



Drinking Water Quality Management Plan

Annual Report 2020-21

December 2021



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EXECUTIVE SUMMARY

Water suppliers in Queensland (QLD) are required under the *Water Supply (Safety and Reliability) Act 2008* (the Act) to operate under an approved Drinking Water Quality Management Plan (DWQMP) to protect public health. In addition, the preparation of a DWQMP report per financial year is required by the Act.

This DWQMP report documents the performance of Cherbourg Aboriginal Shire Council (Council) in implementing the DWQMP for the 2020-21 financial year.

Council is a registered service provider that manages the Cherbourg drinking water supply scheme and distributes treated water to the Cherbourg community. The water supply scheme is comprised of a single raw water source, a water treatment plant, pump stations, service reservoirs and distribution network.

Council has undertaken risk management and water quality testing to ensure the supply of safe drinking water. Council completed a major upgrade of the drinking water infrastructure and telemetry systems during the reporting period to enhance risk management measures.

Various improvement actions have been undertaken and/or planned as continual improvement. The improvement actions have been identified through detailed risk assessment to ensure safe quality of drinking water.

The water quality verification results and assessment showed that Council in general supplied safe quality water to the customers, with *E. coli* having 100% compliance against the Australian Drinking Water Guidelines (ADWG).

Incidents were reported to the Regulator as required and managed effectively to rectify any issues. One water quality complaint was recorded in this reporting period. Action was taken to rectify the complaint and the issue was resolved. This indicated very good overall customer satisfaction.

A detailed review of the DWQMP was undertaken during the reporting period and the amended plan was approved by the Regulator. The next review of the DWQMP is due in 2023.

A regulatory audit was completed in this reporting period and findings have been included in the report. The next audit of the DWQMP is due in 2025.

1. INTRODUCTION

This is the Drinking Water Quality Management Plan (DWQMP) Annual Report for Cherbourg Aboriginal Shire Council (Council) for the financial year 2020-21.

The DWQMP has been established and is being adhered to in order to protect public health through the identification and minimisation of public health related risks associated with drinking water. Council is operating under an approved DWQMP, with the approval granted by the Department of Regional Development, Manufacturing and Water (DRDMW).

This Annual Report summarises Council's drinking water quality performance for the reporting period and progress on the implementation of the improvement plan. The report is made available to customers on Council's website and for inspection upon request at the Council office.

1.1. Scope

The report has been prepared to fulfil the legislative DWQMP reporting requirements set out in the *Water Supply (Safety and Reliability) Act 2008* (the Act).

1.2. Purpose

This annual report aims to:

- be a reference document for the Regulator, as well as customers, on Council's performance in relation to the DWQMP reporting obligations under the Act, for the reporting period
- provide a summary of Council's performance in implementing the DWQMP.

2. SCHEME OPERATED

Council is a registered drinking water service provider, with the service provider identification (SPID) number as 146.

Council manages the Cherbourg drinking water supply scheme and distributes treated water to the Cherbourg community. The water supply scheme is comprised of a single raw water source, a water treatment plant, pump stations, service reservoirs and distribution network.

3. DWQMP IMPLEMENTATION

The implementation of the DWQMP is discussed in this section, and also captured in the other sections that follow.

3.1. Risk Management

The process of keeping drinking water safe is one of risk management. Through efficient operations and implementation of the DWQMP, Council has ensured effective risk management to assure safe quality of drinking water to our customers.

During the reporting period, Council supplied drinking water that complied with the water quality criteria set in the Australian Drinking Water Guidelines (ADWG). There was no major incident or event that comprised Council's ability to supply safe quality drinking water to customers.

Council completed a major upgrade of the drinking water infrastructure and telemetry systems during the reporting period to enhance risk management measures.

3.2. Monitoring

Council maintains monitoring programs to ensure that the quality of water supplied to customers is safe. The monitoring programs assist to identify any issue before it becomes a significant water quality incident. The results from the verification monitoring for the reporting period are discussed in Section 4.

Council also undertakes operational monitoring, which includes the planned sequence of measurements and observations to assess and confirm the performance of our preventive or control measures. Measurements are of operational parameters that indicate whether processes are functioning effectively. Installation of SCADA monitoring during the reporting period has strengthened operational monitoring.

Quality assurance is important to guarantee consistently reliable and legally defensible results and ensure customers are provided with the best quality water.

Council has the following quality management systems in place:

- Samples were sent to the QHFSS, which is a NATA accredited laboratory, during the reporting period
- operations staff have been appropriately trained to undertake sampling

3.3. Implementation of Risk Management Improvement Plan (RMIP)

Council maintains a culture of continuous improvement and are implementing the Improvement Plan of the DWQMP and making progress towards strengthening the management of the water supply. During the reporting period, Council reviewed the DWMS and Improvement Plan in April 2021 and obtained the Regulator's approval in June 2021, refer to Section 7.

