





# WORKS APPROVAL APPLICATION SUPPORTING DOCUMENT

**ATLAS PROJECT** 

16 May 2023

PREPARED FOR IMAGE RESOURCES NL BY PRESTON CONSULTING PTY LTD



Contact details:

### IMAGE RESOURCES NL

Contact Person: Email: Phone: Street Address: Postal Address: Todd Colton – Chief Operating Officer

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Document developed by:

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Disclaimer:

This Report has been prepared on behalf of and for the exclusive use of Image Resources NL and is subject to and issued in accordance with the agreement between Preston Consulting Pty Ltd and Image Resources NL.

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### **ACKNOWLEDGEMENT OF COUNTRY**

In the spirit of reconciliation Image Resources NL and Preston Consulting Pty Ltd acknowledge that this project is proposed on the lands of the Yued People of the Noongar Nation. We pay our respects to Elders past, present and emerging and recognise their continuing connection to land, sea, culture and community.





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# DOCUMENT CONTROL

Document Title	Works Approval Supporting Document (WWTP) – Atlas Project				
Document Number	IMG-ATL-WAA-01				
Revision Number	0				
Status	FINAL	16/05/2023			
Author	Kalon Gibson – Consultant, Preston Consulting	16/05/2023			
Checked	Gavin Edwards – Director, Preston Consulting	16/05/2023			
Authorisation	Todd Colton – Chief Operating Officer, Image Resources	16/05/2023			

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### **INTRODUCTION**

Image Resources NL (Image) is seeking to develop a mineral sands mine located in the Wheatbelt region of Western Australia (WA), approximately 170 kilometres (km) north of Perth and 18 km east of Cervantes (Project). The Project occurs on Unallocated Crown Land, freehold farmland, public road reserves and within tenure issued under the Mining Act.

Image proposes to develop an open cut mine pit, processing plant, solar drying ponds and supporting infrastructure (power supply, communications, workshop, laydown, offices and accommodation camp) over an estimated mine life of approximately three years. Mining and progressive rehabilitation is planned in stages using conventional dry mineral sands mining techniques.

The Project was referred to the Environmental Protection Authority (EPA) and it was determined to require assessment under section 39A of the *Environmental Protection Act 1986* (WA; EP Act), with a level of assessment of "Public Environmental Review (6 week public review)". In addition, the Project is considered to be a "controlled action" under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth; EPBC Act). Section 87 of the EPBC Act makes provisions for the EPA to undertake an accredited assessment of the potential impacts to Matters of National Environmental Significance on behalf of Department of Climate Change, Energy, the Environment and Water. The Project will be assessed as an 'accredited assessment' under Part IV of the EP Act. Image have released an Environmental Review Document for public environmental review and public submissions were open between 23 December 2022 and 2 February 2023.

Image submitted a Minor or Preliminary Works application for the construction of the Project's Accommodation Camp to the EPA on 21 March 2023. The Accommodation Camp will be constructed on cleared farmland owned by Image and will initially accommodate construction workers, allowing the commencement of the Project in a timely manner if approved.

The Shire of Dandaragan has approved a Development Application for the Accommodation Camp.

### **1.1 PURPOSE AND SCOPE**

This Works Approval Supporting Document is provided in conjunction with a Works Approval Application Form, as required under Part V Division 3 of the EP Act, for a Category 85 Sewage facility for the Project's Accommodation Camp.

The Wastewater Treatment Plant (WWTP), Water Treatment Plant (WTP) and spray field will be constructed at the Project's Accommodation Camp. The proposed WWTP will be used to treat and manage an estimated 21 m<sup>3</sup> of raw wastewater effluent produced through the operation of an 82 person accommodation camp.

Raw wastewater will be processed at the WWTP before being mixed with Reverse Osmosis (RO) reject water and discharged to the environment via the irrigation spray field. The WTP will be a containerised Brackish Water RO system that will treat bore water to a potable quality according to Australian Drinking Water Guidelines. The plant is expected to treat 30 kL/day during operations. The volume of raw water that the WTP will treat will remain below the threshold of





1 ML/day and consequently will not require registration under Schedule 2 of the Environmental Protection Regulations 1987.

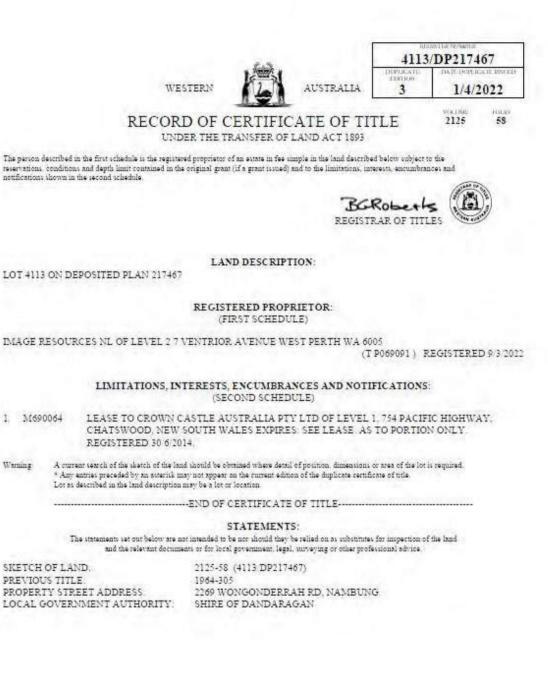
This document includes the attachments as required by the Department of Water and Environmental Regulation (DWER) *Application form: Works Approval / Licence / Renewal / Amendment / Registration v13, April 2020* (DWER, 2022). As per the application form the following attachments must be submitted to support the works approval application:

- Attachment 1A, 1B & 1C (Occupier Status, Australian Securities and Investment Commission (ASIC) company extracts, Authorisation to act as representative of the Occupier);
- Attachment 2 (Premises map);
- Attachment 3A & 3B (Environmental Commissioning Plan and Proposed activities);
- Attachment 5 (Other approvals and consultation);
- Attachment 6A (Emissions and discharges);
- Attachment 7 (Siting and location); and
- Attachment 10 (Proposed fee calculation).

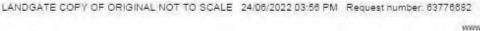




### **ATTACHMENT 1A: PROOF OF APPLICANT STATUS**



ber: 63776882 www.landgate wa.gov.au







# **ATTACHMENT 1B: ASIC COMPANY EXTRACT**





#### Australian Securities & Investments Commission

# **Current Company Extract**

ASIC

Name: IMAGE RESOURCES NL ACN: 063 977 579

Date/Time: 13 March 2023 AEST 12:26:37 PM

This extract contains information derived from the Australian Securities and Investments Commission's (ASIC) database under section 1274A of the Corporations Act 2001.

Please advise ASIC of any error or omission which you may identify.

EXTRACT

Organisation Details		Document Number
Current Organisation Details	5	
Name:	IMAGE RESOURCES NL	016976702
ACN:	063 977 579	
ABN:	57063977579	
Registered in:	Western Australia	
Registration date:	22/03/1994	
Next review date:	22/03/2023	
Name start date:	29/08/2001	
Status:	Registered	
Company type:	Australian Public Company	
Class:	No Liability	
Subclass:	Listed Public Company	
	**DISCLOSING ENTITY**	

Address Details		Document Number
Current		
Registered address: Start date:	Level 2, 7 Ventnor Avenue, WEST PERTH WA 6005 28/06/2021	7EBI56871
Principal Place Of Business address:	Level 2, 7 Ventnor Avenue, WEST PERTH WA 6005	7EBI56871
Start date:	21/06/2021	

#### **Contact Address**

Section 146A of the Corporations Act 2001 states 'A contact address is the address to which communications and notices are sent from ASIC to the company'.

Current

Address: PO BOX 1153, WEST PERTH WA 6872 Start date: 10/04/2013

#### Officeholders and Other Roles Director

**Document Number** 

Share Str	ucture				
Class	Description	Number	Total amount paid	Total amount unpaid	Document number
1.D	OIR DIN ARY 5 HARES	i00 <sup>3712</sup>	12629180034	000 0.7	372 B Z-98=

Balance date	Report d u e l date	AGM due date	Extended AGM due	AGM held date	Outstanding	Docun_i number
3 0/06/ 1999	1 0/09/1999	- 1			no	015429059
3 0/06/2000	30/09/2000				on	016895931
3 0/06/2001	3 0/09/2001			19/04/2002	no	01783 1506

Documents

Note: Where no Date Processed is shown, the document in question has not been processed. In these instances care should be taken in using information that may be updated by the document when it is processed. Where the Date Processed is shown but there is a zero under No Pages, the document has been processed but a copy is not yet available.

Date received	Form type	Date processed	Number of pages	Effective date	Document number
27/03/2020	7053A Disclosure Notice - Ex Australian Stock Exchange 11001 Asx Progress Report 12008 Asx Company Administration - Other	27/03/2020	2	27/03/2020	5EBP10175
30/04/2020	11001 Disclosure Notice - Ex Australian Stock Exchange Asx Progress Report	30/04/2020	40	30/04/2020	5EBQ16388
30/04/2020	7053A Disclosure Notice - Ex Australian Stock Exchange 04003 Asx Third Quarter Activities Report 05003 Asx Third Quarter Cash Flow Report	30/04/2020	27	30/04/2020	5EBQ16396
01/05/2020	08004 Disclosure Notice - Ex Australian Stock Exchange Asx Proxy Form	01/05/2020	2	01/05/2020	5EBQ23257
01/05/2020	12008 Disclosure Notice - Ex Australian Stock Exchange Asx Company Administration - Other	01/05/2020	1	01/05/2020	5EBQ23256
01/05/2020	08001 Disclosure Notice - Ex Australian Stock Exchange Asx Notice Of Annual Meeting	01/05/2020	28	01/05/2020	5EBQ23255
19/05/2020	03026 Disclosure Notice - Ex Australian Stock Exchange Company Presentation	19/05/2020	17	19/05/2020	5EBQ82672
20/05/2020	11001 Disclosure Notice - Ex Australian Stock Exchange Asx Progress Report	20/05/2020	2	20/05/2020	5EBQ85135
26/05/2020	7053A Disclosure Notice - Ex Australian Stock Exchange 14014 Web Cast 08006 Asx Notice Of Meeting - Other	26/05/2020	2	26/05/2020	5EBR06971
29/05/2020	02010 Disclosure Notice - Ex Australian Stock Exchange Asx Final Director's Interest Notice	29/05/2020	2	29/05/2020	5EBR19974
29/05/2020	08003 Disclosure Notice - Ex Australian Stock Exchange Asx Results Of Meeting	29/05/2020	2	29/05/2020	5EBR21130

03/06/2020	484E Change To Company Details Appointment Or Cessation Of A Company Officeholder	03/06/2020	2	03/06/2020	7EAX14217
12/06/2020	14012 rnsclosure Notice - Ex Australian Stock Exchange Standard And Poor's Announcement	12/06/2020	10	12/06/2020	5EBR68623
17/06/2020	205J Notification Of Resolution Altering The Constitution	25/06/2020	4	29/05/2020	030833833
17/06/2020	218 Constitution Of Company	17/06/2020	64	17/06/2020	030833832
24/06/2020	03026 Disclosure Notice - Ex Australian Stock Exchange Company Presentation	24/06/2020	18	2410612020	5EBS13170
07/07/2020	J 11001 Disclosure Notice - Ex Australian Stock Exchange Asx Progress Report	07/07/2020	2	07/07/2020	5EBS69793
13/07/2020	7053A Disclosure Notice - Ex Australian Stock Exchange 03026 Company Presentation 14014 Web Cast	13/07/2020	23	13/07/2020	5EBS91308
13/07/2020	02002 Disclosure Notice - Ex Australian Stock Exchange Asx Form 604 - Change In A Substantial Shareholder	13/07/2020	4	13/07/2020	5EBS91815
21/07/2020	7053A Disclosure Notice - Ex Australian Stock Exchange 04002 Asx Second Quarter Activities Report 05002 Asx Second Quarter Cash Flow Report	21/07/2020	34	21/07/2020	5EBT19870
21/07/2020	06019 Disclosure Notice - Ex Australian Stock Exchange Asx Off-Market Buy-Back	121/07/2020	3	21/07/2020	5EBT21719
27/07/2020	11001 Disclosure Notice - Ex Australian Stock Exchange Asx Progress Report	27/07/2020	9	27/07/2020	5EBT38245
28/07/2020	7053A Disclosure Notice - Ex Australian Stock Exchange 03026 Company Presentation 11001 Asx Progress Report	28/07/2020	18	f 28/07/2020	5EBT43732
28/07/2020	12007 Disclosure Notice - Ex Australian Stock Exchange Asx Co. Secretary Appointment/resignation	28/07/2020	1	28/07/2020 I	5EBT44703
30/07/2020	281 Notice That Company	10/08/2020	2	30/07/2020	030960090

