

Childers Wastewater Treatment Plant Recycled Water Scheme (SRN025)

Annual Report
July 2023 to June 2024

CONTENTS

1. Introduction3

 1.1 Scheme Overview3

 1.2 Annual Reporting Compliance3

2. Recycled Water Quality Criteria Compliance5

 2.1 Non-compliance reported to DRDMW5

 2.2 Any failures to test and/or Missing data information for Annual Reports.....6

3. Prescribed Incidents and Events6

4. Scheme Assessments6

 4.1 Regular Reviews6

 4.2 Audits7

 4.3 Annual site inspection7

TABLES

Table 1: Annual RWMP Report Requirements 4

Table 2: Water Quality Criteria Class B – Childers Recycled Water Scheme 5

Table 3: Monthly Annual Value compliance summary – Childers Recycled Water Scheme..... 5

Table 4: Frequency of testing required – 2023-2024 reporting period 6

Table 5: Recycled Water User Site Inspection outcomes 8

APPENDICES

Appendix 1: Childers WWTP *E.coli* monitoring data – July 2023 to June 20249

Appendix 2: Childers RWS reported Exceedance breakdown July 2023 to June 2024.....10

1. Introduction

The purpose of this annual report is to provide the Department of Regional Development, Manufacturing and Water (the Regulator or DRDMW) with information on the overall performance of the single-entity Childers Recycled Water Scheme SRN025 (the Scheme) for the annual reporting period 1st July 2023 to 30th June 2024.

RW s203 Recycled Water Management Plan Amendment Application - Information Requirement Notice (IRN) for the Childers Recycled Water Scheme, CPL-SRN025-23-10208, was issued by DRDMW on 27th July 2023 with information submission required by 1st December 2023. The Childers Recycled Water Scheme IRN was submitted to the Regulator on 30th November 2023. The current Childers Recycled Water Scheme Information Notice was issued by DRDMW on 13th March 2024.

1.1 Scheme Overview

The Childers Wastewater Treatment Plant (WWTP) receives raw sewage via the Childers sewerage network for treatment. Once treated, the final effluent produced meets the quality requirements of Class B recycled water under the *Public Health Regulation 2018*. The recycled water is distributed to a storage dam located on a neighboring private property for agricultural use. Bundaberg Regional Council has an approved Recycled Water Third Party Agreement with the landholder for the supply of recycled water and a subsequent approved Recycled Water Management Plan (RWMP).

Condition 5.1 of the Scheme Information Notice March 2024 identifies the supply of recycled water has been approved for the irrigation of minimally processed food crops: avocado, custard apple, lychee, mango and pumpkin.

1.2 Annual Reporting Compliance

It is a requirement under Section 273 of the *Water Supply (Safety & Reliability) Act 2008* (the Act) and Condition 8.5 of the Childers Recycled Water Scheme Information Notice that an annual report is prepared and submitted to the Regulator within 120 Business days of the end of each financial year. Table 1 outlines this Annual Report's compliance against Section 273 of the Act and the *Annual Reporting Guideline for Recycled Water Schemes – September 2010*.