Detailed status on the former Improvement Plan implementation is presented in Appendix A, as this fell within the reporting period. Progress reporting on the new Improvement Plan will be undertaken in the next Annual Report (21-22).

4. VERIFICATION MONITORING

This section discusses the compliance with the water quality criteria. Council supplied safe quality drinking water to its customers during the reporting period as discussed in the following table.

A summary of the samples tested is included in Table 1. All parameters were compliant as per the ADWG.

Table 1 Drinking water quality performance – verification monitoring

Location	Parameter	Min no. of samples to be collected	No. of samples actually tested	Min. sample result	Max. sample result	Water quality criteria (spec)	No. of non-compliant samples	Comments
Bert Button Lookout Tap (CHER 4)	<i>E. coli</i> (CFU/100mL)	52	32	0.00	0.00	Not detected (ND)	0	✓ Compliant.
	Free Chlorine (mg/L)	52	26	0.05	2.74	NA	NA	✓ Free chlorine is generally maintained in the network.
	Total Chlorine (mg/L)	52	26	0.13	3.00	<5mg/L (H)	0	✓ Compliant.
After Treatment Yard Tap (CHER T)	<i>E. coli</i> (CFU/100mL)	52	32	0.00	0.00	Not detected (ND)	0	✓ Compliant.
	Free Chlorine (mg/L)	52	32	0.21	3.32	NA	NA	✓ Free chlorine leaves the WTP.
	Total Chlorine (mg/L)	52	32	0.37	3.79	<5mg/L (H)	0	✓ Compliant.
Day Care Kitchen Tap (CHER 3)	<i>E. coli</i> (CFU/100mL)	52	31	0.00	0.00	Not detected (ND)	0	✓ Compliant.
	Free Chlorine (mg/L)	52	29	0.15	2.82	NA	NA	✓ Free chlorine is generally maintained in the network.
	Total Chlorine (mg/L)	52	29	0.33	3.12	<5mg/L (H)	0	✓ Compliant.
STP Yard Tap (CHER 1)	<i>E. coli</i> (CFU/100mL)	52	32	0.00	0.00	Not detected (ND)	0	✓ Compliant.
	Free Chlorine (mg/L)	52	32	0.09	2.78	NA	NA	✓ Free chlorine is generally maintained in the network.
	Total Chlorine (mg/L)	52	32	0.18	3.43	<5mg/L (H)	0	✓ Compliant.

Location	Parameter	Min no. of samples to be collected	No. of samples actually tested	Min. sample result	Max. sample result	Water quality criteria (spec)	No. of non-compliant samples	Comments
	Trihalomethanes (THMs) (mg/L)	12	33	0.063	0.26	<0.25 mg/L (H)	1	There was one out-of-spec result. THMs have been an issue but with the plant upgrade recent values are within specification.
Training Room Kitchen Tap (CHER 2)	<i>E. coli</i> (CFU/100mL)	52	32	0.00	0.00	Not detected (ND)	0	✓ Compliant.
	Free Chlorine (mg/L)	52	32	0.02	2.06	NA	NA	✓ Free chlorine is generally maintained in the network.
	Total Chlorine (mg/L)	52	32	0.14	2.39	<5mg/L (H)	0	✓ Compliant.

Variations:

- Across all locations and all parameters, some samples were not taken due to one of the recorded reasons:
 - Samples were not taken as there were no available sample bottles
 - Missed samples
 - FSS laboratory closure
 - Incorrect sampling bottles sent by FSS.
- There were more samples tested at the STP site for THMs than the minimum requirement (1 sample/month).

5. REPORTING TO THE REGULATOR

The following reporting was undertaken to the Regulator for 2020-21 period. Appropriate actions were undertaken to ensure water quality risks were proactively managed.

- DWI-146-19-08233 (Regulator's incident ID) – Nov 20, turbidity issues in the supply. Incident has now been closed.
- DWI-146-20-08731 (Regulator's incident ID) – Dec 20, manganese issues in the supply. Incident has now been closed.

Note, the THMs out-of-spec reading in Table 1 did not create a new incident number. It was captured within an already open incident (which has now been closed).

6. CUSTOMER COMPLAINTS

There was one formal water quality related customer complaints recorded for 2020-21 period. This is detailed in Table 2.

Table 2 Water quality related customer complaints for 20-21 period

Date	Scheme	Issue	Action Taken
16/06/2021	Cherbourg	Odour	Flushed lines and followed up issue on 17/06/2021

7. DWQMP REVIEW OUTCOMES

A minor amendment of the DWQMP was undertaken in October 2020 and submitted to the Regulator for approval by agreement. The minor amendments included: date change on the cover page, change of contact and changes in the RMIP to include updates on the proposed scope of works relating to drinking water infrastructure and the telemetry system upgrades and details of monthly monitoring performance summaries.

