



Amendment Report

Application to amend licence

Part V Division 3 of the *Environmental Protection Act 1986*

Licence number	L6870/1993/12
Licence holder	Shire of East Pilbara
DWER file number	DER2014/00
Premises	Newman Wastewater Treatment Plant Crown Reserve 45776 Windell Location 144 Lot 144 on Plan 192902 NEWMAN WA 6873
Date of report	11/09/2020
Decision	Licence granted

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1. Definitions

Key terms relevant to this decision report and their associated definitions are listed in **Table 1**.

Table 1: Definitions

Term	Definition
BHP	BHP Billiton Iron Ore
Category / categories	Categories of prescribed premises as set out in Schedule 1 of the EP Regulations.
Decision Report	refers to this document.
Delegated Officer	An officer delegated under section 20 of the EP Act.
Department	The department established under section 35 of the <i>Public Sector Management Act 1994</i> and designated as responsible for the administration of Part V Division 3 of the EP Act.
DWER	Department of Water and Environmental Regulation As of 1 July 2017, the Department of Environment Regulation (DER), the Office of the Environmental Protection Authority (OEPA) and the Department of Water (DoW) amalgamated to form the Department of Water and Environmental Regulation (DWER). DWER was established under section 35 of the <i>Public Sector Management Act 1994</i> and is responsible for the administration of the <i>Environmental Protection Act 1986</i> along with other legislation.
Emission	has the same meaning given to that term under the EP Act.
EP Act	<i>Environmental Protection Act 1986</i> (WA)
EP Regulations	<i>Environmental Protection Regulations 1987</i> (WA)
Existing Licence	The Licence issued under Part V, Division 3 of the EP Act and in force prior to the commencement of, and during this Review
Licence Holder	Shire of East Pilbara
Minister	the Minister responsible for the EP Act and associated regulations
Noise Regulations	<i>Environmental Protection (Noise) Regulations 1997</i> (WA)
Occupier	has the same meaning given to that term under the EP Act.
P1 PDWSA	Priority 1 Public Drinking Water Supply Area
Prescribed premises	This has the same meaning given to that term under the EP Act.
Premises	refers to the premises to which this Decision Report applies, as specified at the front of this Decision Report

Term	Definition
Revised Licence	the amended Licence issued under Part V, Division 3 of the EP Act following the finalisation of this Review.
Risk Event	As described in <i>Guidance Statement: Risk Assessment</i>
TWW	Treated Wastewater

2. Licence and amendment history

Table 2 provides the amendment history for L6870/1993/12.

Table 2: Licence amendments

Instrument	Issued	Nature and extent of works approval, licence or amendment
Reissue	21/072011	Licence Re-issue and expiry extended by five years
Amendment to Licence	29/04/2016	REFIRE - Extend expiry date from 29 July 2016 to 29 July 2023. No update to Licence format occurred.
Amendment Notice 1	08/09/2016	Addition of a second clarifier to the Licence
Licence Amendment	11/09/2020	Licence amendment to include historical discharge of treated effluent to neighbouring BHP owned wetland area. Amendment was granted in the form of a revised licence, including consolidation of Amendment Notice 1 issued on 08 September 2016.

3. Amendment Description

3.1 Purpose and scope of assessment

DWER received an application from the Shire of East Pilbara for a licence (L6870/1993/12) amendment on 30 October 2019 to include historic discharge of treated effluent to a neighbouring BHP owned wetland (situated on mining lease ML244SA). The proposed amendment relates to the discharge by design of treated effluent from the Newman Wastewater Treatment Plant (NWWTP) to the adjacent wetland. This discharge was incorporated into the original design and construction of the NWWTP 38 years ago to ensure the NWWTP continues to operate in times of emergencies, i.e. when treatment plant or irrigation systems fail, and excess production of recycled water cannot be used in town or stored on site. Currently the main source of discharge on the Existing licence is via irrigation through the Shire reuse program. The treated water must meet the specifications listed in Table 3 to be able to be used for the Shire's Recycled Water Scheme for urban irrigation with enhanced restricted access and application ('low' exposure risk level). Currently the sites receiving the recycled water include Boomerang Oval, Main (Capricorn) Oval, Newman Senior High School, Shire Administrative Centre, Red Sands Tavern, St John Ambulance Station, Lions Club (Lions Animal Park), East Newman Development, Rugby Oval, Hockey Oval, and Cricket Oval.