Table 1: Annual RWMP Report Requirements

Act Section	Details	Annual reporting guideline section	Annual Report Compliance
s273(1)	The relevant entity for a recycled water scheme must prepare an annual report for each financial year after a recycled water management plan for the scheme has been approved	Section 2.3	This completed report is for the 2023-2024 financial year.
S273(2)(a)	The annual report must— be prepared in accordance with the guidelines, if any, made by the regulator about the preparation of annual reports; and	Entire document	The content of this report aligns with the <i>Annual Reporting Guideline for Recycled Water Schemes – September 2010</i> .
S273(2)(b)	state the outcome of any review of the recycled water management plan in the financial year to which the annual report relates, and how the matters raised in the review have been addressed; and	Section 2.4(a)	Section 4.1 Reviews: - A regular review of the RWMP was conducted in 2023-2024
S273(2)(c)	contain details of the findings of, and any recommendations stated in, an internal audit report under section 260 or a regular audit report under section 261 given to the regulator in the financial year; and	Section 2.4(b)	Section 4.2 Audits: -An internal audit of the RWMP was not undertaken in 2023-2024. -An external regular audit of the RWMP was not undertaken in 2023-2024.
S273(2)(d)	contain details of the information given to the regulator under section 270 or 271 in the financial year.	Section 2.4(c)	Section 2 Recycled Water Compliance: -One notice of non-compliance with water quality criteria was reported in 2023-2024. Section 3 Prescribed Incidents and Events: -There were two recorded incidents / events reported during 2023-2024.
S273(3)(3) Condition 8.5 Information Notice 13/03/2024	The relevant entity must give a copy of the annual report to the regulator within 120 business days after the end of the financial year.	Section 2.3	This report has been submitted to the Regulator within the specified timeframe.
S273(3)(4)	If a relevant entity is a recycled water provider for a single entity recycled water scheme, the annual report may be combined with a report given to the regulator under section 141.	NA	Bundaberg Regional Council's Drinking Water Quality Management Plan is submitted separately to this report.
S203 (3) Condition 6.1 Information Notice 20/07/2023	Additional information requested to be submitted to the Regulator by 01/12/2023.	NA	The additional information requested for the Childers RWMP was submitted to the Regulator on 30/11/2023.
Condition 8.5 Information Notice 13/03/2024	The annual report must also contain details of the incidents / events notified to the Regulator and any other information required under conditions of approval for the plan, as stated in this notice.	NA	Section 3 Prescribed Incidents and Events: -There were two recorded incidents / events during 2023-2024.
Condition 8.9 Information Notice 13/03/2024	A month-by-month compliance summary must be included in the annual report if the annual value was not achieved in at least one month during the financial year.	NA	The monthly annual value compliance summary for the financial year is provided in Table 3 of this report.

2. Recycled Water Quality Criteria Compliance

Council is required to produce recycled water for the irrigation of minimally processed food crops to the quality standards specified in Condition 5.1 of the current Scheme Information Notice as outlined in Table 2 below. The verification monitoring point is located at the outfall of the chlorine contact tank as described in the Childers RWMP Section 3.3 and Figure 3.

Table 2: Water Quality Criteria Class B – Childers Recycled Water Scheme

Parameter	Sampling Frequency	Initial Sample Value criteria	Annual Value criteria
<i>Escherichia coli</i>	Weekly	Must be less than 100 cfu/100mL or 100 MPN/100mL	At least 95% of the samples taken for a 12-month period must contain less than 100 cfu/100mL or 100 MPN/100mL

Water quality is sampled and analysed weekly in accordance with the verification monitoring requirements under the *Public Health Regulation 2018* for Class B recycled water and the Scheme Information Notice. The annual value is calculated at the end of each calendar month utilising the water quality results for the previous fifty-two (52) weekly samples.

2.1 Non-compliance reported to DRDMW

An **incident** is described as a non-compliance with the relevant water quality criteria stated in this notice, including the frequency, initial value or annual value.

During the 2023-2024 reporting year Council reported one exceedance of the *E. coli* initial value on 30/04/2024 incident RWI-SRN025-24-10978, details outlined in Appendix 2. There were no exceedances of the *E. coli* annual value and no instances of a recorded test result of ‘no result’ or ‘laboratory error’ reported within this financial year.

The fifty-two (52) weekly monitoring results displayed in Appendix 1 show that the scheme has demonstrated a consistent effluent quality during this financial year. As shown in Table 3, the annual value compliance for the scheme achieved greater than 95% compliance each month across the reporting year.

Table 3: Monthly Annual Value compliance summary – Childers Recycled Water Scheme 2023-2024

Period		Number of Exceedances	Compliance Percentage
	Reporting Month		
Aug-22	Jul-23	1	98
Sep-22	Aug-23	1	98
Oct-22	Sep-23	1	98
Nov-22	Oct-23	1	98
Dec-22	Nov-23	1	98
Jan-23	Dec-23	0	100
Feb-23	Jan-24	0	100
Mar-23	Feb-24	0	100
Apr-23	Mar-24	0	100
May-23	Apr-24	1	98
Jun-23	May-24	1	98
Jul-23	Jun-24	1	98

2.2 Any Failures to Test and Missing Data Information

Council has conducted all required *E.coli* analysis during the reporting period 1st July 2023 to 30th June 2024 to complete the annual report, as shown in Table 4 below.