	Intends To Carry Out Buy- Back				
03/08/2020	484E Change To Company Details Appointment Or Cessation Of A Company Officeholder	03/08/2020	2	03/08/2020	7EAZ14066
10/08/2020	06012 Disclosure Notice - Ex Australian Stock Exchange Asx Daily Share Buy-Back Notice	10/08/2020	1	10/08/2020	5EBT86148
1010812020	06012 Disclosure Notice - Ex Australian Stock Exchange Asx Daily Share Buy-Back Notice	10/08/2020	2	10/08/2020	5EBT86143
17/08/2020	484 Change To Company Details 4840 Changes To Share Structure 484J Notification Of Share Cancellation - Company Buy- Back	17/08/2020	2	17/08/2020	7EAZ38178
17/08/2020	06007 Disclosure Notice - Ex Australian Stock Exchange Asx Alteration To Issued Capital	17/08/2020	3	17/08/2020	5EBU09285
02/09/2020	7053A Disclosure Notice - Ex Australian Stock Exchange 03009 Asx Half- Yearly Audit Review 03010 Asx Half- Yearly Director's Statement 03015 Asx Half Year Accounts 03019 Asx Half Year Directors' Report	02/09/2020	21	02/09/2020	5EBU68657
11/09/2020	281 Notice That Company Intends To Carry Out Buy- Back	24/09/2020	2	11/09/2020	031010032
15/09/2020	03026 Disclosure Notice - Ex Australian Stock Exchange Company Presentation	15/09/2020	23	15/09/2020	5EBV36364
23/09/2020	7053A Disclosure Notice - Ex Australian Stock Exchange 02006 Asx Security Holder Details - Other 11001 Asx Progress Report	23/09/2020	1	23/09/2020	5EBW7048 3
29/09/2020	02002 Disclosure Notice - Ex Australian Stock Exchange	29/09/2020	2	29/09/2020	5EBY65294

	Asx Form 604 - Change h A Substantial Shareholder				
05/10/2020	06019 Disclosure Notice - Ex Australian Stock Exchange Asx Off-Market Buy-Back	05/10/2020	3	05/10/2020	5EBZ57301
12/10/2020	04003 Disclosure Notice - Ex Australian Stock Exchange Asx Third Quarter Activities Report	12/10/2020	3	12/10/2020	5ECA65657
12/10/2020	03026 Disclosure Notice - Ex Australian Stock Exchange Company Presentation	12/10/2020	26	12/10/2020	5ECA65654
12/10/2020	06022 Disclosure Notice - Ex Australian Stock Exchange Final Share Buy-Back Notice	12/10/2020	1	12/10/2020	5ECA67816
12/10/2020	06012 Disclosure Notice - Ex Australian Stock Exchange Asx Daily Share Buy-Back Notice	12/10/2020	2	12/10/2020	5ECA67815
14/10/2020	484 Change To Company Details 4840 Changes To Share Structure 484J Notification Of Share Cancellation - Company Buy- Back	14/10/2020	2	14/10/2020	7EBB32301
14/10/2020	06007 Disclosure Notice - Ex Australian Stock Exchange Asx Alteration To Issued Capital	14/10/2020	3	14/10/2020	5ECB04112
26/10/2020	11001 Disclosure Notice - Ex Australian Stock Exchange Asx Progress Report	26/10/2020	34	26/10/2020	5ECC88349
28/10/2020	7053A Disclosure Notice - Ex Australian Stock Exchange 04003 Asx Third Quarter Activities Report 05003 Asx Third Quarter Cash Flow Report	28/10/2020	27	28/10/2020	5ECD24368]
02/11/2020	02009 Disclosure Notice - Ex Australian Stock Exchange Asx Change Of Director's Interest Notice	02/11/2020	2	⊤ 02/11/2020	5ECD91683
02/11/2020	06018 Disclosure Notice - Ex Australian Stock Exchange Asx Cleansing Notice	02/11/2020	1	02/11/2020	5ECD91682
0211,12020	06020 Disclosure Notice - Ex Australian Stock Exchange Appendix 2a (Application For	02/11/2020	14	02/11/2020	5ECD91681

	Quotation Of Securities)				_
02/11/2020	484 Change To Company Details 4840 Changes To Share Structure 484G Notification Of Share Issue	02/11/2020	2	02/11/2020	7EBB88378
09/11/2020	03026 Disclosure Notice - Ex Australian Stock Exchange Company Presentation	09/11/2020	27	09/11/2020	5ECF07861
31/12/2020	11001 Disclosure Notice - Ex Australian Stock Exchange Asx Progress Report	31/12/2020	7	31/12/2020	5ECP77469
28/01/2021	7053A Disclosure Notice - Ex Australian Stock Exchange 04004 Asx Fourth Quarter Activities Report 05004 Asx Fourth Quarter Cash Flow Report	28/01/2021	18	28/01/2021	5ECV64540
15/02/2021	03026 Disclosure Notice - Ex Australian Stock Exchange Company Presentation	15/02/2021	26	15/02/2021	5ECZ55743
16/02/2021	7053A Disclosure Notice - Ex Australian Stock Exchange 03014 Asx Periodic Reports - Other 11001 Asx Progress Report	16/02/2021	2	16/02/2021	5ECZ68749
16/02/2021	7053A Disclosure Notice - Ex Australian Stock Exchange 03014 Asx Periodic Reports - Other 11001 Asx Progress Report 03022 Asx Debt Facility	16/02/2021	2	16/02/2021	5ECZ70552
02/03/2021	11001 Disclosure Notice - Ex Australian Stock Exchange Asx Progress Report	02/03/2021	21	02/03/2021	5EDC84068
10/03/2021	11001 Disclosure Notice - Ex Australian Stock Exchange Asx Progress Report	10/03/2021	36	10/03/2021	5EDE51075
11/03/2021	7053A Disclosure Notice - Ex Australian Stock Exchange 03011 Asx Full Year Accounts 03012 Asx Full Year Audit Review 03013 Asx Full Year Directors' Statement 03020 Asx Full	11/03/2021	54	11/03/2021	5EDE73522

	Report		-	/	
12/03/2021	14012 Disclosure Notice - Ex Australian Stock Exchange Standard And Poor's Announcement	12/03/2021	9	12/03/2021	5EDF05472
17/03/2021	7053A Disclosure Notice - Ex Australian Stock Exchange 10006 Asx Dividend Reinvestment Plan 10001 Asx Dividend Record Date 10002 Asx Dividend Pay Date 10003 Asx Dividend Rate	17/03/2021	2	17/03/2021	5EDG1901 7
17/03/2021	7053A Disclosure Notice - Ex Australian Stock Exchange 10006 Asx Dividend Reinvestment Plan 16002 Asx Letter To Shareholders	17/03/2021	19	17/03/2021	5EDG1901 6
17/03/2021	7053A Disclosure Notice - Ex Australian Stock Exchange 10006 Asx Dividend Reinvestment Plan 10001 Asx Dividend Record Date 10002 Asx Dividend Pay Date 10003 Asx Dividend Rate	17/03/2021	5	17/03/2021	5EDG2023 1
22/03/2021	06019 Disclosure Notice - Ex Australian Stock Exchange Asx Off-Market Buy-Back	22/03/2021	3	22103/2021	5EDH20533
22/03/2021	7053A Disclosure Notice - <b>Ex</b> Australian Stock Exchange 10006 Asx Dividend Reinvestment Plan 10003 Asx Dividend Rate 16002 Asx Letter To Shareholders	22/03/2021	5	122,0312021	5EDH22219
24/03/2021	7053A Disclosure Notice - Ex Australian Stock Exchange 03001 Asx Annual Report 03002 Asx Top 20 Shareholders 03011 Asx <b>Full</b> Year Accounts 03012 Asx Full	24/03/2021	37	24/03/2021	5EDH57018

	Year Audit Review 03013 Asx Full Year Directors' Statement 03020 Asx Full Year Director's Report				
24/03/2021	7053A Disclosure Notice - Ex Australian Stock Exchange 03024 Asx Corporate Governance 03025 Appendix 4g	24/03/2021	28	24/03/2021	5EDH57016
24/03/2021	281 Notice That Company Intends To Carry Out Buy- Back	05/05/2021	2	24/03/2021	031271524
31/03/2021	11001 Disclosure Notice - Ex Australian Stock Exchange Asx Progress Report	31/03/2021	18	31/03/2021	5EDJ02235
/03/2021	11001 Disclosure Notice - Ex Australian Stock Exchange Asx Progress Report	31/03/2021	I 39	31/03/2021	5EDJ02233
07/04/2021	5057A Material Including Proposed Notice Of Meeting To Approve Giving Financial Benefits	08/04/2021	26	07/04/2021	501546470
07/04/2021	10006 Disclosure Notice - Ex Australian Stock Exchange Asx Dividend Reinvestment Plan	07/04/2021	1	07/04/2021	5EDK53077
08/04/2021	11001 Disclosure Notice - Ex Australian Stock Exchange Asx Progress Report	08/04/2021	3	08/04/2021	5EDK68693
08/04/2021	06022 Disclosure Notice - Ex Australian Stock Exchange Final Buy-Back Notice	08/04/2021	1	08/04/2021	5EDK78526
08/04/2021	06012 Disclosure Notice - Ex Australian Stock Exchange Asx Daily Share Buy-Back Notice	08/04/2021	2	08/04/2021	5EDK78524
20/04/2021	484 Change To Company Details 4840 Changes To Share Structure 484G Notification Of Share Issue	20/04/2021	2 I	20/04/2021	7EBG65281
20/04/2021	06018 Disclosure Notice - Ex Australian Stock Exchange Asx Cleansing Notice	20/04/2021	1	20/04/2021	5EDN31742
20/04/2021	06020 Disclosure Notice - Ex Australian Stock Exchange Appendix 2a (Application For Quotation Of Securities)	20/04/2021	14	20/04/2021	5EDN31740

20/04/2021	484 Change To Company Details 4840 Changes To Share Structure 484J Notification Of Share Cancellation -	20/04/20 <i>2</i> 1	2	20/04/2021	7EBG65742
	Company Buy- Back				
20/04/2021	06007 Disclosure Notice - Ex Australian Stock Exchange Asx Alteration To Issued Capital	20/04/2021	3	20/04/2021	5EDN35035
27/04/2021	7053A Disclosure Notice - Ex Australian Stock Exchange 08001 Asx Notice Of Annual Meeting 08004 Asx Proxy Form	27/04/20 <i>2</i> 1	26	27/04/2021	5EDO8228 0
28/04/2021	7053A Disclosure Notice - Ex Australian Stock Exchange 04001 Asx First Quarter Activities Report 05001 Asx First Quarter Cash Flow Report	28/04/2021	20	28/04/2021	5EDO9885 19
03/05/2021	06020 Disclosure Notice - Ex Australian Stock Exchange Appendix 2a (Application For Quotation Of Securities)	03/05/2021	14	03/05/2021	5EDQ2570 4
03/05/2021	10006 Disclosure Notice - Ex Australian Stock Exchange Asx Dividend Reinvestment Plan	03/05/2021	1	03/05/2021	5EDQ2575 9
03/05/2021	484 Change To Company Details 4840 Changes To Share Structure 484G Notification Of Share Issue	03/05/2021	2	03/05/2021	7EBH06213
'18/05/2021	02010 Disclosure Notice - Ex Australian Stock Exchange Asx Final Director's Interest Notice	18/05/2021	2	18/05/2021	5EDT63280
18/05/2021	12001 Disclosure Notice - Ex Australian Stock Exchange Asx Director AppointmenUresignation	18/05/2021	1	18/05/2021	5EDT63279
18/05/2021	484E Change To Company Details Appointment Or Cessation Of A Company Officeholder	18/05/2021	2	18/05/2021	7EBH52718
18/05/2021	02002 Disclo re Notice - Ex Australian Stock Exchange	18/05/2021	3	18/05/2021	5EDT63407