Table 3: Quality limits of recycled water used for Recycled Water Scheme

Parameter	Compliance Value	Monitoring Frequency
E.coli	<1000 cfu or MPN/1000mL	Monthly
SS	<30 mg/L	Monthly
pH	6.5 – 8.5	Daily or continuous online
Disinfection (Chlorine)*	0.2 – 2mg/L	Daily or continuous online

**Total Chlorine residual after a minimum contact time of 30 minutes*

The Licence Holder is planning an upgrade to the NWWTP infrastructure to improve efficiencies and reduce the amount of treated effluent discharged to the wetland area. This upgrade will be the subject of a separate licence amendment and will not be considered in this current amendment application.

Table 4 lists the documents and information provided with the amendment application and submitted as part of the assessment process.

Table 4: Licence amendments

Document/Information description	Date received
Application form (amendment) signed by Executive Manager Infrastructure Services, Raees Rasool, and Manager – Waste Services, Tom Wheelon and attached supporting documentation	30 October 2019
BHP Letter of Support_SOEP WWTP Licence Amendment_FINAL_Signed.pdf and Attachment 2A Premises Map_Revised – in response to Request for further information.	26 November 2019
Raw data –water quality in response to Request for further information	26 November 2019
Email from Edmore Masaka containing annual summary treated wastewater quality data	9 December 2019

Groundwater monitoring bore locations	24 December 2019
Management of Wetland as agreed with BHP	23 June 2020

3.2 CEO initiated amendment

The CEO in applying the above requested amendment, issues a revised licence also consolidating changes made under Amendment Notice 1 issued on 08 September 2016 (as detailed in the instrument log table above). The obligations of the Licence Holder have not changed in making this consolidating amendment. During the consolidation of the amendment notices, DWER has not undertaken any additional risk assessment of the Premises. In applying the above requested amendment the CEO has also:

- Updated the expiry date to align with the 2016 amended expiry date;
- Updated the definitions within the Licence;
- Updated the style and appearance of the Licence;
- Updated the Licence conditions to reflect wording in the current licence template. The word "Licensee" was removed from the licence and the word "Licence Holder" was added to the licence instead; and
- Deleted the redundant AACR form set out in Attachment 1 of the previous licence and advise the Licence Holder to obtain the form from the Departments website.

4. Overview of existing Premises

Table 5: Classification of premises and assessed design capacity

Category	Description	Assessed production or design capacity or throughput
Category 54	Sewage facility: Premises on which sewage is treated or from which treated sewage is discharged onto land or into waters.	2,000m ³ per day

5. Description of proposed activities

The Licence Holder intends to upgrade the existing WWTP to improve efficiency, quality and quantity of treated effluent produced. During the planning phase of this upgrade, it was noted that the historic discharge to the neighbouring BHP owned wetland area was not included on the Existing Licence.

The proposed infrastructure and equipment are outlined in Table 6 below and the site layout is shown in Figure 1, while the current licenced infrastructure is presented in Figure 2.

