saturated soil conditions and catastrophic failure of containment infrastructure. Impacts to groundwater are expected to be limited due to significant depth to groundwater.

Potential pathways of emissions to land as a result of the discharge to land via irrigation and overflow pipe, are:

- (a) Over land: It may be possible for emissions to land to migrate across land to surface waters (Southern Cross Sewage Ponds Salt Lake and Lake Polaris) or neighbouring residences under exceptional circumstances such as saturated soil conditions and catastrophic failure of containment infrastructure;
- (b) Through land: Emissions to land could infiltrate local soils and enter the groundwater at rates dependant on many factors and additional controls that may be put in place by the Applicant. Factors to consider include:
 - (i) Nutrient export quantities will be dependent on factors including the wastewater application quality and quantity (rate), crop type, crop growth stage and harvest yields, soil properties, depth to groundwater and season variations;
 - (ii) The rate of groundwater flow is likely to vary considerably with depth and seasonally. For in situ soils lateral groundwater flow rates in the shallow sand may be of the order of a few tens of metres per year when it is seasonally saturated however, is likely to be less than 10 metres per year in the underlying clayey sands and less than 1 metre per year in clayey materials (*Expert advice from Dr Steve Appleyard*).

Potential receptors of emissions to land:

- Adjacent properties and residences;
- Surface water users; and
- Surface waters and dependant ecosystems;

Potential impacts of emissions to land:

- Impact the health, welfare, convenience, comfort or amenity of nearby residences, adjacent land owners and recreational activities (e.g. surface water users);



- Impact local soil structure and terrestrial vegetation ecosystem health;
- Impact surface water ((Southern Cross Sewage Ponds Salt Lake and Lake Polaris) ecosystem health;
- Impact catchment health and potential to contribute to eutrophication within the catchment.

Controls: Sign post will be erected to prevent humans and animals from accessing the area during irrigation hours. Dilution of effluent water with scheme water to raise the water quality, which will also lower the nutrient loading. High evaporation rate and restricted watering times will make runoff or pooling of effluent water unlikely. Confirmation from the Licensee that the WWTP is producing water to the Low Risk standard in accordance with the 'Guidelines for the Non-Potable Uses of Recycled Water in Western Australia' (DOH 2011). Effluent discharge from the WWTP will be managed to allow effluent to infiltrate or evaporate and prevent surface ponding or runoff from the irrigation area. Appropriate safety signage will be erected. A review of the soil properties at the Sports Oval and Constellation park with regards to vulnerability to eutrophication indicated a maximum nitrogen (N) load of 300 kg/ha/year and the maximum phosphorus (P) load of 60 kg/ha/year. Licence condition 1.3.4 also requires the Licensee to ensure the storage ponds are designed to contain 1 in 20 year rainfall event. The Delegated Officer considers that all wastewater ponds on the premises should be designed to contain a 1 in 20 year ARI critical rainfall event, which provides a commensurate level of containment for the risk of leachate/runoff impacts. A 1 in 20 year ARI critical rainfall event has approximately a 5% chance of occurring in a given year and isolated overtopping or non-containment events below this frequency are considered to present an acceptable risk. Licence condition 2.1.1 will also restrict unnecessary discharge of wastewater from the overflow pipe. Discharge will only be allowed during extreme weather events.

Risk Assessment

Consequence: Medium

Likelihood: Unlikely

Risk Rating: Medium

Regulatory Controls

- Licence condition 1.3.2 ensures that waste will only be accepted onsite through sewer inflows and not via septage trucks;
- Licence condition 1.3.3, ensures waste brought to the premises are directed to the appropriate approved treatment/storage infrastructure. Licence Condition 1.3.3, ensures waste brought to the premises are directed to the appropriate approved treatment/storage infrastructure. Condition 1.3.3 also ensures that disposal of treated water to irrigation areas only where no pooling or run-off is to occur;
- Licence condition 1.3.4, ensures that all waste is stored within suitable containment infrastructure onsite reducing the risk of any unnecessary discharge;
- Licence condition 1.3.5 relates to the management of the treatment vessel to prevent any discharge.
- Licence condition 2.1.1 only allows for the discharge of treated wastewater for the irrigation of the local sports oval, dog park and constellation park. Discharge from the overflow pipe is also only allowed during extreme weather condition when the freeboards of the Ponds are compromised.
- Licence condition 2.1.2 ensures nutrient export from the Premises must be within the following limits:
 - 1) total phosphorus of 60 kg/ ha/ year; and
 - 2) total nitrogen of 300 kg/ ha/ year.
- Licence condition 2.1.2, also ensures that treated effluent water discharged to the irrigation field must be within the following limits:
 - 3) Total Suspended Solids of 30mg/L;



- 4) pH of 6.5 – 8.5;
- 5) Cl of 0.2 – 2.0mg/L

This will ensure that optimisation can be achieved during the disinfection process to prevent public from being exposed to any harmful pathogens.