	Asx Form 604 - Change h A Substantial Shareholder				
19/05/2021	08005 Disclosure Notice - Ex Australian Stock Exchange Asx Alteration To Notice Of Meeting	19/05/2021	1	19/05/2021	5EDT81638
27/05/2021	7053A Disclosure Notice - Ex Australian Stock Exchange 03026 Company Presentation 15001 Asx Chairman's Address - Other	27/05/2021	22	27/05/2021	5EDV50102
27/05/2021	15002 Disclosure Notice - Ex Australian Stock Exchange Asx Chairman's Address To Shareholder	27/05/2021	2	27/05/2021	5EDV50101
27/05/2021	08003 Disclosure Notice - Ex Australian Stock Exchange Asx Results Of Meeting	27/05/2021	2	27/05/2021	5EDV51941
28/05/2021	03026 Disclosure Notice - Ex Australian Stock Exchange Company Presentation	28/05/2021	23	28/05/2021	5EDV66788
08/06/2021	06013 Disclosure Notice - Ex Australian Stock Exchange Appendix 3b (Proposed Issue Of Securities)	08/06/2021	6	08/06/2021	5EDX02868
08/06/2021	06023 Disclosure Notice - Ex Australian Stock Exchange Employee Share Scheme Buy-Back	08/06/2021	5	08/06/2021	5EDX03086
17/06/2021	281 Notice That Company Intends To Carry Out Buy- Back	30/06/2021	3	17/06/2021	031333123
21/06/2021	7053A Disclosure Notice - Ex Australian Stock Exchange 12002 Asx Details Of Company Address 12003 Asx Details Of Registered Office Address	21/06/2021	1	21/06/2021	5EDY56635
21/06/2021	484 Change To Company Details 484B Change Of Registered Address 484C Change Of Principal Place Of Business (Address)	21/06/2021	2	21/06/2021	7EBI56871
23/06/2021	06021 Disclosure Notice - Ex Australian Stock Exchange Appendix 3g (Notification Of	23/06/2021	5	23/06/2021	5EDY96352

	Unquoted Equity Securities)				
23/06/2021	02009 Disclosure Notice - Ex Australian Stock Exchange Asx Change Of Director's Interest Notice	23/06/2021	10	23/06/2021	5EDY96375
28/06/2021	06022 Disclosure Notice - Ex Australian Stock Exchange Final Buy-Back Notice	28/06/2021	6 1	28/06/2021	5EDZ59887
28/06/2021	06012 Disclosure Notice - Ex Australian Stock Exchange Asx Daily Share Buy-Back Notice	28/06/2021	2	28/06/2021	5EDZ59792
29/06/2021	484 Change To Company Details 4840 Changes To Share Structure 484J Notification Of Share Cancellation - Company Buy- Back	29/06/2021	2	29/06/2021	7EB188397
29/06/2021	06007 Disclosure Notice - Ex Australian Stock Exchange Asx Alteration To Issued Capital	<b>21</b> 129/06/20	3	29/06/2021	5EDZ75457
02/07/2021	03026 Disclosure Notice - Ex Australian Stock Exchange Company Presentation	02/07/2021	24	02/07/2021	5EEA31035
20/07/2021	04002 Disclosure Notice - Ex Australian Stock Exchange Asx Second Quarter Activities Report	20/07/2021	6	20/07/2021	5EEC41727
26/07/2021	11001 Disclosure Notice - Ex Australian Stock Exchange Asx Progress Report	26/07/2021	27	26/07/2021	5EED16629
29/07/2021	7053A Disclosure Notice - Ex Australian Stock Exchange 04002 Asx Second Quarter Activities Report 05002 Asx Second Quarter Cash Flow Report	29/07/2021	31	29/07/2021	5EED70182
20/08/2021	7053A Disclosure Notice - Ex Australian Stock Exchange 03009 Asx Half- Yearly Audit Review 03010 Asx Half- Yearly Director's Statement 03015 Asx Half Year Accounts 03019 Asx Half Year Directors'	20/08/2021	19	20/08/2021	5EEG73575

	Report				
07/09/2021	06023 Disclosure Notice - Ex Australian Stock Exchange Employee Share Scheme Buy-Back	07/09/2021	5	07/09/2021	5EEJ26541
10/09/2021	281 Notice That Company Intends To Carry Out Buy- Back	23/09/2021	3	10/09/2021	031395618
27/09/2021	06012 Disclosure Notice - Ex Australian Stock Exchange Asx Daily Share Buy-Back Notice	27/09/2021	6	27/09/2021	5EEL88859
27/09/2021	<ul> <li>☐ 06022 Disclosure Notice - Ex</li> <li>Australian Stock Exchange</li> <li>Final Buy-Back Notice</li> </ul>	27/09/2021	6	27/09/2021	5EEL88978
28/09/2021	484 Change To Company Details 484J Notification Of Share Cancellation - Company Buy- Back 4840 Changes To Share Structure	13/10/2021	2	28/09/2021	7EBL77987
04/10/2021	06027 Disclosure Notice - Ex Australian Stock Exchange Appendix 3h (Notification Of Cessation Of Securities)	04/10/2021	4	04/10/2021	5EEM7220 7
11/10/2021	06018 Disclosure Notice - Ex Australian Stock Exchange Asx Cleansing Notice	11/10/2021	1	11/10/2021	5EEN54200
11/10/2021	06020 Disclosure Notice - Ex Australian Stock Exchange Appendix 2a (Application For Quotation Of Securities)	11/10/2021	7	11/10/2021	5EEN54194
11/10/2021	484 Change To Company Details 4840 Changes To Share Structure 484G Notification Of Share Issue	13/10/2021	2	11/10/2021	7EBM1697 4
11/10/2021	02009 Disclosure Notice - Ex Australian Stock Exchange Asx Change Of Director's Interest Notice	11/10/2021	2	11/10/2021	5EEN54575
12/10/2021	492 Request For Correction	13/10/2021	2	12/10/2021	7EBM1919 1
18/10/2021	11001 Disclosure Notice - Ex Australian Stock Exchange Asx Progress Report	18/10/2021	4	18/10/2021	5EEO25071
20/10/2021	03026 Disclosure Notice - Ex Australian Stock Exchange	20/10/2021	/22	20/10/2021	5EEO49722

	Company Presentation				
27/10/2021	02009 Disclosure Notice - Ex Australian Stock Exchange Asx Change Of Director's Interest Notice	27/10/2021	2	27/10/2021	5EEP41975
28/10/2021	7053A Disclosure Notice - Ex Australian Stock Exchange 04003 Asx Third Quarter Activities Report 05003 Asx Third Quarter Cash Flow Report	28/10/2021	27	28/10/2021	5EEP49179
04/11/2021	02009 Disclosure Notice - Ex Australian Stock Exchange Asx Change Of Director's Interest Notice	04/11/2021	2	04/11/2021	5EEQ40492
05/11/2021	02009 Disclosure Notice - Ex Australian Stock Exchange Asx Change Of Director's Interest Notice	05/11/2021	2	05/11/2021	5EEQ55174
09/11/2021	03026 Disclosure Notice - Ex Australian Stock Exchange Company Presentation	09/11/2021	35	09/11/2021	5EEQ96254
10/11/2021	03014 Disclosure Notice - Ex Australian Stock Exchange Asx Periodic Reports - Other	10/11 /2021	1	10/11/2021	5EER11681
11/11/2021	02009 Disclosure Notice - Ex Australian Stock Exchange Asx Change Of Director's Interest Notice	11/11/2021	2	i 1111112021	5EER25141
29/11/2021	07002 Disclosure Notice - Ex Australian Stock Exchange Asx Asset Disposal	29/11/2021	12	29/11/2021	5EEU44052
29/11/2021	7053A Disclosure Notice - Ex Australian Stock Exchange 07001 Asx Asset Acquisition 11001 Asx Progress Report	29/11/2021	9	29/11/2021	5EEU44074
07/12/2021	06023 Disclosure Notice - Ex Australian Stock Exchange Employee Share Scheme Buy-Back	07/12/2021	5 1	<sup>1</sup> 07/12/2021	5EEW3364 9
14/12/2021	281 Notice That Company Intends To Carry Out Buy- Back	23/12/2021	2	14 12,2021	031478174
20/12/2021	12004 Disclosure Notice - Ex Australian Stock Exchange Asx Details Pf Share Registry Address	20/12/2021	1	20/12/2021	5EEY80078
04/01/2022	909 Notice Of Address Of Branch Register	27/01/2022	1	20/12/2021	031484511

04/01/2022	992 Notification Of Change Of Place Of Inspection Of Books Kept On Computer	27/01/2022	2	20/12/2021	031484855
04/01/2022	02009 Disclosure Notice - Ex Australian Stock Exchange Asx Change Of Director's Interest Notice	04/01/2022	2 —		5EFB51920
11/01/2022	02009 Disclosure Notice - Ex Australian Stock Exchange Asx Change Of Director's Interest Notice	11/01/2022	2	11/01/2022	5EFD33824
11/01/2022	02002 Disclosure Notice - Ex Australian Stock Exchange Asx Form 604 - Change In A Substantial Shareholder	11/01/2022	3	11/01/2022	5EFD33849
18/01/2022	06012 Disclosure Notice - Ex Australian Stock Exchange Asx Daily Share Buy-Back Notice	18/01/2022	6	18/01/2022	5EFF20107
18/01/2022	06022 Disclosure Notice - Ex Australian Stock Exchange Final Buy-Back Notice	18/01/2022	6	18/01/2022	5EFF20163
19/01/2022	7053A Disclosure Notice - Ex Australian Stock Exchange 07001 Asx Asset Acquisition 11001 Asx Progress Report	19/01/2022	2	19/01/2022	5EFF38551
19/01/2022	7053A Disclosure Notice - Ex Australian Stock Exchange 07002 Asx Asset Disposal 11001 Asx Progress Report	19/01/2022	2	19/01/2022	5EFF38754
19/01/2022	02002 Disclosure Notice - Ex Australian Stock Exchange Asx Form 604 - Change In A Substantial Shareholder	19/01/2022	2	19/01/2022	5EFF44763
20/01/2022	484 Change To Company Details 484J Notification Of Share Cancellation - Company Buy- Back 4840 Changes To Share Structure	24/01/2022	2	20/01/2022	7EBP01846
20/01/2022	06027 Disclosure Not;ce - Ex Australian Stock Exchange Appendix 3h (Notification Of Cessation Of Securities)	20/01/2022	4	20/0t/2022	5EFF67938
21/01/2022	7053A Disclosure Notice - Ex Australian Stock Exchange 08006 Asx Notice	21/01/2022	4	\$21/0-1\$2022	5EFF83767

	Of Meeting - Other 12008 Asx Company Administration - Other				
21/01/2022	492 Request For Correction	24/01/2022	2	21/01/2022	7EBP04545
25/01/2022	12008 Disclosure Notice - Ex Australian Stock Exchange Asx Company Administration - Other	25/01/2022	1	25/01/2022	5EFH61778
28/01/2022	<ul> <li>A Disclosure Notice - Ex</li> <li>Australian Stock Exchange 08006 Asx Notice</li> <li>Of Meeting - Other 12008 Asx</li> <li>Company</li> <li>Administration - Other</li> </ul>	28/01/2022	4	28/01/2022	5EFI25634
31/01/2022	7053A Disclosure Notice - Ex Australian Stock Exchange 04004 Asx Fourth Quarter Activities Report 05004 Asx Fourth Quarter Cash Flow Report	31/01/2022	ſW-	31/01/2022	5EFI93693
10/02/2022	10003 Disclosure Notice - Ex Australian Stock Exchange Asx Dividend Rate	10/02/2022	2	10/02/2022	5EFM18396
14/02/2022	7053A Disclosure Notice - Ex Australian Stock Exchange 14014 Web Cast 08004 Asx Proxy Form 08007 Asx Notice Of General Meeting 16002 Asx Letter To Shareholders	14/02/2022	25	14/02/2022	5EFN44527
01/03/2022	7053A Disclosure Notice - Ex Australian Stock Exchange 08006 Asx Notice Of Meeting - Other 12008 Asx Company Administration - Other	01/03/2022	2	01/03/2022	5EFP95539
10/03/2022	06023 Disclosure Notice - Ex Australian Stock Exchange Employee Share Scheme Buy-Back	10/03/2022	5	10/03/2022	5EFR22425
11/03/2022	11001 Disclosure Notice - Ex Australian Stock Exchange Asx Progress Report	11/03/2022	36	11/03/2022	5EFR36514