Table 6: Proposed infrastructure and equipment

Ref	Infrastructure or Equipment	Site Layout Plan reference (Figure 1)
1	BHP Owned wetland	BHP Wetland
2	Underground pipework from 'discharge point' to 'outflow to wetland'	Discharge point and Outflow to Wetland

Figure 1: Site layout plan indicating the location of BHP owned wetland

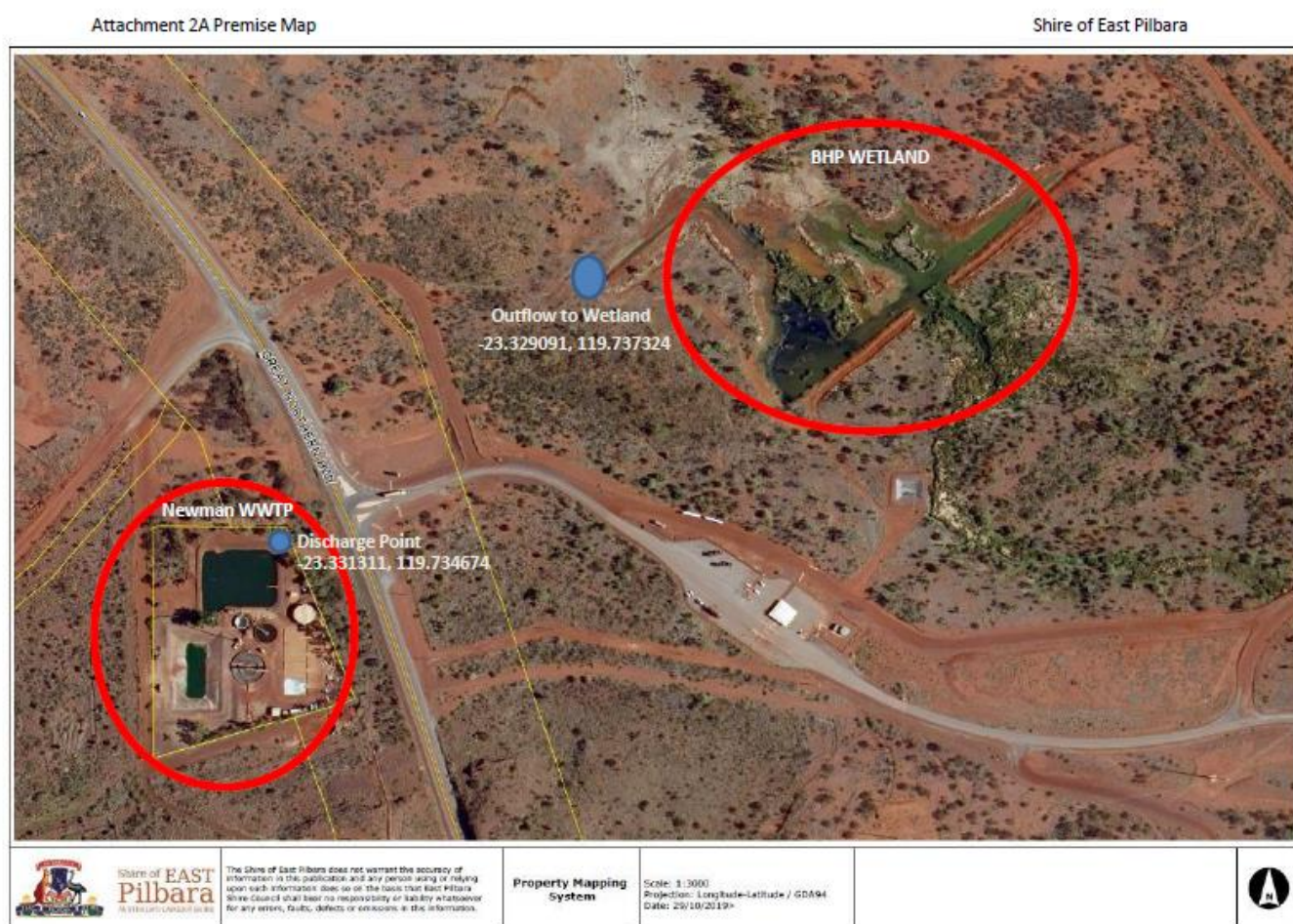


Figure 2: Site Overview



6. Location and receptors

Table 7 below lists the relevant sensitive land uses currently in the vicinity of the Prescribed Premises which may be receptors relevant to the proposed amendment.