Residual Risk

Consequence: Minor

Likelihood: Unlikely

Risk Rating: Medium



Appendix B

Government Gazette Copies of Reserves Vested to Shire of Yilgarn

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GOVERNMENT GAZETTE, W.A.

[APRIL 21, 1950.]

North-West corner of Williams Location 11656, and thence following the Western boundary to the South-West corner of the said location (11656) (see lithos 376/80, 377/80 and 387/80) and the district is assigned the name Eastern Soil Conservation District.

Given under my hand and the Public Seal of the said State, at Perth, this 12th day of April, 1950.

By His Excellency's Command,

G. B. WOOD,
Minister for Agriculture.

GOD SAVE THE KING ! ! !

At a meeting of the Executive Council, held in the Executive Council Chambers, at Perth, the 12th day of April, 1950, the following Orders in Council were authorised to be issued:—

Health Act, 1911-1948.

ORDER IN COUNCIL.

P.H.D. 3002/22; Ex. Co. 769.

WHEREAS it is enacted by section 25 of the Health Act, 1911-1948, any river, harbour or other water shall be deemed for the purposes of the said Act to be within such district as may be fixed by the Governor; and whereas it is deemed necessary to include Geraldton Inner Harbour and Geraldton Outer Harbour to be within the boundaries of the Geraldton Municipal Health District as constituted under the said Act: Now, therefore I, the said Governor, acting with the advice and consent of the Executive Council, do order that the Geraldton Inner Harbour and the Geraldton Outer Harbour, as proclaimed under the Ports and Harbours Act, 1917, in the *Government Gazette* on the 7th day November, 1930, be within the boundaries of the Geraldton Municipal Health District as constituted under the Health Act, 1911-1948.

Approved by His Excellency the Governor in Executive Council.

(Sgd.) R. H. DOIG,
Clerk of the Council.

The Land Act, 1933-1948.

ORDER IN COUNCIL.

Corr. No. 6122/04.

WHEREAS by section 31 of the Land Act, 1933-1948, it is made lawful for the Governor, by Order in Council, without issuing any deed of grant, to place any reserve under the control of any municipality, road board, or other person or persons, as a board of management, and to empower such board to make, repeal, and alter by-laws for the control and management of such reserves, and prescribe fees for depasturing thereon or other use thereof, and for other purposes, such by-laws to be approved by the Governor and published in the *Government Gazette*; and whereas it is deemed expedient that reserve 9311 for a Camping Ground at Carnel should be placed under the control of the Darling Range Road Board as a board of management: Now, therefore, His Excellency the Governor, by and with the advice and consent of the Executive Council, do hereby place the before-mentioned reserve under the control of the Darling Range Road Board as a board of management, and do hereby empower such board to make, repeal, or alter by-laws for the control and management of the said reserve; for prescribing fees for depasturing thereon or other use thereof; for directing the manner in which such fees shall be imposed, paid, collected, and disposed of, and to impose penalties not exceeding in any case £5 for any breach thereof, and £2 a day for a continuing breach, but not more than £20 in the aggregate.

(Sgd.) R. H. DOIG,
Clerk of the Council.

The Land Act, 1933-1948.

ORDER IN COUNCIL.

Corr. No. 3300/94.

WHEREAS by section 33 of the Land Act, 1933-1948, it is made lawful for the Governor to direct that any reserve shall vest in and be held by any municipality, road board, or other person or persons to be named

in the order, in trust for any of the purposes set forth in section 29 of the said Act, or for the like or other public purposes to be specified in such order, and with power of subleasing; and whereas it is deemed expedient that reserves A1375 (Southern Cross Lots 6, 723, 748 and 749) and A3234 (Southern Cross Lots 252, 746, 747 and 753) should vest in and be held by the Yilgarn Road Board in trust for Recreation: Now, therefore, His Excellency the Governor, by and with the advice and consent of the Executive Council, do hereby direct that the before-mentioned reserve shall vest in and be held by the Yilgarn Road Board in trust for Recreation with power to the said Yilgarn Road Board to lease the whole or any portion of the said reserves for any term not exceeding twenty-one years from the date of the lease.

(Sgd.) R. H. DOIG,
Clerk of the Council.

The previous Order in Council, dated the 15th September, 1949, respecting these reserves, is hereby superseded.

Forests Act, 1918.

ORDER IN COUNCIL.