11/03/2022	11001 Disclosure Notice - Ex Australian Stock Exchange Asx Progress Report	11/03/2022	31	11/03/2022	5EFR37600
14/03/2022	07002 Disclosure Notice - Ex Australian Stock Exchange Asx Asset Disposal	14/03/2022	2	14/03/2022	5EFR57316
14/03/2022	07001 Disclosure Notice - Ex Australian Stock Exchange Asx Asset Acquisition	14/03/2022	8	14/03/2022	5EFR57580
15/03/2022	281 Notice That Company Intends To Carry Out Buy- Back	22/03/2022	2	15/03/2022	031521627
17/03/2022	06020 Disclosure Notice - Ex Australian Stock Exchange Appendix 2a (Application For Quotation Of Securities)	17/03/2022	6	17/03/2022	5EFS23996
17/03/2022	484 Change To Company Details 4840 Changes To Share Structure 484G Notification Of Share Issue	17/03/2022	2	17/03/2022	7EBQ72470
18/03/2022	484 Change To Company Details 4840 Changes To Share Structure 484G Notification Of Share Issue	18/03/2022	2	18/03/2022	7EBQ76013
18/03/2022	06020 Disclosure Notice - Ex Australian Stock Exchange Appendix 2a (Application For Quotation Of Securities)	18/03/2022	6	18/03/2022	5EFS67685
21/03/2022	7053A Disclosure Notice - Ex Australian Stock Exchange 10006 Asx Dividend Reinvestment Plan 16002 Asx Letter To Shareholders	21/03/2022	19	21/03/2022	5EFT65012
21/03/2022	7053A Disclosure Notice - Ex Australian Stock Exchange 10006 Asx Dividend Reinvestment Plan 10001 Asx Dividend Record Date 10002 Asx Dividend Pay Date 10003 Asx Dividend Rate	21/03/2022	2	21/03/2022	5EFT65002
21/03/2022	7053A Disclosure Notice - Ex Australian Stock Exchange 03011 Asx Full Year Accounts	21/03/2022	56	21/03/2022	5EFT64996

	03012 Asx Full Year Audit Review 03013 Asx Full Year Directors' Statement 03020 Asx Full Year Director's Report				
21/03/2022	7053A Disclosure Notice - Ex Australian Stock Exchange 10006 Asx Dividend Reinvestment Plan 10001 Asx Dividend Record Date 10002 Asx Dividend Pay Date 10003 Asx Dividend Rate	21/03/2022	5	21/03/2022	5EFT65127
21/03/2022	484 Change To Company Details 4840 Changes To Share Structure 484G Notification Of Share Issue	21/03/2022	2	21/03/2022	7EBQ81095
21/03/2022	06020 Disclosure Notice - Ex Australian Stock Exchange Appendix 2a (Application For Quotation Of Securities)	21/03/2022	6	21/03/2022	f°sEFT88589
22/03/2022	02002 Disclosure Notice - Ex Australian Stock Exchange Asx Form 604 - Change h A Substantial Shareholder	22/03/2m	[2	[22,0312m	5EFU49359
24/03/2022	7053A Disclosure Notice - Ex Australian Stock Exchange 08003 Asx Results Of Meeting 09014 Asx Trading Halt Lifted 12008 Asx Company Administration - Other	24/03/2022	3	24/03/2022	5EFV10414
24/03/2022	09007 Disclosure Notice - Ex Australian Stock Exchange Asx Trading Halt	24/03/2022	2	24/03/2022	5EFV02037
24/03/2022	06018 Disclosure <b>Notice • Ex</b> J Australian Stock Exchange Asx Cleansing Notice	24/03/2022	1	<b>24/03/2022</b>	5EFV11284
29/03/2022	06012 Disclosure Notice - Ex Australian Stock Exchange Asx Daily Share Buy-Back Notice	29/03/2022	6	29/03/2022	5EFW5217 6
29/03/2022	06022 Disclosure Notice - Ex	29/03/2022	6	29/03/2022	sEFW5226

	Australian Stock Exchange Final Buy-Back Notice				9
30/03/2022	06027 Disclosure Notice - Ex Australian Stock Exchange Appendix 3h (Notification Of Cessation Of Securities)	30/03/2022	4	30/03/2022	5EFW8323 8
30/03/2022	08006 Disclosure Notice - Ex Australian Stock Exchange Asx Notice Of Meeting - Other	30/03/2022	1	30/03/2022	5EFW7815 8
30/03/2022	484 Change To Company Details 4840 Changes To Share Structure 484J Notification Of Share Cancellation - Company Buy- Back	30/03/2022	2	30/03/2022	7EBR11513
05/04/2022	03026 Disclosure Notice - Ex Australian Stock Exchange Company Presentation	05/04/2022	38	05/04/2022	5EFX75894
07/04/2022	7053A Disclosure Notice - Ex Australian Stock Exchange 03001 Asx Annual Report 03002 Asx Top 20 Shareholders 03011 Asx Full Year Accounts 03012 Asx Full Year Audit Review 03013 Asx Full Year Directors' Statement 03020 Asx Full Year Director's Report	07/04/2022	84	07/04/2022	5EFY03089
07/04/2022	7053A Disclosure Notice - Ex Australian Stock Exchange 03024 Asx Corporate Governance 03025 Appendix 4g	07/04/2022	27	07/04/2022	5EFY03080
21/04/2022	7053A Disclosure Notice - Ex Australian Stock Exchange 10006 Asx Dividend Reinvestment Plan 10001 Asx Dividend Record Date 10002 Asx Dividend Pay Date 10003 Asx Dividend Rate	21/04/2022	5	21/04/2022	5EFZ63194
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	Australian Stock Exchange Asx Security Holder Details - Other	·]			
28/04/2022	06020 Disclosu re Notice - Ex Australian Stock Exchange Appendix 2a (Application For Quotation Of Securities)	28/04/2022	6 I	28/04/2022	5EGB21636
29/04/2022	7053A Disclosu re Notice - Ex Australian Stock Exchange 04001 Asx First Quarter Activities Report 05001 Asx First Quarter Cash Flow Report	29/04/2022	30	29/04/2022	5EGB40860
29/04/2022	484 Change To Company Details 4840 Changes To Share Structure 484G Notification Of Share Issue	29/04/2022	2	29/04/2022	7EBR94136
29/04/2022	7053A Disclosure Notice - Ex Australian Stock Exchange 08001 Asx Notice Of Annual Meeting 08004 Asx Proxy Form	29/04/2022	40	29/04/2022	5EGB48100
03/05/2022	05001 Disclosure Notice - Ex Australian Stock Exchange Asx First Quarter Cash Flow Report	03/05/2022	6	03/05/2022	5EGB88044
04/05/2022	07002 Disclosure Notice - Ex Australian Stock Exchange Asx Asset Disposal	04/05/2022	2	04/05/2022	5EGB90521
20/05/2022	11001 Disclosure Notice - Ex Australian Stock Exchange Asx Progress Report	20/05/2022	25	20/05/2022	5EGD6655 8
24/05/2022	08006 Disclosure Notice - Ex Australian Stock Exchange Asx Notice Of Meeting - Other	24/05/2022	1	24/05/2022	5EGE07989
30/05/2022	7053A Disclosure Notice - Ex Australian Stock Exchange 02006 Asx Security Holder Details - Other 08005 Asx Alteration To Notice Of Meeting 11001 Asx Progress Report 12001 Asx Director Appointment/resign ation	30/05/2022	1	30/05/2022	5EGE72858
3010512022	7053A Disclosure Notice - Ex Australian Stock Exchange	30/05/2022	5	30/05/2022	5EGE78805

	03026 Company Presentation 08006 Asx Notice Of Meeting - Other 15002 Asx Chairman's Address To Shareholder				
30/05/2022	08003 Disclosure Notice - Ex Australian Stock Exchange Asx Results Of Meeting	30/05/2022	3	30/05/2022	5EGE79616
31/05/2022	484E Change To Company Details Appointment Or Cessation Of A Company Officeholder	31/05/2022	2	31/05/2022	7EBS88431
31/05/2022	02010 Disclosure Notice - Ex Australian Stock Exchange Asx Final Director's Interest Notice	31/05/2022	2	31/05/2022	5EGE93436
02/06/2022	218 Constitution Of Company	05/07/2022	66	02/06/2022	031497921
02/06/2022	205J Notification Of Resolution Altering The Constitution	05/07/2022	38	30/05/2022	031497764
02/06/2022	06027 Disclosure Notice - Ex Australian Stock Exchange Appendix 3h (Notification Of Cessation Of Securities)	02/06/2022	4	02/06/2022	5EGF16730
07/06/2022	02009 Disclosure Notice - Ex Australian Stock Exchange Asx Change Of Director's Interest Notice	07/06/2022	3	07/06/2022	5EGF69866
08/06/2022	02008 Disclosure Notice - Ex Australian Stock Exchange Asx Initial Director's Interest Notice	08/06/2022	2	08/06/2022	5EGF81430
08/06/2022	484E Change To Company Details Appointment Or Cessation Of A Company Officeholder	08/06/2022	2	08/06/2022	7EBT17252
08/06/2022	06023 Disclosure Notice - Ex Australian Stock Exchange Employee Share Scheme Buy-Back	08/06/2022	5	08/06/2022	5EGF82109
10/06/2022	281 Notice That Company Intends To Carry Out Buy- Back	27/06/2022	2	10/06/2022	031557888
15/06/2022	484E Change To Company Details Appointment Or Cessation Of A Company Officeholder	15/06/2022	2	15/06/2022	7EBT35132
16/06/2022	02008 Disclosure Notice - Ex Australian Stock Exchange Asx Initial Director's Interest	16/06/2022	2	16/06/2022	5EGG7032 3

	Notice				
29/06/2022	06012 Disclosure Notice - Ex Australian Stock Exchange Asx Daily Share Buy-Back Notice	29/06/2022	6	29/06/2022	5EGI28030
29/06/2022	06022 Disclosure Notice - Ex Australian Stock Exchange Final Buy-Back Notice	29/06/2022	6	29/06/2022	5EGI28208
30/06/2022	484 Change To Company Details 4840 Changes To Share Structure 484J Notification Of Share Cancellation - Company Buy- Back	I <sup>30/06/2022</sup>	2	30/06/2022	7EBT94030
30/06/2022	06027 Disclosure Notice - Ex Australian Stock Exchange Appendix 3h (Notification Of Cessation Of Securities)	30/06/2022	4	30/06/2022	5EGI45415
29/07/2022	7053A Disclosure Notice - Ex Australian Stock Exchange 04002 Asx Second Quarter Activities Report 05002 Asx Second Quarter Cash Flow Report	29/07/2022	33	29/07/2022	5EGL55238
29/07/2022	11001 Disclosure Notice - Ex Australian Stock Exchange Asx Progress Report	29/07/2022	22	29/07/2022	5EGL58119
01/09/2022	7053A Disclosure Notice - Ex Australian Stock Exchange 03009 Asx Half- Yearly Audit Review 03010 Asx Half- Yearly Director's Statement 03015 Asx Half Year Accounts 03019 Asx Half Year Directors' Report	0110912022	19	01/09/2022	5EGR8024
09/09/2022	11001 Disclosure Notice - Ex Australian Stock Exchange Asx Progress Report	09/09/2022	1	09/09/2022	5EGS83906
109/2022	06023 Disclosure Notice - Ex Australian Stock Exchange Employee Share Scheme Buy-Back	12/09/2022	r-	12/09/2022	5EGT <u>132</u> 61
12/09/2022	02009 Disclosure Notice - Ex Australian Stock Exchange Asx Change Of Director's	12/09/2022	2	12/09/2022	5EGT15891

	Interest Notice				
12/09/2022	06018 Disclosure Notice - Ex Australian Stock Exchange Asx Cleansing Notice	12/09/2022	1	12/09/2022	5EGT15888
12/09/2022	06020 Disclosure Notice - Ex Australian Stock Exchange Appendix 2a (Application For Quotation Of Securities)	12/09/2022	7	12/09/2022	5EGT15885
12/09/2022	484 Change To Company Details 4840 Changes To Share Structure 484G Notification Of Share Issue	12/09/2022	2	12/09/2022	7EBW3012 8
13/09/2022	281 Notice That Company Intends To Carry Out Buy- Back	26/09/2022	2	13/09/2022	031694540
29/09/2022	06022 Disclosure Notice - Ex Australian Stock Exchange Final Buy-Back Notice	29/09/2022	6	29/09/2022	5EGV57514
29/09/2022	06012 Disclosure Notice - Ex Australian Stock Exchange Asx Daily Share Buy-Back Notice	29/09/2022	6	29/09/2022	5EGV57507
30/09/2022	484 Change To Company Details 4840 Changes To Share Structure 484J Notification Of Share Cancellation - Company Buy- Back	30/09/2022	2	30/09/2022	7EBW9250 4
30/09/2022	06027 Disclosure Notice - Ex Australian Stock Exchange Appendix 3h (Notification Of Cessation Of Securities)	30/09/2022	4	30/09/2022	5EGV72004
27/10/2022	7053A Disclosure Notice - Ex Australian Stock Exchange 04003 Asx Third Quarter Activities Report 05003 Asx Third Quarter Cash Flow Report	27/10/2022	33	27/10/2022	5EGY85849
01/11/2022	03026 Disclosure Notice - Ex Australian Stock Exchange Company Presentation	01/11/2022	34	01/11/2022	5EGZ36011
14/11/2022	06023 Disclosure Notice - Ex Australian Stock Exchange Employee Share Scheme Buy-Back	14/11/2022	5	14/11/2022	5EHA72025
15/11/2022	484A1 Change To Company	15/11/2022	2	15/11/2022	7EBY42006

