



Drinking Water Service
Charters Towers Regional Council
SPID 479

Annual Report 2024/2025



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Water Service Provider Details

Detail	Information
SPID	479
Name	Charters Towers Regional Council
Address	12 Mosman Street Charters Towers Qld 4820
Postal Address	PO Box 189 Charters Towers Qld 4820
Telephone	4761 5300
Email	mail@charterstowers.qld.gov.au
Water Service Areas covered by this plan	Charters Towers, Greenvale, Ravenswood, Pentland

Glossary of terms

ADWG 2011	Australian Drinking Water Guidelines (2011). Published by the National Health and Medical Research Council of Australia
Cfu/100mL	Colony forming units per 100 millilitres
CTRC	Charters Towers Regional Council
DWQMP	Drinking Water Quality Management Plan
E. coli	Escherichia coli, a bacterium which is considered to indicate the presence of faecal contamination and therefore potential health risk
mg/L	Milligrams per litre
NTU	Nephelometric Turbidity Units
MPN/100mL	Most probable number per 100 millilitres
RG	Ravenswood Gold
SCADA	Supervisory Control and Data Acquisition
WTP	Water Treatment Plant
WSP	Water Service Provider

1. Introduction

This is the Drinking Water Service Annual Report for Charters Towers Regional Council (CTRC) for the financial year 2024/25.

CTRC is a registered service provider with identification (SPID) number 479, operating under an approved DWQMP to ensure consistent supply of safe quality drinking water in order to protect public health. This is done through proactive identification and minimisation of public health related risks associated with drinking water.

This report includes:

- the activities undertaken over the financial year in operating our drinking water service
- drinking water quality summary
- summary of our performance in implementing our approved DWQMP

This report is submitted to the Regulator to fulfil our regulatory requirement and is also made available to our customers through our website or for inspection upon request at a Council office.

2. Summary of schemes operated

CTRC Regional Council has four Water Service Areas (WSA's), including Charters Towers, Greenvale, Ravenswood and Pentland.

Charters Towers WSA

Drinking water for Charters Towers is provided from surface water sourced from the Burdekin River via the Charters Towers Weir and pumped from the Phil Mathews pump station to the Charters Towers Water Treatment Plant (WTP). The WTP is a conventional plant utilising coagulation, flocculation, clarification, sedimentation, filtration and disinfection. The treated water is delivered to two reservoirs, each having a common inlet/outlet. Connected population is approximately 9106 persons.

Greenvale WSA

Water is sourced from the Burdekin River from bed-sand spears. Four spears are currently installed, of which three are operational. There is the ability for water to be injected with chlorine for iron/manganese control before being pumped to storage where further chlorine injection is implemented for disinfection. Connected population is approximately 307 persons.

Ravenswood WSA

Water is sourced from the Burdekin River by Ravenswood Gold (RG). The water is pumped to a turkey nest dam and then to Suhrs Ck Dam. Water is then pumped to the mining operations with a portion (less than 10%) diverted to a Water Treatment Plant which supplies potable water to the town and the mining operations. Connected population is approximately 101 in the township plus a variable population in the accommodation camp and the mining administration.

Pentland WSA

Pentland is serviced by ground water from the Glen Houghton bore field which is a groundwater recharge system. Two bores pump water to a small tank where water is disinfected with chlorine before reticulation to the township via a reservoir. Connected population is approximately 142 persons.

Water Service Area	Water Source	Treatment Processes	Treatment Capacity	Towns Supplied
Charters Towers	Charters Towers Weir on the Burdekin River	Coagulation, flocculation, clarification, sedimentation, filtration and disinfection.	18ML/day	Charters Towers
Pentland	Ground water via Bore field	Settlement, disinfection	0.8ML/day	Pentland
Greenvale	Burdekin River via 4 spears	Filtration and disinfection	1.1ML/day	Greenvale
Ravenswood	Burdekin River via turkey nest dam	Coagulation, clarification, filtration, disinfection	0.5ML/day	Ravenswood

Table 1 - Sources and Treatment Capability



Figure 1: WSA Locations

3. DWQMP Implementation

The focus for management of water quality this year has been improving water sampling, compliance with the DWQMP and addressing the Risk Management Improvement Plan requirements. The Water Infrastructure Upgrade Program has continued with planning and design works for duplication of the 525mm AC trunk main and selection of a location for an intermediate reservoir to reduce the impact of surge pressures at the low end of the main. The DWQMP has been reviewed and the updated version was submitted to the Regulator and has been approved.