Table 7: Receptors and distance from activity boundary

Residential and sensitive premises	Distance from Prescribed Premises
P1 PDWSA - Newman Water Reserve	<p>Within the P1 Public Drinking Water Source Area (See Appendix 3)</p> <p>Wetland area is approximately 11.5km west south-west from existing-use bore field (E-Line and K-Line bores – located approximately 11.7km east north-east of Newman)</p> <p>Wetland Area is approximately 2.6km south of future-use bore field (Homestead Creek)</p>
Residential premises – Town of Newman	<p>~1,538m south of Existing Premises Boundary and ~1,779m south east of the BHP wetland area.</p>

Residential and sensitive premises	Distance from Prescribed Premises
Indigenous Location – Parnpajinya Aboriginal Association Incorporated	~1,302m south east of the Existing Premises Boundary, and ~1,132.9m south of the BHP wetland area

Table 8 below lists the relevant environmental receptors in the vicinity of the Prescribed Premises which may be receptors relevant to the proposed amendment.

Table 8: Environmental receptors and distance from activity boundary

Environmental receptors	Distance from Prescribed Premises
TEC buffer zone – Ethel Gorge aquifer stygobiont community – Endangered	Within the buffer zone
RIWI groundwater zone – Pilbara Groundwater Area	Within the RIWI Pilbara Groundwater Area
RIWI surface water zone – Pilbara Surface Water Area	Within the RIWI Pilbara Surface Water Area. Salinity value of 500-1000. Depth to groundwater unknown
Threatened Fauna: Bird – P4	~740m north east of the BHP wetland area, and ~1280m north east of the Existing Premises Boundary
Minor unnamed waterway	Flows through northern side of wetland area
Homestead Creek – Non Perennial, Minor waterway	Flows ~1,326.8m east north-east of the BHP Wetland area, and ~2,067m north east of the Existing Premises Boundary

7. Risk assessment

Table 9 below describes the Risk Events associated with the amendment consistent with the *Guidance Statement: Risk Assessments*. This table identifies whether the emissions present a material risk to public health or the environment and outlines relevant regulatory controls.

7.1 Risk assessment for proposed amendment during operation

Table 9: Identification of emissions, pathway and receptors

Risk Event				Consequence rating ¹	Likelihood rating ¹	Risk ¹	Reasoning	Regulatory controls (refer to conditions of the granted instrument)
Source/Activities*	Potential emissions	Potential receptors, pathway and impact	Applicant controls					
Discharge of excess TWW/ treated effluent into BHP Wetland	Contaminated surface water	Overland runoff causing impacts to onsite flora, RIWI Pilbara Surface Water Area, and P1 PDWSA – Newman Water Reserve	Treated effluent must meet certain parameters for irrigation to Shire Reuse Scheme. (Class A recycled/ irrigation water)	Moderate	Unlikely	Medium	<p>The discharge is historic and has been occurring prior to this amendment, no negative environmental impact has been observed as yet.</p> <p>The discharge of TWW is into a P1 PDWSA., however planned upgrades to the WWTP will eventually lead to a cessation or reduction of discharge, increased beneficial reuse and improved water quality</p> <p>The Delegated Officer considers the conditions on the licence adequate at mitigating any potential impact.</p>	Condition 6 Table 1 and Condition 7 ensure that discharge of TWW only occurs to a maximum of 0.5ML per day and only when there is no irrigation demand from the Recycled Water Scheme.
	Contaminated groundwater	Leachate causing impacts to RIWI Pilbara Groundwater Area and P1 PDWSA – Newman Water Reserve. Depth to groundwater unknown	Treated effluent must meet certain parameters for irrigation to Shire Reuse Scheme. (Class A recycled/ irrigation water)	Major	Possible	High	<p>Discharge of treated wastewater to a priority 1 PDWSA – Newman Water Reserve.</p> <p>Wetland area is ~11.5km south south-west of the currently used bore fields and ~2.6km south of the proposed future bore field.</p> <p>In accordance with the expert water source protection advice outlined in section 8, Delegated Officer considers that the ongoing discharge of treated wastewater into a priority 1 PDWSA with a water supply borefield proposed in the vicinity is not sustainable in the long term. A condition has therefore been included to require the cessation of discharges to the wetland area by 2026.</p> <p>The Delegated Officer considers the addition of water quality monitoring conditions to the revised licence will allow for any effects to be monitored, reported and mitigated.</p>	<p>Condition 6 Table 1 – TWW or effluent discharged to BHP wetland area only in an emergency/ when no demand for irrigation from the Recycled Water Scheme.</p> <p>Condition 6 allows the discharge of up to 0.5ML of treated effluent per day to the BHP wetland area in times when there is no irrigation demand from the Recycled Water Scheme.</p> <p>Condition 7 states that discharge to the wetland area must cease by 31 December 2025.</p> <p>Condition 17 ensures that ground water monitoring occurs six monthly so that impacts of the discharge are monitored and able to be managed.</p> <p>Parameter limits/triggers will be incorporated into the upcoming works approval/licence amendment application which will authorise works to upgrade water quality of discharge at the premises.</p>