The minor amendment was agreed (approved) by the Regulator on 6 November 2020.

A detailed review of the DWQMP was undertaken during March-April 2021, with a risk workshop undertaken on 13 April 2021.

The review outcome was the need for a comprehensive update or amendment to the DWQMP, including sections on water quality data analysis, details of infrastructure for providing the service, risk assessment, RMIP, operation and maintenance procedures, management of incidents and emergencies and monitoring.

These were undertaken and the amended plan was submitted to the Regulator for approval. The amended DWQMP was approved by the Regulator on 25 June 2021.

Hence this Annual Report includes implementation and progress on the 6 November 2020 version of the DWQMP, which was in place for majority of the reporting period. Implementation and progress on the 25 June 2021 version of the DWQMP will be undertaken in the 21-22 Annual Report.

The next regular review of the DWQMP will be conducted by 31 October 2023.

8. DWQMP AUDIT FINDINGS

A regular audit was undertaken and completed on 9 November 2020. It was undertaken by Northern Water Management. The auditor noted compliance issues and provided recommendations around sampling schedule, internal reporting, SCADA monitoring, compliance tracking, asset maintenance, vermin control, jar testing, incident management and risk management.

The risk workshop undertaken on 13 April 2021 for the review of the DWQMP considered the risk assessment and measures comprehensively and identified improvements in the RMIP, as relevant, including general coverage of the non-compliant areas.

Implementation of the RMIP going forward will strengthen compliance.

The next regular audit of the DWQMP must be conducted by 30 June 2025.

9. GLOSSARY

ADWG	Australian Drinking Water Guidelines (2011). Published by the National Health and Medical Research Council of Australia
DRDMW	Department of Regional Development, Manufacturing and Water
DWQMP	Drinking Water Quality Management Plan
<i>E. coli</i>	<i>Escherichia coli</i> , a bacterium which is considered to indicate the presence of faecal contamination and therefore potential health risk
THMs	Trihalomethanes, a group of disinfection by-products that become a potential health risk in elevated concentrations.
Event	Means anything that has happened to the service that has escalated beyond the ability to control and there is concern that public health may be adversely impacted as a result.
Incident	Means a non-compliance with water quality criteria (e.g. exceeding an ADWG health guideline value).
mg/L	Milligrams per litre
CFU/100mL	Colony forming units per 100 millilitres

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Viridis Consultants Pty Ltd
PO Box 131
Bulimba Qld 4171
Australia

1300 799 310

www.viridis.net.au
ABN: 49 129 185 271

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A. IMPROVEMENT PLAN PROGRESS

The improvement actions relevant for this reporting period are included in the Table below with relevant commentary on implementation status.

Component	Item	Action(s)			Comments
		interim	short-term	long-term	
Source	Replace Raw water pump	NA	Ensure maintenance on raw water pump is carried out in timely manner	Replace pump	Completed
Treatment	Clear water tank roof	Investigate possible bypass during rain/ incidents	Close monitoring of free chlorine residual to ensure adequate disinfection	Replace Roof	Completed
Treatment	CWT	Investigate solution to vermin proof access door on roof	Installation of vermin proofing to access door on roof	NA	Completed
Distribution	Distribution main across old bridge	Investigate ability to provide water through other mains if this main is lost.	NA	NA	Completed
Emergency Management Plan	Boil Water Alert Template	NA	Develop BWA template and communications message for broadcast on FM radio station.	NA	Completed
Record Keeping	Chemical data, complaints	NA	NA	Develop formal record keeping procedure	Complaints register (spreadsheet) has been developed.
All of system	Operations and maintenance procedures	Develop a list of Operations and maintenance procedures	Document current practices	Develop formal procedures	In progress, part of the new Improvement Plan.
Reticulation	Replacement of Valves and old pipes in reticulation	Scope of works required	Develop a project plan	Implement project plan	In progress

Component	Item	Action(s)			Comments
		interim	short-term	long-term	
<i>All of system</i>	<i>Drinking water infrastructure and telemetry systems upgrade.</i>	<i>Continue with operational and verification monitoring and as required corrective actions</i>	<i>Monitor work being undertaken by the contractor engaged</i>	<i>Works is completed. Detailed review and update of the DWQMP to reflect current operational circumstances.</i>	<i>Completed (Minor refinements to telemetry in progress)</i>
<i>Monitoring</i>	<i>Monthly performance summary while the DWQMP (following upgrades) will be reviewed, updated and submitted to the Regulator.</i>	<i>Continue with operational and verification monitoring and as required corrective actions</i>	<i>Prepare monthly performance summaries for Oct 20 to March 21 and submit to the Regulator.</i>	<i>Detailed review and update of the DWQMP, including the monitoring programs, as relevant.</i>	<i>Completed</i>