Table 4: Frequency of testing required – 2023-2024 reporting period

Parameter	Regulated standard (units)	Frequency of test	Required number of tests	Number of tests undertaken	Number of tests missed	Date/s notified to Regulator	Comments
<i>E.coli</i>	cfu/100mL	weekly	52	52	0	NA	Scheduled number of tests complete

3. Prescribed Incidents and Events

A **prescribed incident** means an incident prescribed under a regulation. There are no incidents prescribed currently under the *Water Supply (Safety and Reliability) Regulation 2021*.

An **event** is described as anything that has happened or is likely to happen in relation to the scheme, which may adversely impact public health.

There were three prescribed incidents or events recorded for the Childers Recycled Water Scheme during this reporting period, details outlined in Appendix 2:

1. Low free chlorine reported on 30/04/2024 incident RWI-SRN025-24-10978. Incident includes *E.coli* initial value notification.
2. Low free chlorine reported on 27/06/2024 incident RWI-SRN025-24-11036.
3. Onsite low free chlorine reported on 21/08/2024, verbal notification only.

4. Scheme Assessments

On 4th January 2023 Bundaberg Regional Council received notification from the Regulator accepting the agreed regulatory date frequencies for undertaking audits and regular review of the Childers RWMP. Internal audits and external regular audits to be conducted every four (4) years and regular reviews to be conducted every two (2) years, as stated in Condition 7 of the Scheme Information Notice March 2024.

4.1 Regular Review

Condition 7.1 of the Childers Recycled Water Scheme Amendment Information Requirement Notice July 2023 outlined the additional information required to be submitted to DRDMW. As such a review of the Childers RWMP was undertaken, with assistance from an external contractor, during the 2023-2024 reporting year. The Amendment IRN information was submitted to DRDMW on 30th November 2023.

There was no regular review undertaken during the 2023-2024 reporting year. Council is required to undertake the next regular review of the Childers RWMP by 14th October 2025 in accordance with Section 258 of the *Water Supply Safety and Reliability) Act 2008* and Condition 7.3 of the Childers Recycled Water Scheme Information Notice – March 2024.

4.2 Audits

In accordance with the Scheme Information Notice Conditions 7.1 and 7.2, Council is required to undertake an internal audit of the Childers RWMP by 14th October 2026 and an external regular audit by 14th October 2024.

No internal audit was undertaken during the 2023-2024 financial year. The internal audit of the Scheme will be conducted by Council's audit team to ensure compliance of the approved Recycled Water Management Plan, with the completed report and associated documents being submitted to the Regulator within the specified timeframes.

Council has engaged an external consultant to conduct the external regular audit of the approved RWMP due by October 2024.

4.3 Annual Site Inspection

Council conducted the annual inspection of the Childers Recycled Water User property on 17/01/2024. The site inspection found the activities conducted on the property were in accordance with the Recycled Water Third Party Agreement and associated legislation. The next inspection is scheduled to occur in January 2025.

The site inspection outcomes are outlined in Table 5.