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the Department's Guidance Statement: Risk Assessments (February 2017)

8. Water Source Protection Advice

Expert water source protection advice from the Department's Northwest Region was received and is considered as follows:

Table 10: Northwest Region Comments

Comment Received	Delegated Officer response
<ul style="list-style-type: none"> • Confirm that the Premises falls within the P1 Newman PDWSA; • The disposal of wastewater onsite is deemed acceptable subject to the comments and recommendations outlined in the memo; 	<ul style="list-style-type: none"> • Consideration of the Newman P1 PDWSA has been considered when determining the outcome of this amendment.
<ul style="list-style-type: none"> • Concerns regarding the wetland area once discharge ceases and the monitoring program proposed at the wetland site and at the WWTP; • The rehabilitation and/or management of the wetland area needs to be considered once discharge ceases; • Recommended that Regulatory Services ensure BHP/SoEP agreement are aware of 'closure' requirements on ML244SA tenement conditions; 	<ul style="list-style-type: none"> • The cessation of discharge to the wetland is not applicable to this amendment. DWER will consider when the applicant submits an amendment for the upgrade to the WWTP.
<ul style="list-style-type: none"> • The Licence should stipulate that the use of the wetland area for discharge of Class A treated wastewater is permitted for a 5 year time frame; • An agreement or handover process should be considered for remediation of the wetland and whether or not the wetland required ongoing monitoring/ management; 	<ul style="list-style-type: none"> • DWER notes that it is BHP's preference that discharge to the wetland ceases within 5 years of the commencement of the upgrade works. DWER has included the condition that discharge to the wetland must cease by 31 December 2025 to ensure protection of the future-use bore fields.
<ul style="list-style-type: none"> • Recommends the details of the management of the wetland area requires further clarification; 	<ul style="list-style-type: none"> • ToEP and BHP have provided DWER with details of an arrangement for the monitoring of the wetland area.
<ul style="list-style-type: none"> • A monitoring trigger criteria should be set for the monitoring site where discharge occurs to the wetland. Appropriate contingency actions and reporting when criteria are triggered is required. 	<ul style="list-style-type: none"> • The current amendment is to authorise historical discharge. A further amendment application is expected to be submitted shortly to upgrade water quality of the discharge. DWER will seek advice regarding appropriate trigger values in the upcoming licence amendment assessment.