	Details Change Officeholder Name Or Address				
17/11/2022	281 Notice That Company Intends To Carry Out Buy- Back	25/11/2022	2	17/11/2022	031729870
22/11/2022	03026 Disclosure Notice - Ex Australian Stock Exchange Company Presentation	22/11/2022	35	22/11/2022	5EHB50813
01/12/2022	06012 Disclosure Notice - Ex Australian Stock Exchange Asx Daily Share Buy-Back Notice	01/12/2022	6	01/12/2022	5EHC57357
01/12/2022	06022 Disclosure Notice - Ex Australian Stock Exchange Final Buy-Back Notice	01/12/2022	6	01/12/2022	5EHC57848
02/12/2022	484 Change To Company Details 4840 Changes To Share Structure 484J Notification Of Share Cancellation - Company Buy- Back	02/12/2022	2	02/12/2022	7EBZ13763
02/12/2022	02009 Disclosure Notice - Ex Australian Stock Exchange Asx Change Of Director's Interest Notice	02/12/2022	2	02/12/2022	5EHC69447
02/12/2022	06027 Disclosure Notice - Ex Australian Stock Exchange Appendix 3h (Notification Of Cessation Of Securities)	02/12/2022	4	02,12,2022	5EHC69439
06/12/2022	06023 Disclosure Notice - Ex Australian Stock Exchange Employee Share Scheme Buy-Back	06/12/2022	5	06/12/2022	5EHD04128
15/12/2022	11001 Disclosure Notice - Ex Australian Stock Exchange Asx Progress Report	15/12/2022	17	15/12/2022	5EHD87643
15/12/2022	281 Notice That Company Intends To Carry Out Buy- Back	03/01/2023	2	15/12/2022	031787785
19/12/2022 �;	11001 Disclosure Notice - Ex Stock Exchange alian Progress Report	19/12/2022	38	19/12/2022	5EHE24070
19/12/2022	09005 Disclosure Notice - Ex Australian Stock Exchange Ase Notice Pending	19/12/2022	<b>–</b>	19/12/2022	5EHE26478
19/12/2022	09007 Disclosure Notice - Ex Australian Stock Exchange Asx Trading Halt	19/12/2022	2	19/12/2022	5EHE27975
20/12/2022	11001 Disclosure Notice - Ex	20/12/2022	3	20/12/2022	1 5EHE40063

	Australian Stock Exchange Asx Progress Report				
21/12/2022	7053A Disclosure Notice - Ex Australian Stock Exchange 09014 Asx Trading Halt Lifted 11001 Asx Progress Report	21/12/2022	45	21/12/2022	5EHE46145
22/12/2022	06023 Disclosure Notice - Ex Australian Stock Exchange Employee Share Scheme Buy-Back	22/12/2022	5	22/12/2022	5EHE66220
03/01/2023	06012 Disclosure Notice - Ex Australian Stock Exchange Asx Daily Share Buy-Back Notice	03/01/2023	6	03/01/2023	5EHF47883
03/01/2023	06022 Disclosure Notice - Ex Australian Stock Exchange Final Buy-Back Notice	03/01/2023	6	- 03/01/2023	5EHF47958
04/01/2023	484 Change To Company Details 4840 Changes To Share Structure 484J Notification Of Share Cancellation - Company Buy- Back	04/01/2023	2	04/01/2023	7EBZ98372
04/01/2023	06027 Disclosure Notice - Ex Australian Stock Exchange Appendix 3h (Notification Of Cessation Of Securities)	04/01/2023	4	04/01/2023	5EHF57441
18/01/2023	11001 Disclosure Notice - Ex Australian Stock Exchange Asx Progress Report	18/01/2023	33	18/01/2023	5EHG7154 7
31/01/2023	7053A Disclosure Notice - Ex Australian Stock Exchange 04004 Asx Fourth Quarter Activities Report 05004 Asx Fourth Quarter Cash Flow Report	31/01/2023	41	31/01/2023	5EHH89196
28/02/2023	11001 Disclosure Notice - Ex Australian Stock Exchange Asx Progress Report	28/02/2023	19	28/02/2023	5EHK49579
08/03/2023	06023 Disclosure Notice - Ex Australian Stock Exchange Employee Share Scheme Buy-Back	08/03/2023	5	08/03/2023	5EHL30930

#### \*\*\*End of Extract of 25 Pages\*\*\*



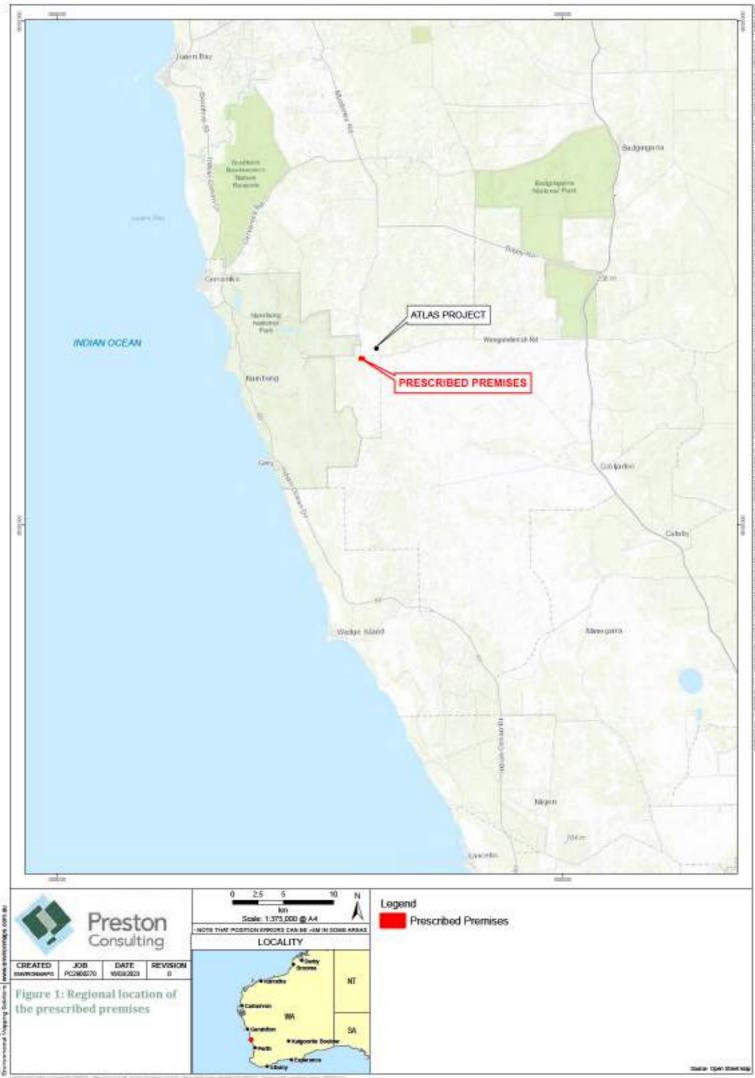
### **ATTACHMENT 2: PRESCRIBED PREMISES MAP**

Figure 1 provides an overview of the Project area and location of the Prescribed Premises.

Figure 2 shows the proposed Prescribed Premises boundary and location of the Accommodation Camp which will include the WWTP and spray-field.

An indicative site plan for the Accommodation Camp including locations of the WWTP and spray field is provided in Figure 3.









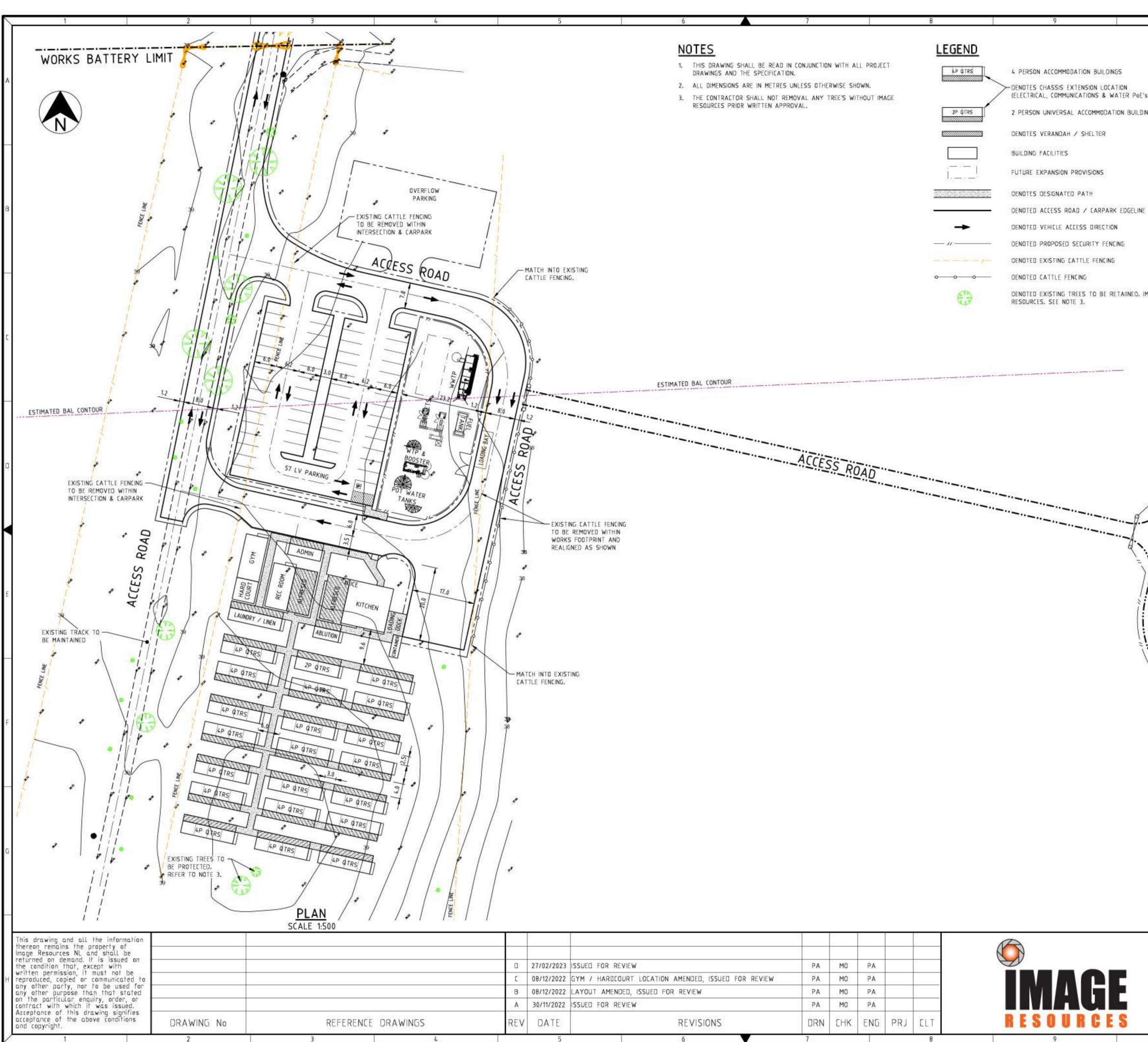


Figure 3: Indicative layout of the accommodation camp and WWTP

EXIS	TING
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	2/2022	ISSUED FOR REVIEW GYM / HARDCOURT LOCATION AMENDED, ISSUED FOR REVIEW LAYOUT AMENDED, ISSUED FOR REVIEW ISSUED FOR REVIEW REVISIONS	PA PA PA PA DRN	MO MO MO CHK	PA PA PA PA ENG	PRJ	ELT				G			S
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		11 12 DDDDDCED FOUNDMENT DECEDIDITION
-	QUANTITY 21	PROPOSED EQUIPMENT DESCRIPTION 4P ACCOMMODATION UNITS 14.4m x 3.25m (84 PERSONS)
ł	1	2P UNIVERSAL ACCOMM. UNITS 12m x 3.25m (2 PERSONS)
	1	LAUNDRY / LINEN/CLEANERS 14.4m x 3.3m
ł	1	KITCHEN/DINER/CRIB 12m x12m
ł	1	20ft SEA CONTAINER COOLERS
	1	REC ROOM - 12m x 6m
	1	ALFRESCO 12m x 6m
5	1	GYM 12m x 6m WITH 6x6 HARDCOURT
ł	1	ADMIN / SITE OFFICE / RETAIL 9m x 3m
ł	1	M/F/D ABLUTION 12m x 3m
1	1	PWT BOOSTER PUMPS & TANKS
1	1	WASTEWATER PUMP STATION
1	1	WWTP & TANKS
1	1	DIESEL FUEL TANK - 10,000L
1	1	POWER GENERATORS
1	57	LV PARKING
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## ATTACHMENT 3A: ENVIRONMENTAL COMMISSIONING PLAN

## **3A.1 WASTEWATER TREATMENT PLANT**

The WWTP will be constructed off site and transported as modules to location. Full installation is expected to occur over approximately 2-3 weeks following delivery. Commissioning of the WWTP is expected to take up to 12 weeks as the plant requires a biological process to achieve expected effluent quality. During this time period the effluent quality will not always meet the specified effluent quality (see Section 3B2.3), however monitoring will occur during this time so changes will be detected early, and adjustments made. The spray field has been designed and sized to account for this period so concentrations will not exceed limits.