4. Verification monitoring – water quality information and summary

The results from the drinking water quality monitoring program conducted by CTRC have been compared against the Australian Drinking Water Guideline levels.

Testing for the presence of *Escherichia coli* is conducted at each of the four schemes within CTRC. Charters Towers has a population of 9,108 and therefore the required frequency is one sample per week plus one additional sample per month. Weekly Samples are collected at the reservoir and at a sampling location in the town. In addition, monthly samples are collected at three sites at the extremities of the network. In the 2024/25 financial year 152 samples were tested for E. coli, with an 'annual value' of 100.0% compliance on roll percentage.

Pentland, Greenvale, and Ravenswood all have populations less than 1000 persons, so the required minimum frequency is one sample per month for each of these schemes. In the 2024/25 financial year 42 samples from Greenvale, 39 samples from Pentland and 36 samples from Ravenswood were tested for the presence of E. coli. Greenvale, Pentland, and Ravenswood returned 'annual values' of 100%.

A summary of the key parameters for the CTRC Drinking Water Quality Verification testing program is shown in Table 2.

The compliance results for E. coli testing are shown in Tables 3-6.

A complete listing of verification results is provided in Appendix A.

Scheme name	Parameter	Number Required	Number tested	ADWG Water quality criteria	No. Non-compliant samples	Comments
Charters Towers	E. coli	152	146	0	0	
Charters Towers	pH	152	148	6.5-8.5 aesthetic	0	
Charters Towers	Free Chlorine	152	148	0.5<>5.0	6	Reticulation sample, flushing performed, adjusted chlorine dosing at treatment.
Charters Towers	Trihalomethanes	4	12	0.25 mg/L	0	
Charters Towers	Turbidity	12	12	5 NTU aesthetic	0	
Charters Towers	True Colour	12	12	15 HU aesthetic	0	
Greenvale	E. coli	36	42	0	0	
Greenvale	pH	36	43	6.5 – 8.5 aesthetic	0	
Greenvale	Free Chlorine	36	43	0.5<>5.0	2	Reticulation sample, occurred while a “Boil Water Alert” was in place, flushing of dead end performed.
Greenvale	Trihalomethanes	4	19	0.25 mg/L	3	Occurred while a “Boil Water Alert” was in place with high turbidity.
Greenvale	Turbidity	36	27	5 NTU aesthetic	9	Ongoing turbidity issues “Boil Water Alert” in place for majority of the year.
Greenvale	True Colour	12	12	15 HU aesthetic	2	Occurred while a “Boil Water Alert” was in place with high turbidity.
Pentland	E. coli	36	36	0	0	
Pentland	pH	36	36	6.5 – 8.5 aesthetic	0	
Pentland	Free Chlorine	36	36	< 5	0	
Pentland	Turbidity	12	12	5 NTU aesthetic	0	
Pentland	True Colour	12	12	15 HU aesthetic	0	
Ravenswood	E. coli	36	36	0	0	
Ravenswood	pH	36	36	6.5 – 8.5 aesthetic	0	

Scheme name	Parameter	Number Required	Number tested	ADWG Water quality criteria	No. Non-compliant samples	Comments
Ravenswood	Free Chlorine	36	36	< 5	0	
Ravenswood	Turbidity	36	36	<5 NTU aesthetic	0	
Ravenswood	Trihalomethanes	4	13	0.25 mg/L	0	
Ravenswood	True Colour	12	12	15 HU aesthetic	0	

Table 2 - Verification Summary

WSA	Charters Towers											
Year	2024 – 2025											
Month	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
No. of samples collected	14	12	14	12	12	10	12	10	14	12	11	11
No. of samples collected in which E. coli is detected (i.e. a failure)	0	0	0	0	0	0	0	0	0	0	0	0
No. of samples collected in previous 12 month period	146	146	146	146	146	146	146	146	146	146	146	146
No. of failures for previous 12 month period	0	0	0	0	0	0	0	0	0	0	0	0

% of samples that comply	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Compliance with 98% annual value	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 3 – Charters Towers E. coli Compliance

WSA	Greenvale											
Year	2024 – 2025											
Month	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
No. of samples collected	3	6	7	3	3	3	3	2	3	3	3	3
No. of samples collected in which E. coli is detected (i.e. a failure)	0	0	0	0	0	0	0	0	0	0	0	0
No. of samples collected in previous 12 month period	42	42	42	42	42	42	42	42	42	42	42	42
No. of failures for previous 12 month period	0	0	0	0	0	0	0	0	0	0	0	0
% of samples that comply	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Compliance with 98% annual value	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 4 - Greenvale E. coli Compliance