Comment Received	Delegated Officer response
<ul style="list-style-type: none"> BHP have requested SoEP implement water quality monitoring program at the discharge point to wetland. This program should be submitted to DWER for review and approval as part of the licence conditions to ensure no water quality impacts to Newman P1 area; 	<ul style="list-style-type: none"> The licence amendment includes the amendment of licence condition 14 to ensure the water quality monitoring program at the discharge point to the wetland is submitted to DWER for review and approval with the AER.
<ul style="list-style-type: none"> Part 9.2 of the licence amendment application states there will be monitoring bores sampled every 6 months with reports to be submitted to DWER. The location of these bores were not provided and therefore we cannot determine if the monitoring proposed adequately addresses the potential impacts from WWTP activities on the Newman drinking water supply borefield. 	<ul style="list-style-type: none"> The Licence Holder has now provided the location of the monitoring bores, see Appendix 2

9. Consultation

Table 2 provides a summary of the consultation undertaken by the department.

Table 2: Consultation

Consultation method	Comments received	Department response
Licence Holder was provided with draft amendment on (07/08/2020)	<p>Response on 11/09/2020 indicating the following comments on the draft documents:</p> <ul style="list-style-type: none"> Requesting the date to cease discharge to wetland is extended to 5 years after the construction of update works complete; Requesting the ability to discharge up to 2ML per day to the wetland for periods of one month in emergency situations; and Amend inconsistencies within condition 17. 	<p>The Delegated Officer has reviewed the proposed timeframes, agreements with the landowner and investigations and agrees to the revised timeframe .</p> <p>Agreed</p> <p>Agreed</p>

10. Conclusion

Based on the assessment in this Amendment Report, the Delegated Officer has determined that a licence amendment will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

10.1 Summary of amendments

Condition No.	Proposed amendments
N/A	Update the format and appearance of the Licence
Front Page	Updated the expiry date to align with the 2016 amended expiry date
Definitions	Definitions updated to reflect department name changes and add some new definitions
Numbering	Update the numbering of the licence
Condition 5	Amended to include discharge to wetland area
Condition 6	Added to licence to detail the two emission points to land – Recycled Water Scheme and BHP owned wetland area.
Condition 7	Added to licence to include a limit on the amount of TWW/ treated effluent allowed to be discharged to the wetland area. Discharge to be ceased after a period of 5 years following completion of upgrades.
Condition 14	Amended to ensure that water quality monitoring occurs at the discharge point (figure 1 of this Decision Report) as well as before the holding pond for irrigation.
Condition 17	Added to the licence to ensure that groundwater monitoring occurs at B1-7 six monthly.