Commissioning will be carried out by a specialist engineer to ensure the supplied plant is correctly installed and functioning as per the design requirements.

## **3A.2 TIME LIMITED OPERATIONS**

Once environmental commissioning is complete, a period of 90 days time-limited operations is proposed for the purpose of transitioning to licensed operations.





## ATTACHMENT 3B: PROPOSED ACTIVITIES

### **3B.1** PROJECT DESCRIPTION

The WTP and WWTP are to be installed to support the Project's 82 person Accommodation Camp. The camp is expected to be in operation for a period of approximately five years.

### 3B.1.2 PRESCRIBED PREMISES CATEGORY

This Works Approval application has been submitted to obtain approval under Part V of the EP Act for the development of a WWTP and WTP to service the Project Accommodation Camp. Table 1 shows the relevant details and classification for the proposed, prescribed premises, under Schedule 1 of the Environmental Protection Regulations 1987.

Table 1: Expected prescribed premises category and production details

Category	Category capacity	Design capacity	Estimated Throughput
85: Sewage Facility	More than 20 but less than 100 m³/day	25 m³/day	21 m³/day

### **3B.2 WASTEWATER TREATMENT PLANT**

### 3B.2.1 DESIGN PARAMETERS

The WWTP will be a Sequencing Batch Reactor (SBR) system custom engineered and capable of handling the peak flows and influent concentrations as detailed in Table 1. The modular system will be constructed off site in a containerised unit and is factory tested to minimise installation work on site. Installation will be a relatively simple process and minimal maintenance during operation will be required.

The WWTP design includes the following components:

- 2.5 mm bar inlet screen;
- External 32 m<sup>3</sup> Poly balance tank;
- Balance pump;
- SBR Tank with heavy duty submersible aerators and floating decant weir;
- Decant pump;
- Worm Drive duty sludge pump;
- Internal irrigation Tank;
- Recirculation pump with online chlorine dosing;
- Sodium hypochlorite dosing system;
- Poly aluminium chloride dosing system;
- 1 x 50 kL population equivalent sludge storage tank;
- Irrigation pump;
- Discharge flow meter;
- Control panel (Australian Standard) with Programable Logic Control and remote monitoring capabilities; and





• Audible and visual alarm.

### **3B2.2 PROCESS DESCRIPTION**

The WWTP will be designed to treat and dispose of wastewater generated from up to 100 people, at the Project Accommodation Camp. The estimated throughput is anticipated to dispose of wastewater generated from approximately 82 people. An allowance of 250 L per person per day has been used to estimate a maximum throughput of  $21 \text{ m}^3/\text{day}$ .

The WWTP will operate in a five-step mode over four, six hour cycles per day:

- 1. Filling of the reactor basin (0.5 hr feed / 1.25 hr anoxic period with mixing);
- 2. Reaction phase (3.25 hr aeration);
- 3. Settling phase (0.75 hr settle);
- 4. Decant phase (0.75 hr decant); and
- 5. Idle phase.

The reaction phase will be a combination of anoxic and aerobic phases to achieve high levels of biochemical oxygen demand (BOD) and nitrogen removal. The SBR tank operating volume can be adjusted for lower inflows and process sequence times will be adjustable based on influent/effluent concentrations. Treated low-risk effluent from the WWTP will be disposed to a dedicated non-human contact spray field. A process flow diagram for the WWTP is shown in Figure 4.

### Housekeeping

Accommodation camp residents will be provided with information to assist in minimising the generation of wastewater and in preventing the contamination of the wastewater through the disposal of inappropriate materials. Water saving devices such as dual-flush toilets, water-saving showerheads and low water-use washing machines and dishwashers will be installed where suitable.

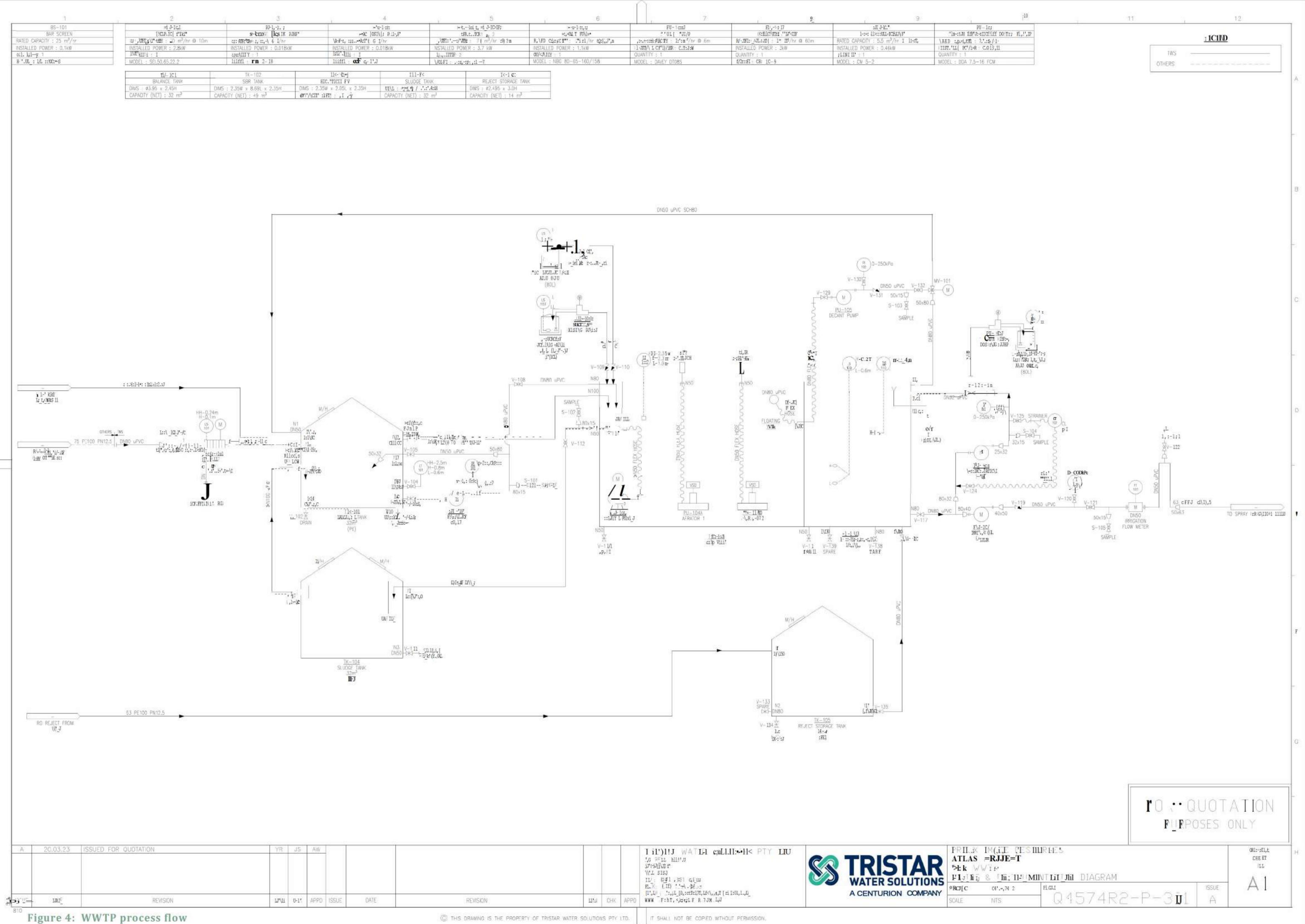
#### **Power Supply**

Power supply will be from diesel generators located in a dedicated service area.

#### Water Supply

Water supply planning for the Accommodation Camp will be treated via the WTP. Water will be supplied from licensed groundwater bores.





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### **3B.2.3 INPUTS AND OUTPUTS**

The primary input to the WWTP will be wastewater produced from the camp's toilets, bathroom, kitchen and laundry facilities. Following treatment through the plant, the wastewater will be tested against a range of parameters (Table 2) to ensure Department of Health (DoH) guidelines (DoH, 2011) are complied with. If the tests confirm that treatment has been successful, the treated effluent will be discharged to the spray field. Treated effluent that is unsuitable for discharge will be retreated.

The treatment process will include the following estimated monthly inputs;

- 100 L of Polyaluminum Chloride;
- 60 L of Sodium Hypochlorite; and
- 15 L of Sucrose.

The primary output from the WWTP will be up to 21 kL/day per day of treated (but non-potable) water of the quality outlined in Table 2. Treated wastewater will be discharged to the spray-field via sprinklers. Sludge from the WWTP will be collected by the sludge tank and periodically removed off-site by an appropriately licensed carrier.

Once the WWTP is operational, water quality monitoring will be conducted as per Table 2 to meet DoH and DWER licensing requirements. External analyses will be conducted at a National Association of Testing Authorities (NATA) accredited laboratory.

Water Quality Parameter	Units	Influent	Discharge Quality Requirements
рН	pH units	6.5 - 8.5	6.5 - 8.5
Biochemical Oxygen Demand (BOD)	mg/L	350	<20
Total Suspended Solids (TSS)	mg/L	350	<30
Total Nitrogen (TN)	mg/L	6/0	<30
Total Phosphorous (TP)	mg/L	14	<8
Escherichia coli (E. coli)	cfu/100mL	1.10	<10
Free Chlorine (Cl2)	mg/L	1 2	0.2 - 2.0

#### Table 2: Water quality requirements for WWTP input and discharge





### **3B.3 WATER TREATMENT PLANT**

The WTP will be a containerised Brackish Water Reverse Osmosis (RO) system that will treat bore water to a potable quality according to Australian Drinking Water Guidelines. The WTP is expected to treat 30 kL per day during operations.

The RO plant is complete with a membrane cleaning-in-place system. A chemical cleaning tank will batch chemical solution for membrane cleaning and membrane preservation. A pump will transfer the cleaning solution through a 5  $\mu$ m bag filter to and from the membranes in the RO pressure vessels. Membrane chemical cleaning will be undertaken approximately every three-months.

### 3B.3.1 INPUTS AND OUTPUTS

The following input will be added to the WTP as required to maintain output water quality:

- Sodium Hypochlorite;
- Antiscalant;
- RO Acid Cleaner; and
- RO Alkaline Cleaner,

Commissioning water quality requirements for WTP input and discharge are shown in Table 3. Rejected water from the WTP will be combined with the WWTP effluent and piped to the sprayfield for disposal.

Water Quality Parameter	Units	Quality
Design inflow (Raw water) *	m³/day	42.8
Design product flow (Permeate)	m³/day	30
Permeate recovery	%	70
Raw Water pH *	pH units	6.0
Raw water TDS*	mg/L	970
Reject Water TDS	mg/L	3,168
Reject Water pH	mg/L	6.46
Expected Reject Water Volume	m³/day	12.8

Table 3: Water quality requirements for WTP input and discharge

\* Raw water values are based on current bore data. Through the operation the supply hore may change to an alternative source which will result in minor variations to the quality of the input water. Where significant changes occur consultation with a suitably qualified person will be done to ensure that the plant is operating within the manufacturer's specifications.