WSA	Pentland											
Year	2024 – 2025											
Month	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
No. of samples collected	3	3	3	3	3	3	3	3	3	3	3	3
No. of samples collected in which E. coli is detected (i.e. a failure)	0	0	0	0	0	0	0	0	0	0	0	0
No. of samples collected in previous 12-month period	36	36	36	36	36	36	36	36	36	36	36	36
No. of failures for previous 12-month period	0	0	0	0	0	0	0	0	0	0	0	0
% of samples that comply	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Compliance with 98% annual value	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 5 - Pentland E. coli Compliance

WSA Ravenswood												
Year	2024 – 2025											
Month	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
No. of samples collected	3	3	3	3	3	3	3	3	3	3	5	1
No. of samples collected in which E. coli is detected (i.e. a failure)	0	0	0	0	0	0	0	0	0	0	0	0
No. of samples collected in previous 12 month period	36	36	36	36	36	36	36	36	36	36	36	36
No. of failures for previous 12 month period	0	0	0	0	0	0	0	0	0	0	0	0
% of samples that comply	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Compliance with 98% annual value	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 6 - Ravenswood E. coli Compliance

5. Incidents reported to the Regulator

For the reporting year 2024/25 the following incidents were notified to the Regulator under Section 102 or 102A of the Act for noncompliance issues that occurred:

DWI-479-24-11676 – Greenvale Water Supply Scheme – Event: Due to river movement final turbidity entering the Greenvale Reservoir after filtration has reached 1.7ntu- the system was disabled at time of the alarm . The outgoing reservoir turbidity remains at 0.5ntu, free chlorine residual of 2.24mg/L with operations currently ceased to ensure water quality does not degrade past safe limits. Please see snipped image of our SCADA system for reference.

DWI-479-25-11974 – Charters Towers Water Supply Scheme – Event: Ongoing issues with our Weir Intake at the Burdekin River. Recent weather event caused our permanent intake that feeds out water treatment plant to become blocked/unservicable. To gain access we need the Weir level to drop substantially and it has not as yet. A temporary intake was fabricated and we had it installed. Due to the constant wet weather and the Weir rising and falling we have to keep removing and re-installing the temporary intake to ensure we do not loose it over the Weir wall when the Weir rises.

Customer feedback

<i>Month</i>	<i>Suspected Illness</i>	<i>Dirty Water</i>	<i>Taste and odour</i>	<i>Supply</i>
Jul 2024	0	0	0	0
Aug 2024	0	0	0	0
Sep 2024	0	0	0	0
Oct 2024	0	0	0	0
Nov 2024	0	0	0	0
Dec 2024	0	0	0	0
Jan 2025	0	0	0	0
Feb 2025	0	0	0	0
Mar 2025	0	0	0	0
Apr 2025	0	0	0	0
May 2025	0	0	0	0
Jun 2025	0	1	0	0
Total	0	1	1	12

Table 7 - Customer Feedback

<i>Date</i>	<i>Complaint</i>	<i>Resolution</i>
19/6/2025	Greenvale Water Supply	The customer complained about the water quality and health concerns related to the colour of the water, itchy skin and fungal infections, high level of heavy metals, and made queries about the treatment process and chemical use, storage, test results and reporting compliance. Council explained the boil water alert, the expected on-going issues, the planned clarification addition and addressed the concerns raised by noting the water sample test results showed that chlorine levels were maintained at the reservoir and none of the test results showed any presence

<i>Date</i>	<i>Complaint</i>	<i>Resolution</i>
		of Total Coliform, E. Coli, or Thermotolerant Coliforms. The previous 12-months of water test results were summarised showing only one slight exceedance of Manganese above the ADWG health limit while on boil water alert.

6. DWQMP Audit

An audit of the DWQMP was conducted in September 2022, and a copy of the Audit Report has been submitted to the Regulator. While the report found that most areas showed compliance it found that improvements to processes and systems could be made in a number of areas. Two major non-compliances were observed. These related to the methodology for collecting samples at the townships. Operators were running the sample taps for long periods as they attended to other activities. This practice has been addressed and the Operating Procedure for sample collection at the townships has been amended to ensure correct procedures. As a result of the number of Opportunities for Improvement, a working party comprised of team leaders and management which was formed to address issues noted in the Risk Management Improvement Program will also work through the issues noted in the Audit. It is expected that the work will take some time to complete.