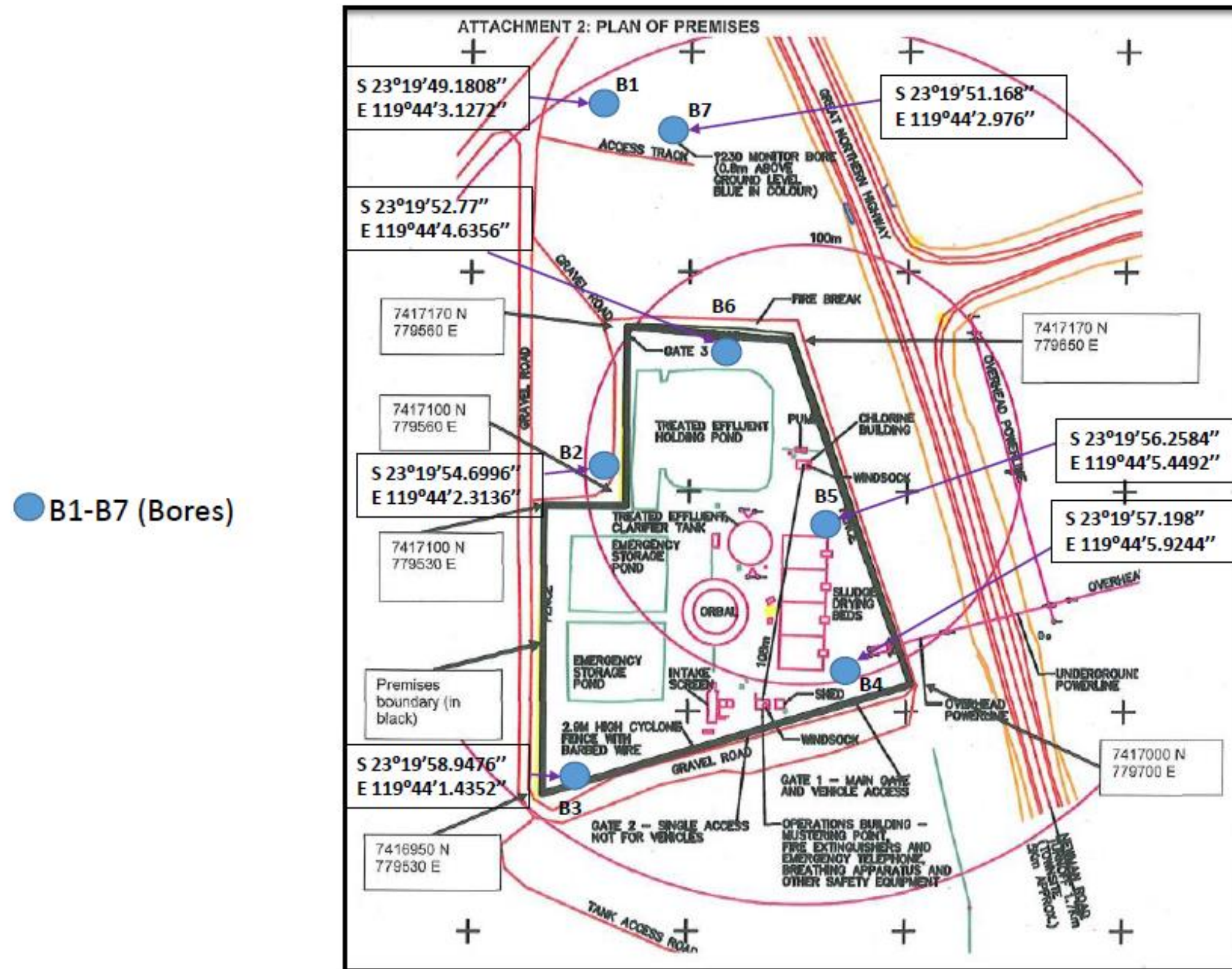
Steve Checker
MANAGER WASTE INDUSTRIES
INDUSTRY REGULATION

An officer delegated by the CEO under section 20 of the EP Act

Appendix 1: Key documents

Document title	In text ref	Availability
Licence (L6870/1993/12) application form and supporting documentation (30 October 2019)		DWER records (DWERDT218496)
DER, July 2015. Guidance Statement: Regulatory principles. Department of Environment Regulation, Perth.	DER 2015a	accessed at www.dwer.wa.gov.au
DER, October 2015. Guidance Statement: Setting conditions. Department of Environment Regulation, Perth.	DER 2015b	
DER, May 2016. Guidance Statement: Publication of Annual Audit Compliance Reports. Department of Environment Regulation, Perth.	DER 2016a	
DER, August 2016. Guidance Statement: Licence duration. Department of Environment Regulation, Perth.	DER 2016b	
DER, September 2016. Guidance Statement: Environmental Standards. Department of Environment Regulation, Perth.	DER 2016c	
DER, November 2016. Guidance Statement: Environmental Siting. Department of Environment Regulation, Perth.	DER 2016d	
DER, February 2017. Guidance Statement: Land Use Planning. Department of Environment Regulation, Perth.	DER 2017a	
DER, February 2017. Guidance Statement: Risk Assessments. Department of Environment Regulation, Perth.	DER 2017b	
DWER, June 2019. Guideline: Decision Making. Department of Water and Environmental Regulation, Perth.	DWER 2019a	
DWER, June 2019. Guideline: Industry Regulation Guide to Licensing. Department of Water and Environmental Regulation, Perth.	DWER 2019b	

Appendix 2: Monitoring Bores



Appendix 3: Public Drinking Water Source Protection Zones for Newman Water Reserve – Newman WWTP and Wetland Area indicated in Green