### **3B.4** PIPING AND IRRIGATION SPRAY FIELD

Treated effluent from the WWTP and reject streams from the WTP will be disposed of via a dedicated non-human contact spray irrigation field. The irrigation pipeline will comprise a highdensity polyethylene (HDPE) pipeline predominately above ground that will transport treated water to the spray field. Treated water will be discharged via above-ground sprinklers. The spray-field will be fully fenced around the perimeter to restrict access. The fence will be a





minimum of 5 m from the sprinkler spray pattern to ensure any spray drift is contained within the exclusion area.

The irrigation field will include:

- Above ground hammer cast iron type sprinklers delivering a radius of up to 30 m each with 4 mm nozzles to reduce clogging;
- 100 m of rising main from WWTP irrigation pump to dedicated spray irrigation area;
- Individual branch line flush valves;
- Automated control from WWTP irrigation pump;
- 1,200 mm high two strand steel wire perimeter fencing; and
- Safety signage displayed on perimeter fencing (every 50 m).

### **Effluent Quality Specifications**

Wastewater will be treated to a 'low exposure risk level (ERL)' quality as outlined in the DoH National Guidelines for Water Recycling: Managing Health and Environmental Risks 2006 (DoH Guidelines). This level of risk exposure states that potential end uses of the treated wastewater must have a low level of human contact. The treated wastewater contained in the SBR irrigation tanks will comply with the requirements of low ERL.

Low ERL parameters are described below in Table 4 as outlined in the DoH Guidelines.

	Validation (and Verification) Monitoring						
ERL Potential End Uses	Parameter	Effluent Compliance Value	Influent Monitoring Frequency	Effluent Monitoring Frequency			
Low: end uses with a low level of human contact, including:	E.coli	<1000 cfu/100 ml	Weekly	Twice/week			
Urban irrigation with enhanced	BOD	<20 mg/L	Not required	Twice/week			
restricted access and application irrigation	SS	<30 mg/L	Not required	Twice/week			
Agricultural irrigation; processed foods	pH	6.5-8.5	Continuous online (or weekly)	Continuous online			
	Disinfection (if used)	Cl: 0.2-2.0 mg/L residual	NA	Continuous online			

Table 4: Performance standards of the proposed WWTP (ERL)

Treated wastewater will be disposed of via a dedicated non-human contact spray irrigation field designed to suit a minimum of 1.23 ha plus 5.0 m spray drift buffer. To determine the appropriate minimum size of the irrigation area for wastewater disposal, Table 5 shows TP and TN loading figures calculated in line with Water Quality Protection Note (WQPN) 22 (Department of Water; DoW, 2008). Using these calculations, an irrigation area of at least 1.23 ha is required, to ensure that sufficient surface area is available to minimise the likelihood of nutrient loading.

Table 5: Minimum irrigation area required (DoW, 2008)

Description	Value	Unit
Number of Persons	82	
Hydraulic Load	250	L/person/day





	100000	Constant Procession
Total Daily Flow	21	m³/day
RO Reject Volume	13	m³/day
Total Discharge	34	m³/day
Nitrogen Calculation	- V-	2. 
Effluent N, mg/L criteria	30	mg/L
N discharge, daily	0.63	kgN/day
N discharge, annum	230	kgN/year
Disposal area load limit*	300	kgN/hectare/year
Area required	0.77	ha
Phosphorus Calculation	- 175 	
Effluent P, mg/L criteria	<8	mg/L
P discharge, daily	0.168	kgP/day
P discharge, annum	61.32	kgP/year
Disposal area load limit*	50	kgP/hectare/year
Area required	1.23	ha

\*Based on soil vulnerability category C - fine grained soils' (DoW, 2008).

The irrigation field will be located to the east of the accommodation camp on cleared pasture Figure 3.

### **3B.5 ENVIRONMENTAL MANAGEMENT**

Image employs several environmental and technical experts as part of mining operations. In the event that an unplanned emission/discharge occurs expert advice would be sought from a qualified professional.

Spill kits will be available for use and, in the unlikely event of a major discharge/spill, earthmoving equipment can be deployed from the nearby operation to contain the spill while investigations are occurring.

### 1.1.1 3B.3 MONITORING

Monitoring will be conducted throughout the commissioning process in accordance with WWTP operating manual to ensure that the plant has been configured correctly and is meeting requirements.

Once operations commence daily visual inspections will be conducted by the operator and formal monitoring will be conducted monthly including field tests, visual observation and laboratory testing to confirm compliance with Table 2 and Table 3. Residual chlorine and pH will be monitored continuously with warnings provided to operational staff if limits are breached.

### 1.1.2 3B.4 CONTROLS

Emissions will be managed by implementing the control actions outlined in Table 6. In the event that monitoring results show non-compliance or trending data advice will be sought from a qualified expert on how to return to compliance. Non-compliant effluent will be contained and





either re-treated or removed from site by a licensed operator for disposal. Both the WTP and the WWTP are industry standard facilities designed specifically for the inputs expected on location.

## ATTACHMENT 5: OTHER APPROVALS AND CONSULTATION

## **5.1 OTHER APPROVALS**

### 5.1.1 PART IV ENVIRONMENTAL PROTECTION ACT 1986

The Project is currently being formally assessed by the EPA under Part IV of the EP Act at the level of Public Environmental Review (EPA Assessment No. 2311). The Accommodation Camp (including proposed WWTP and WTP) form part of a minor or preliminary works application, which if approved will mean that they are not constrained by the Part IV EP Act process.

### 5.1.2 PART V ENVIRONMENTAL PROTECTION ACT 1986

No other approvals under Part V of the EP Act are required for the Accommodation Camp.

### 5.1.3 HEALTH ACT 1911

Image is currently applying for approval from DoH and Shire of Dandaragan for installation of the new WWTP and on-site disposal of wastewater.

### 5.1.4 RIGHTS IN WATER AND IRRIGATION ACT 1914

Image is currently applying for approval from DWER for 26D and 5C groundwater licences to construct a bore and take water for the Accommodation Camp water supply.

### 5.1.5 PLANNING AND DEVELOPMENT ACT 2005

Image was granted an approval of a Development Application for the Accommodation Camp by the Shire of Dandaragan on 17 December 2021.

## **5.2 STAKEHOLDER CONSULTATION**

The Image stakeholder consultation strategy through the Environmental Impact Assessment has identified key external stakeholders and determined how they will be impacted by the Project.

Commonwealth, State and Local Government authorities have been briefed on the Project in its entirety to ensure any issues, concerns or suggestions are identified and, where appropriate, addressed or responded to by Image.





The following Government Stakeholders have been consulted:

- Commonwealth Authorities:
  - o Department of Climate Change, Energy, the Environment and Water;
- State Authorities
  - Department of Biodiversity, Conservation and Attractions;
  - Department of Mines, Industry Regulation and Safety;
  - DWER (EPA Services and Water); and
  - Water Corporation.
- Local Authorities
  - Shire of Dandaragan.

Image recognises that individuals, companies, and communities may also be interested in the impacts of the Project. The following corporate and community stakeholders were deemed to be relevant to this Project:

- South West Aboriginal Land and Sea Council;
- Local NGOs, community groups and Yued Traditional Owners; and
- Private Land Holders (including local communities; particularly the town of Cervantes).

This works approval application will be advertised for public comment as per DWER's standard procedure.





## **ATTACHMENT 6A: EMISSIONS AND DISCHARGES**

Table 6 details all potential emissions and discharges from the WWTP and WTP during the construction, commissioning and operations phase.

Controls will be implemented during construction, commissioning and operation of the WWTP and WTP to minimise the risk of emissions impacting the environment.





#### Table 6: Potential emissions and discharges from the Prescribed Premises

Source of emission or discharge	Emission or discharge type	Volume and frequency	Proposed Controls
Construction			
Vehicle movements, generators and construction machinery.	Noise	Minimal noise is expected. It is not expected to be of a volume or frequency which would constitute a nuisance or human health issue during construction.	Management:         • Noise emissions during construction and operation will be managed in accordance with the Environmental Protection (Noise) Regulations 1997.         • Barriers or noise attenuation installed around motors if required; and         • Equipment will be regularly serviced and maintained.         Monitoring:         • Maintain an incident reporting system in accordance with the Project's Environmental Management System (EMS); and         • Noise complaints investigated and issues remedied as required.
Leaks or spillages of hydrocarbons or chemicals from vehicles and plant	Unintentional discharge onto soils.	Unintentional discharge only. Hydrocarbons and chemicals are not stored on site in large quantities.	<ul> <li>Management:</li> <li>Hydrocarbons and chemicals stored in bunded facilities or within self- bunded containers in compliance with AS1940;</li> <li>All hydrocarbon or chemical storage facilities fitted with spill kits;</li> <li>Refuelling of immobile or semi-mobile equipment conducted using a service vehicle, fitted with a spill kit;</li> <li>Light vehicle refuelling facilities conducted in a dedicated area; and</li> <li>Any spills controlled, contained and cleaned up as soon as practicable.</li> <li>Monitoring:</li> <li>Hydrocarbon and chemical storage areas inspected on a regular basis;</li> <li>Spill kits inspected on a regular basis and replenished as required; and</li> <li>Maintain an incident reporting system in accordance with the Project's EMS.</li> </ul>
Runoff from cleared areas	Sediment-laden stormwater	Unlikely to result in an environmental impact given the short construction timeframe and small footprint.	<ul> <li>Management:</li> <li>Areas not disturbed until they are required to be used, and minimise disturbance where practicable;</li> <li>Perimeter bunding installed as required to minimise stormwater entering cleared areas; and</li> <li>Runoff from cleared areas diverted to sediment basins as required.</li> </ul>





Source of emission or discharge	Emission or discharge type	Volume and frequency	Proposed Controls
			Monitoring:
			Site inspected for erosion after significant rainfall events.
Construction waste / litter	Wind - blown rubbish	Minimal expected	<ul> <li>Management: <ul> <li>Bins available and sealed or placed in a manner to restrict fauna access and wind blown rubbish;</li> <li>Staff and contractors involved in the construction and running of the plant inducted on site with clear expectations set around waste management; and</li> <li>In the even that rubbish does escape the confines of the site staff and/or contractors will collect rubbish on a campaign basis (as required).</li> </ul> Monitoring: <ul> <li>Regular visual site inspections;</li> <li>Maintain an incident reporting system in accordance with the Project's EMS; and</li> <li>Litter complaints investigated and issues remedied as required.</li> </ul></li></ul>
Leaks or spillages of untreated wastewater or sludge/biosolids	Untreated wastewater and sludge/biosolids	Unintentional discharge only. The WWTP and WTP include enclosed tanks and equipment designed to prevent interaction between wastewater and stormwater.	Management:         • WWTP inspected prior to filling to ensure it has been constructed according to manufacturer specifications;         • Fresh water used to test the WWTP for leaks prior to filling with wastewater;         • All wastewater storage components of the WWTP will be impermeable (i.e., fiberglass, concrete or lined with HDPE);         • WWTP installed as per manufacturer specifications; and         • In the event of a spill the material will be contained. Contaminated material will be cleaned and either processed on site to an acceptable level or removed by a licenced contractor.         Monitoring:         • Regular visual inspections of plant and pipeline infrastructure;         • Spill kits will be inspected on a regular basis and replenished as required; and         • Maintain an incident reporting system in accordance with the Project's





Source of emission or discharge	Emission or discharge type	Volume and frequency	Proposed Controls
Discharge of treated Low ERL quality wastewater to irrigation area	Wastewater discharges	Up to approximately 21 m³/day, on an intermittent basis	<ul> <li>Management:</li> <li>Low ERL wastewater will be disposed to land if required within a designated spray Irrigation area calculated to comply with WQPN 22 - Irrigation with Nutrient Rich Wastewater (refer to Section 3B) (DoW, 2008);</li> <li>Irrigation will be designed such that run-off, spray drift or other discharge will not occur beyond the boundary of the irrigation area;</li> <li>Wastewater will be evenly distributed over the irrigation area to prevent soil erosion and pooling;</li> <li>Irrigation limited during significant rainfall events to prevent potential discharges to surface water flows. Suitable storage will be maintained in the treated wastewater tank to allow for periods where irrigation area as per DoH requirements.</li> <li>Monitoring:</li> <li>All wastewater samples collected in accordance with AS/NZS 5667.10.</li> <li>Samples submitted to a laboratory with current National Association of Testing Authorities accreditation for the parameters to be monitored;</li> <li>Verification and validation monitoring conducted in accordance with DoH guidelines (DoH, 2011) during commissioning to ensure its adequacy to treat the wastewater and to confirm the system is properly set up; and</li> <li>Operational monitoring will be conducted in accordance with DoH guidelines (DoH, 2011) and Licence requirements (licence application to be submitted separately) Flow meter installed to record the volume of treated wastewater discharged to the irrigation area.</li> </ul>
SBR, sludge and storage tanks	Odour	Exact odour emissions are unable to be quantified however they are not expected to be excessive given the relatively small scale of the WWTP.	<ul> <li>Management:</li> <li>WWTP designed as a containerised system with enclosed balance tank and treated effluent/irrigation tank to ensure odour levels are kept to a minimum;</li> <li>Sludge stored in sealed tanks;</li> <li>SBR contained within a sealed shipping container to minimise odour emissions;</li> <li>Monitoring:</li> <li>WWTP inspected prior to filling with water to ensure it has been constructed according to manufacturer specifications;</li> </ul>