Forests Corr. 931/44; Lands Corr. 719/29.

WHEREAS by the Forests Act, 1918, it is provided that the Governor may, by an Order in Council, declare any Crown lands as State Forest, within the meaning and for the purpose of that Act: Now therefore, His Excellency the Governor, with the advice and consent of the Executive Council do hereby declare Nelson Location 9065 as an addition to State Forest No. 36 within the meaning and for the purpose of the Forests Act, 1918. (Plan 439C/40, D4.)

(Sgd.) R. H. DOIG,
Clerk of the Council.

Forests Act, 1918.

ORDER IN COUNCIL.

Forests Corr. 379/49; Lands Corr. 722/29.

WHEREAS by the Forests Act, 1918, it is provided that the Governor may, by an Order in Council, declare any Crown lands as State Forest, within the meaning and for the purpose of that Act: Now therefore, His Excellency the Governor, with the advice and consent of the Executive Council do hereby declare Nelson Locations 8664, 8665, 8666 and 8667 as an addition to State Forest No. 39 within the meaning and for the purpose of the Forests Act, 1918. (Plan 442C/40, E4.)

(Sgd.) R. H. DOIG,
Clerk of the Council.

Public Works Act, 1902-1945.
Kellerberrin School Extension.

ORDER IN COUNCIL.

P.W. 594/47. Ex. Co. No. 721.

IN pursuance of the powers conferred by section 11 of the Public Works Act, 1902-1945, His Excellency the Governor, acting by and with the advice and consent of the Executive Council do hereby authorise the Honourable Minister for Works to undertake, construct or provide Kellerberrin School extension on the land shown coloured green on Plan P.W.D., W.A. 32122 (L.T.O. Diagram 15234) which may be inspected at the office of the Minister for Works, Perth.

R. H. DOIG,
Clerk of the Council.

ORDER IN COUNCIL.

M.W.S. 869/25.

WHEREAS the enactment contained in section 74 of the Constitution Act, 1889, whereby the appointment of all public officers under the Government of the State is vested in the Governor in Council does not apply to minor appointments which by Order in Council are vested in the Heads of Departments or other officers or persons within the State; and whereas it is desirable that the appointment of foremen and all other persons



Corres. No. 5864/52.—That portion of reserve No. 6985 as comprised in Wagin Lot 1766 should, subject as aforesaid, be granted in fee simple to The Wagin Agricultural Society Incorporated to be held in trust for the purpose of an addition to the Agricultural Show Ground.

Corres. No. 2598/40.—That reserve No. 22187 (Chidlow Lot 18) should, subject as aforesaid, be granted in fee simple to The Roman Catholic Bishop of Perth to be held in trust for the purpose of a "Church Site (Roman Catholic)."

Now, therefore, His Excellency the Governor, by and with the advice and consent of the Executive Council, doth hereby direct that the before-mentioned reserves shall be granted in fee simple to the abovementioned bodies, to be held in trust for the purposes aforesaid, subject to the condition that the land shall not be leased or mortgaged in whole or in part without the consent of the Governor.

R. H. DOIG,
Clerk of the Council.

Land Act, 1933-1958.
ORDER IN COUNCIL.

Corres. No. 1440/59.

WHEREAS by section 33 of the Land Act, 1933-1958, it is made lawful for the Governor to direct that any reserve shall vest in and be held by any municipality, road board, or other person or persons to be named in the order, in trust for any of the purposes set forth in section 29 of the said Act, or for the like or other public purposes to be specified in such order, and with power of sub-leasing; and whereas it is deemed expedient that reserve No. 25767 should vest in and be held by the West Kimberley Road Board in trust for the purpose of Recreation (Golf Links): Now, therefore, His Excellency the Governor, by and with the advice and consent of the Executive Council, doth hereby direct that the beforementioned reserve shall vest in and be held by the West Kimberley Road Board in trust for Recreation (Golf Links), with power to the said West Kimberley Road Board, subject to the approval in writing of the Minister for Lands being first obtained, to lease the whole or any portion of the said reserve for any term not exceeding 21 years from the date of the lease.

R. H. DOIG,
Clerk of the Council.

Land Act, 1933-1958.
ORDERS IN COUNCIL.

WHEREAS by section 33 of the Land Act, 1933-1958, it is made lawful for the Governor to direct that any reserve shall vest in and be held by any municipality, road board, or other person or persons to be named in the order in trust for the like or other public purposes to be specified in such order; and whereas it is deemed expedient as follows:—

Corr. No. 9502/05.—That reserve No. 9895 should vest in and be held by the Yilgarn Road Board in trust for Road Board Purposes.