Table 5. Recycled Water User Site Inspection outcomes

Site Inspection Date: 17/01/2024			
Site Inspection Component	Details	Recycled Water Third Party Agreement section	Compliance
Customer documentation	The customer shall ensure that all persons exposed to the recycled water are instructed in personal hygiene measures and appropriate health and safety procedures associated with using recycled water.	Section 3.4 (a)	Compliant, no new staff employed at property within this period, current staff have been inducted and are familiar with irrigation practices
Customer documentation	The customer shall inform visitors to the site that recycled water is being used on the site and to observe the signage and minimise contact with the recycled water.	Section 3.7 (b)	Compliant, visitors informed and escorted.
Signage and colour coding	The customer shall install and maintain warning signs on their property. The warning signs are to meet compliance standards stated in AS 1319 Safety Signs for the Occupational Environment.	Section 3.2	Compliant, signage installed across property.
Recycled water use	The Recycled Water Third Party Agreement and Recycled Water Management Plan specify the types of crops which are approved to be grown.	Section 1.9 RWMP Section 1.1 Irrigation Management Plan Section 4	Compliant for approved crops grown on site, no addition of new crops grown on property.
Irrigation practices	Irrigation practices for recycled water are specified in the <i>Public Health Regulation 2018</i> and the Queensland Health ' <i>Guideline for Low-exposure Recycled Water Schemes</i> '. The Recycled Water Third Party Agreement and Recycled Water Management Plan specify the irrigation practices to be utilised at the property.	Section 1.9 RWMP Section 3.5 Irrigation Management Plan Section 4	Compliant, under tree spray irrigation.

Appendix 1: Childers WWTP *E.coli* monitoring data – July 2023 to June 2024

Sample Date	outfall of Chlorine Contact Tank (Monitoring Point A) (<i>E.coli</i> cfu/100mL)
04/07/2023	10
11/07/2023	1
20/07/2023	1
25/07/2023	1
01/08/2023	1
08/08/2023	1
17/08/2023	1
29/08/2023	1
29/08/2023	1
05/09/2023	1
13/09/2023	1
19/09/2023	1
26/09/2023	1
03/10/2023	1
11/10/2023	1
17/10/2023	1
24/10/2023	1
31/10/2023	1
09/11/2023	1
14/11/2023	1
21/11/2023	1
28/11/2023	70
07/12/2023	1
12/12/2023	1
19/12/2023	1
27/12/2023	1
04/01/2024	1
09/01/2024	1
16/01/2024	1
23/01/2024	1
01/02/2024	1
06/02/2024	1
13/02/2024	1
20/02/2024	1
29/02/2024	4
05/03/2024	1
12/03/2024	1
20/03/2024	4
26/03/2024	1
02/04/2024	1
09/04/2024	1
17/04/2024	100
22/04/2024	1
29/04/2024	2
07/05/2024	1
14/05/2024	1
22/05/2024	1
28/05/2024	1
04/06/2024	1
11/06/2024	1
20/06/2024	2
25/06/2024	1

Appendix 2: Childers Recycled Water Scheme reported Exceedance breakdown July 2023 – June 2024

Incident date	Incident description	Exceedance description	Reported to Regulator	Incident circumstance	Comment
17/04/2024	<i>E.coli</i> 100 cfu/100mL Free chlorine 0.13 mg/L (Laboratory report 24/0302)	Initial value Low chlorine	30/04/2024	Chlorine Contact Tank level had been dropped and tank cleaned prior to the sample being taken. Possible low flow with reduced chlorine dosing at the time of sampling. Follow-up sample 22/04/2024 (Lab report 24/0322) compliant: <i>E.coli</i> <1 cfu/100mL, free chlorine 1.18 mg/L.	RWI-SRN025-24-10978 – investigation report submitted to Regulator on 08/05/2024, close out notification received 03/09/2024
20/06/2024	Free chlorine 0.15 mg/L (Laboratory report 24/0465)	Low chlorine	27/06/2024	<i>E.coli</i> detected at 2 cfu/100mL – compliant. Onsite analysis undertaken by operators at 06:51am: free chlorine 0.44 mg/L, total chlorine 1.7 mg/L. No obvious issues were identified with plant processes. Follow-up sample 25/06/2024 (Lab report 24/0490) compliant: free chlorine 0.36 mg/L, <i>E.coli</i> 1 cfu/100mL.	RWI-SRN-24-11036 – investigation report submitted to Regulator on 28/06/2024, close out notification received 03/09/2024
04/05/2024	Free Chlorine 0.16 mg/L (Onsite operator monitoring)	Low chlorine	21/08/2024	This exceedance was overlooked at the time and not initially reported. The exceedance was identified during the review of the operator onsite analysis data of the plant process parameters with the external auditor undertaking the Childers RWMP external audit process.	This incident was discussed with QWSR. No formal report required to be submitted for this missed exceedance.