#### WORKS APPROVAL APPLICATION SUPPORTING DOCUMENT Atlas Project

Source of emission or discharge	Emission or discharge type	Volume and frequency	Proposed Controls
			<ul> <li>Regular inspections of the WWTP will include an assessment to determine if there are any unplanned sources of odour;</li> <li>Maintain an incident reporting system in accordance with the Project's EMS; and</li> <li>Odour complaints investigated and issues remedied as required.</li> </ul>
Noise and vibration from pumps and aeration units.	Noise	Minimal noise and vibration is expected. It is not expected to be of a volume or frequency which would constitute a nuisance or human health issue during commissioning or operations.	<ul> <li>Management:         <ul> <li>Noise emissions during construction and operation will be managed in accordance with the Environmental Protection (Noise) Regulations 1997.</li> <li>Barriers or noise attenuation installed around motors if required; and</li> <li>Equipment will be regularly serviced and maintained.</li> </ul> </li> <li>Monitoring:         <ul> <li>Maintain an incident reporting system in accordance with the Project's EMS; and</li> <li>Noise and vibration complaints investigated and issues remedied as required.</li> </ul> </li> </ul>
Leaks or spills of chlorine	Waste and leachate Contaminated or potentially contaminated stormwater	Unintentional discharge. Only low quantities of chlorine storage required.	<ul> <li>Management:</li> <li>Chlorine will be stored and fully contained in a designated storage area within the WWTP;</li> <li>Any spills controlled, contained and cleaned up as soon as practicable.</li> <li>Monitoring:</li> <li>Chemical storage area inspected on a regular basis:</li> <li>Spill kits inspected on a regular basis and replenished as required; and</li> <li>Maintain an incident reporting system in accordance with the Project's EMS.</li> </ul>





## **ATTACHMENT 7: SITING AND LOCATION**

The proposed WWTP will be located at the Project's Accommodation Camp on Nambung Station (Figure 2).

The WWTP is a small facility and is located in a rural location, well removed from local residences. Emissions and discharges associated with the prescribed premises are not expected to impact nearby environmentally sensitive receptors and aspects.

A significant amount of environmental baseline information has been collected for the Project throughout the Part IV EP Act and *Mining Act 1978* (WA) process. A summary of baseline information is provided below and details of the environmental impact assessment are provided in the Project's Environmental Review Document, available on the EPA website (<u>Atlas Project ERD</u>).

## **1.2 LOCAL AND REGIONAL CONTEXT**

The Project is located approximately 18 km southeast of Cervantes, 12 km east of Indian Ocean Drive and 21 km west of Brand Hwy, in the Wheatbelt region of WA (Figure 1).

The Project lies within the Drummond Botanical District of the South-West Botanical Province (Beard, 1980), and comprises the Perth biogeographic subregion across majority of the disturbance footprint and some Lesueur Sandplain subregion across the northern transport corridors.

The underlying geology of the area was formed in surficial marine sediments eroded into Cretaceous basal sediments during the Pleistocene marine transgressions. The Project is predominantly comprised of pale deep Bassendean sands with areas of yellow deep sand, gravelly sands, sandy duplexes and wet soils (Desmond and Chant, 2001).

The prescribed premises is located on private land historically cleared for agriculture. Local drainage rises on the Gingin scarp 15 – 20 km to the east at a ridge line elevation of 200- 300 m. Approximately 3 km north of the prescribed premises the Mount Jetty and Bibby Creeks flood-out across an area of very low surface gradients. The creek-lines reform and coalesce to the west as the Nambung River, which discharges into Tamala Limestone 6 km east of the coast. Notable landscape features in proximity to the prescribed premises include Nambung National Park, Wongonderrah Nature Reserve and Nambung River.

## **1.3** LAND USE

The Project lies on land held by the Yued People, who have lived on approximately 29,000 km<sup>2</sup> of country between Yanchep and Coolimba for an estimated 40,000 years. The Project lies within the Yued Native Title (1997) determination area. Image have engaged Yued representatives to conduct several aboriginal heritage surveys of the Project area and not Registered or Other Aboriginal Heritage sites have been recorded within or in proximity to the prescribed premises.

The prescribed premises is located on private land historically cleared for agriculture. The dominant land surrounding the prescribed premises includes areas of remnant bushland, dry-





land agriculture, conservation and Unallocated Crown Land. The greater agricultural area is located between the Badgingarra and Nambung National Parks.

# 7.1 NEARBY ENVIRONMENTALLY SENSITIVE RECEPTORS AND

### ASPECTS

Four residences are located within 5 km of the WWTP (Table 7; Figure 5). All residences are primarily working farm properties. Nambung Station has been purchased by Image to be utilised for the Project and the remaining properties are privately owned.

Receptor No.	Local residence	Approximate Distance to Accommodation Camp (km)
Receptor 1	Homestead	3.1
Receptor 2	Farmhouse	1.1
Receptor 3	Farmhouse	0.8
Receptor 4	Nambung Station	0.5

Table 7: Distance of sensitive receptors to the Accommodation Camp

\*Note: Wongonderrah road property is owned by Image and no longer a sensitive receptor

There are no conservation reserves or other Environmentally Sensitive Areas, as defined under section 51B of the EP Act or any listed or proposed wetlands of national or international importance over the proposed prescribed premises.

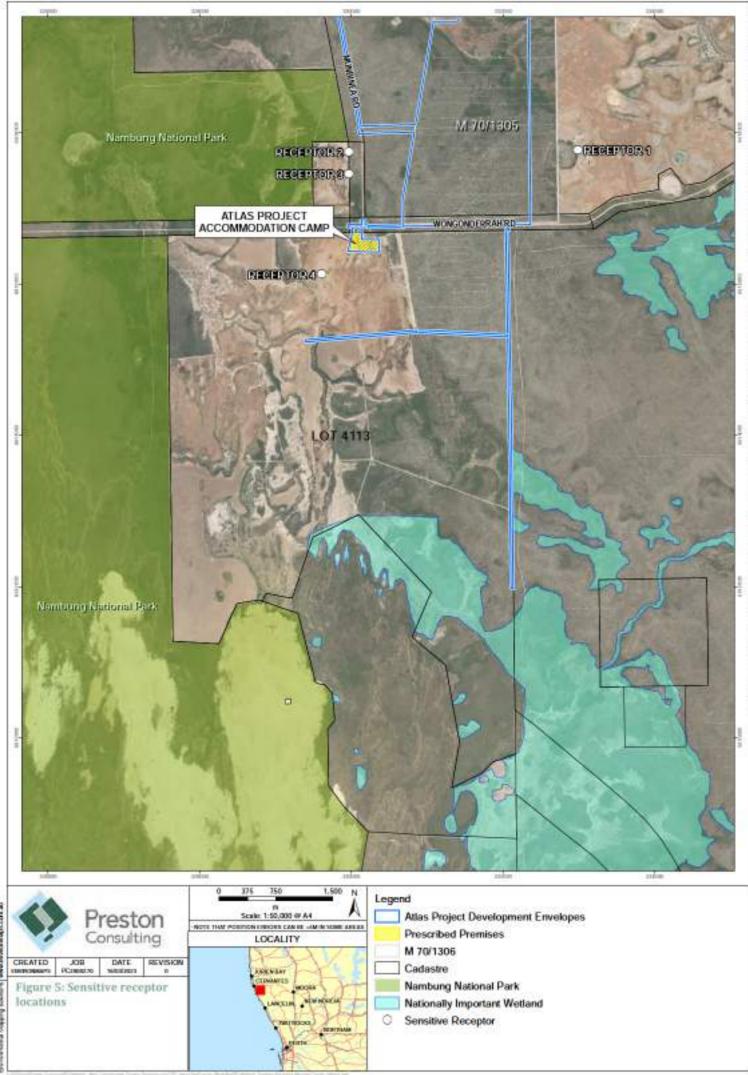
The prescribed premises is not located within a 'Specified Ecosystem' as described in Environmental Siting Guidance Statement (Department of Environment Regulation, 2016).

The Lancelin Defence Training Area wetland system, listed in the Directory of Important Wetlands in Australia (WA119) covers approximately 25,000 ha and extends for approximately 30 km north from near Lancelin to the area located approximately 3.5 km to the south and southeast of the prescribed premises. This wetland system is considered part of the regionally significant Bassendean Group and is recognised for its conservation values.

The eastern boundary of Nambung National Park is located approximately 600 m to the northwest of the prescribed premises. The main public access to the park is from Indian Ocean Drive to the west. The Nambung National Park Visitor Centre is located approximately 10 km southwest of the prescribed premises.

A portion of the area surrounding the prescribed premises is mapped by DBCA as 'Banksia Dominated Woodlands of the Swan Coastal Plain' TEC (EPBC Act). Surveys for the Project mapped 'Banksia attenuata, Banksia menziesii low woodlands' and 'Banksia prionotes low woodlands' within the native vegetation surrounding the prescribed premises.

The prescribed premises lies within the range of the Carnaby's Cockatoo (Endangered; *Biodiversity Conservation Act 2016* (WA) and EPBC Act). Carnaby's Cockatoo were recorded within the survey areas for the Project and very high quality foraging habitat was mapped within the native vegetation surrounding the prescribed premises. No Carnaby's Cockatoo habitat has been recorded within the prescribed premises.





## **ATTACHMENT 10: PROPOSED FEE CALCULATION**

The works approval fee has been claculated at \$4,127.75 based on a maximum premises construction cost of \$400,000. The fees were calculated using the DWER fee calculator (www.der.wa.gov.au/WorksApprovalFeeCalculator).

The outputs of the calculator have been provided in Figure 6.

		Industry Licensing System			
		Application Page 3 of 5 Works Approval Fees			
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Figure 6: DWER Fee calculator outputs





## GLOSSARY

Term	Meaning		
ASIC	Australian Securities and Investment Commission		
BOD	Biological Oxygen Demand		
DoH	Department of Health		
DWER	Department of Water and Environmental Regulation		
EP Act	Environmental Protection Act 1986 (WA)		
EPA	Environmental Protection Authority		
EPBC	Environment Protection and Biodiversity Conservation Act 1999 (Cth)		
ha	Hectares		
HDPE	High density polyethylene		
Image	Image Resources NL		
kg	Kilogram		
km	Kilometres		
m <sup>3</sup>	Cubic metres		
mg/L	Milligrams per Litre		
NATA	National Association of Testing Authorities		
RO	Reverse Osmosis		
SBR	Sequencing Batch Reactor		
TN	Total Nitrogen		
TP	Total Phosphorus		
TSS	Total Suspended Solids		
WA	Western Australia		
WTP	Water Treatment Plant		
WWTP	Wastewater treatment plant		





## REFERENCES

Department of Water and Environmental Regulation (2022). *Application form: Works Approval / Licence / Renewal / Amendment / Registration v16.* August, 2022

Beard, J. S. (1980). *A new phytogeographic map of Western Australia* (Vol. 3, pp. 37-58). Kensington, Australia: Western Australian Herbarium. Beard, J. S. (1981). *Vegetation Survey of Western Australia*. Swan. 1:1000000 Vegetation series. University of Western Australia Press.

Department of Environment Regulation (2016). *Environmental Siting, Part V, Division 3, Environmental Protection Act 1986*. November 2016.

Department of Health (2011). *Guidelines for the Non-potable Uses of Recycled Water in Western Australia.* 

Department of Water (2004). *Water Quality Protection Note 22 – Irrigation with Nutrient Rich Treated Wastewater*. Department of Water.

Desmond, A., & Chant, A. (2002). *Geraldton Sandplains 3 (GS3-Lesueur Sandplain subregion)*. A Biodiversity Audit of Western Australia's 53 Biogeographic Subregion. 2002