Corr. No. 1596/24.—That reserve No. 18699 should vest in and be held by the Kojonup Road Board in trust for the purpose of Recreation.

Corr. No. 1874/60.—That reserve No. 25765 should vest in and be held by the Minister for Works in trust for the purpose of Water Supply.

Corr. No. 1445/59.—That reserve No. 25760 should vest in and be held by the Minister for Water Supply in trust for the purpose of a Drain.

Corr. No. 15135/11.—That Class "A" reserve No. 25763 should vest in and be held by the Plantagenet Road Board in trust for the purpose of a Watering and Stopping Place for Travellers and Stock.

Corr. No. 2597/60.—That reserve No. 25764 should vest in and be held by the Minister for Railways in trust for Railway Purposes.

Corr. No. 3093/15.—That reserve No. 16140 should vest in and be held by the West Kimberley Road Board in trust for the purpose of a Camp- ing and Caravan Park.

Corr. No. 2092/55.—That reserve No. 25769 should vest in and be held by the Kojonup Road Board in trust for the purpose of Gravel.

Corr. No. 2206/90, Vol. 3.—That reserve No. 1952 should vest in and be held by the Katanning Road Board in trust for the purpose of Recreation (Pinwernyng Park).

Now, therefore, His Excellency the Governor, by and with the advice and consent of the Executive Council, doth hereby direct that the before-mentioned reserves shall vest in and be held by the abovementioned bodies in trust for the purposes aforesaid, subject nevertheless to the powers reserved to him by section 37 of the said Act.

R. H. DOIG,
Clerk of the Council.

Constitution Act, 1889.
ORDER IN COUNCIL.

F.D. 1368/54.

WHEREAS the enactment contained in section 74 of the Constitution Act, 1889, whereby the appointment of all public officers under the Government of the State is vested in the Governor in Council does not apply to minor appointments which by Act of Legislature or by Order in Council may be vested in the heads of departments or other officers or persons within the State; and whereas it is desirable that the appointment of persons as employees of the Forests Department and its branches at a daily or weekly rate of wages should be vested in Francis John Campbell or any person appointed to temporarily act in place of such officer: Now, therefore, His Excellency the Governor, by and with the advice of the Executive Council, hereby vests in Francis John Campbell and any person appointed to temporarily act in place of such officer, the appointment of persons as employees of the Forests Department and its branches at a daily or weekly rate of wages.

R. H. DOIG,
Clerk of the Council.

Forests Act, 1918-1954.
ORDER IN COUNCIL.

F.D. 756/58.

WHEREAS by the Forests Act, 1918-1954, it is provided that a dedication under the said Act of Crown land as a State Forest may be revoked in whole or in part in the following manner:—

- (a) The Governor shall cause to be laid on the Table of each House of Parliament a proposal for such revocation.
- (b) After such proposal has been laid before Parliament the Governor, on a resolution being passed by both Houses that such proposal be carried out, shall, by Order in Council, revoke such dedication.

And whereas His Excellency the Lieutenant-Governor and Administrator did cause to be laid on the Table of each House of Parliament his proposal dated the 23rd day of October, 1958, for the revocation in part of the dedication of Crown lands as State Forest; and whereas after such proposal had been laid before Parliament a resolution was passed by both Houses that such proposal should be carried out: Now, therefore, His Excellency the Governor, with the advice and consent of the Executive Council, doth hereby revoke in part the dedication of Crown lands as State Forest No. 28 by exciting that portion of such State Forest as is described in the Schedule hereto.

Schedule.

State Forest No. 28 (Nelson Location 10891) an area bounded on the south by part of the northern boundary of Nelson Location 8004, on the west



may, on the recommendation of the Minister, by Proclamation authorise the burning of the plant during prohibited burning times or during any period of prohibited burning times and declare that such proclamation shall take effect either generally or in the particular district specified in the Proclamation; and whereas the Minister is of the opinion that it is desirable that the plant specified hereunder should be burnt during prohibited burning times in order to eradicate the plant in the particular districts specified hereunder: Now, therefore I, the said Governor, acting by and with the advice and consent of the Executive Council, do hereby authorise the burning, subject to the regulations, of the undermentioned plants during the periods and in the particular districts set out in the schedule hereof.

Schedule.

Name of Plant; Period in which burning may take place; District.

Carthamus Lanatus (Tourn.) L. (Saffron Thistle); the whole of the prohibited burning times; the whole of the South-West Land Division together with the Shires of Westonia, Yilgarn, Dundas, Phillips River and Esperance.

Given under my hand and the Public Seal of the said State, at Perth this 7th day of April, 1965.