7. DWQMP Review

A review of the DWQMP was undertaken during the 2024/2025 reporting period. That review identified that changes were required to DWQMP which resulted in an application being submitted to the Regulator on the 15 October 2025. The following sections of the DWQMP were amended:

Proposed Amendment	List the proposed amendment(s) to the DWQMP
Details of infrastructure for providing the service	Additional detail added for catchment and mine locations. Additional descriptions and details for changed infrastructure at Greenvale.
Identify hazards and hazardous events	Minor updates.
Information gathering – water quality and catchment characteristics	Minor updates.
Assessment of risks	HBT assessments added and new risk assessment worksheets provided.
Risk management measures	Updated preventative measures, additional details around staffing and training.
Management of incidents and emergencies	Update of levels, processes and flowchart.
Risk management improvement program	Update of plan and move details to appendix.
Service wide support – information managements	Update of officers and detail added.

Operational monitoring	Additional detail added to monitoring management and SCADA monitoring. Review of limits and actions.
Other (please details)	Updated contact details for emergency action plan.

Appendix A – Summary of compliance with water quality criteria

The reported statistics include results derived from repeat samples, or from emergency or investigative samples undertaken in response to a customer complaint or abnormal results.

External verification monitoring samples are taken internally but processed and analysed by Townsville Laboratories and a summary of the results for critical measures is included below.

Please refer to excel spreadsheet supplied from Townsville Labs for all results.

Appendix B - Risk Management Improvement Program

Scheme	Risk	Action Requirement	Interim Action	Long Term Plan	Target Date for Long Term Action	Actions to Date
Charters Towers	Very High	Replace the concrete reservoir as it is not in good condition	Monitor roof condition, Seal off points of entry	Reservoir and rising main project is currently in the design phase - this will result in the decommissioning of the concrete reservoir	2030	Planning Stage Complete. Currently in design and to be scheduled as funding is available.
Charters Towers	Very High	Investigate options to create a larger roofed treated water storage	Monitor for evidence of possums or birds gathering above the tank	The WIUP has made available the Mod 2 clarifier tank. Previous consideration of turning it into a treated water storage has now been developed into a requirement, as the existing CWT has developed serious leakage around its base.	2025	Completed, module 2 has been converted to a covered Clear Water Tank.

Scheme	Risk	Action Requirement	Interim Action	Long Term Plan	Target Date for Long Term Action	Actions to Date
Charters Towers	High	Conduct Health Based Targets assessment of the raw water and treatment to determine if UV treatment is warranted	Increase sampling of raw water for E. coli as an indicator for crypto to form baseline data for the study	Conduct a health-based targets assessment of the raw water	2026	In progress, have collected 12 months of raw water E. Coli tests.
Charters Towers	High	Dedicated inlet and outlet mains at the reservoir to ensure adequate turnover	Utilise re-chlorination system to maintain residual in the reservoirs	This forms part of the rising main and reservoir replacement project	2028	Rechlorination system is in place. Planning Stage Complete. Reservoir mains currently in design and to be scheduled as funding is available.
Greenvale	Very High	Full Health Based Target Assessment required to determine suitable level of treatment required for crypto/giardia		It is expected that this work will form part of the baseline for possible defence upgrades of the water system at Greenvale	2028	On hold
Greenvale	Very High	Investigation of full water treatment system		On hold until Defence requirements in Greenvale are finalised as the water system will be upgraded	2028	With consultants
Greenvale	High	Reservoir roof improvement program to ensure they are sealed against vermin and runoff		Complete review of all reservoirs is to be conducted (currently resource constrained)	2026	On Hold

Scheme	Risk	Action Requirement	Interim Action	Long Term Plan	Target Date for Long Term Action	Actions to Date
Greenvale	High	Improve asset mapping capability to reduce the risk of cross connections		Corporate system is moving towards asset mapping.	2027	On Hold
Pentland	Very High	Document treatment process, identify failure modes, label equipment and pipework. Implement a maintenance authorisation system.		Conduct complete review of infrastructure and procedures	2026	Not Started
Pentland	Moderate	Regular flushing program for Pentland Reticulation		Reticulation to establish flushing program for townships	2025	Not started
Ravenswood	Very High	Produce updated drawings of the water and sewerage systems		Reticulation task to confirm main locations	2026	To be completed under new agreement with Ravenswood Gold