By His Excellency's Command,

STEWART BOVELL,

Minister for Lands.

GOD SAVE THE QUEEN ! ! !

AT a meeting of the Executive Council held in the Executive Council Chamber, at Perth, this 7th day of April, 1965, the following Orders in Council were authorised to be issued:—

Constitution Act, 1899.

ORDER IN COUNCIL.

M.R. 571/60.

WHEREAS the enactment contained in section 74 of the Constitution Act, 1899, by which the appointment of all public officers under the Government of the State is vested in the Governor in Council does not apply to minor appointments, which by Order in Council are vested in Heads of Departments or other officers or persons within the State; and whereas it is desirable that the appointment of foremen and all other persons employed at a daily rate of wage on works under the control of the Commissioner of Main Roads should be vested in the officer whose name is set out in the attached schedule: Now, therefore, His Excellency the Governor, by and with the advice of the Executive Council, hereby vests in the officer named in the attached schedule and any person or persons appointed to temporarily act in their place, the appointment of foremen and all persons employed on such works at a daily rate of wages.

The Schedule.

D. G. Bray.
D. P. Hill.

W. S. LONNIE,
Clerk of the Council.

Land Act, 1933-1963.

ORDER IN COUNCIL.

Corres. 2872/61.

WHEREAS by section 33 of the Land Act, 1933-1963, it is made lawful for the Governor to direct that any reserve shall vest in and be held by any municipality, body corporate, or other person or persons to be named in the order in trust for the like or other public purposes to be specified in such order; and whereas it is deemed expedient that Reserve No. 27431 (Parkerville Lot 386) should vest in and be held by the Shire of Mundaring in trust for the purpose of Gravel: Now, therefore, His Excellency the Governor, by and

with the advice and consent of the Executive Council, doth hereby direct that the beforementioned Reserve shall vest in and be held by the Shire of Mundaring in trust for the purpose aforesaid, subject nevertheless to the powers reserved to him by section 37 of the said Act, and to the conditions set out in the schedule to the notice gazetted Reserve No. 27431.

W. S. LONNIE,
Clerk of the Council.

Land Act, 1933-1963.

ORDERS IN COUNCIL.

WHEREAS by section 33 of the Land Act, 1933-1963, it is made lawful for the Governor to direct that any reserve shall vest in and be held by any municipality, body corporate, or other person or persons to be named in the order, in trust for any of the purposes set forth in section 29 of the said Act, or for the like or other public purposes to be specified in such order and with power of subleasing; and whereas it is deemed expedient as follows:—

Corres. 11596/98.—That Class "A" Reserve No. 7043 (at Southern Cross) should vest and be held by the Shire of Yilgarn in trust for the purpose of Recreation.

Corres. 1905/17.—That Reserve No. 17691 (at Dalwallinu) should vest in and be held by the Shire of Dalwallinu in trust for the purpose of Housing and Use and Requirements of the Shire of Dalwallinu.

Corres. 6370/51.—That Reserve No. 23372 at Kukerin should vest in and be held by the Shire of Dumbleyung in trust for the purpose of Sale Yards.

Now, therefore, His Excellency the Governor, by and with the advice and consent of the Executive Council, doth hereby direct that the beforementioned reserves shall vest in and be held by the abovementioned bodies in trust for the purposes aforesaid with power to the said bodies, subject to the approval in writing of the Minister for Lands being first obtained, to lease the whole or any portion of the said reserves for any term not exceeding 21 years from the date of the lease.

W. S. LONNIE,
Clerk of the Council.

Land Act, 1933-1963.

ORDERS IN COUNCIL.

WHEREAS by section 33 of the Land Act, 1933-1963, it is made lawful for the Governor to direct that any reserve shall vest in and be held by any municipality, body corporate, or other person or persons to be named in the order in trust for the like or other public purposes to be specified in such order; and whereas it is deemed expedient as follows:—

Corres. 1004/99.—That Reserve No. 10183 (near Wandering) should vest in and be held by Shire of Wandering in trust for the purpose of Recreation (Golf Course).

Corres. 3248/57.—That Reserve No. 25184 (Swan Location 6669) should vest in and be held by the Shire of Bayswater in trust for the purpose of Recreation (excluding use of the land for Public Camping and Caravan Park).

Corres. 1668/58.—That Reserve No. 25413 (Swan Location 6848) should vest in and be held by the Town of Melville in trust for the purpose of Recreation (excluding use of the land for Public Camping and Caravan Park).

Corres. 274/61.—That Reserve No. 26221 (Plantagenet Location 6867) should vest in and be held by the Shire of Albany in trust for the purpose of Recreation (excluding use of the land for Public Camping and Caravan Park).