



# Drinking Water Quality Management Plan Report

Richmond Shire Council

SPID: 111

2017-18

This report has been prepared in accordance with the Drinking Water Quality Management Plan Report Guidance Note.

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# 1 Introduction

This is the annual Drinking Water Quality Management Plan report for Richmond Shire Council for the 2017-18 financial year. RSC is a registered service provider with identification (SPID) 111 and operates under an approved DWQMP to ensure consistent and safe supply of quality potable water to protect public health.

The report documents the performance of Richmond Shire Council's Water Treatment Plant's drinking water service with respect to;

- Water quality summary
- DWQMP review findings
- Progress implementing the actions and improvements identified in the Risk Management Improvement plan detailed in the DWQMP as required under the Water Supply (Safety and Reliability) Act 2008 (the Act).

The report is submitted to the Regulator to fulfil our regulatory requirement and is made available to customers.

# 2 Summary of scheme/s operated

**Table 1 – Summary of schemes**

	<i>Water Source</i>	<i>Treatment processes</i>	<i>Treatment capacity</i>	<i>Towns supplied</i>
Richmond	Great Artesian Basin	Oxidation (chlorine and aeration), coagulation/flocculation, filtration & chlorination.	6.5ML/D (WTP), 3ML/d (bores)	Richmond

### **3 DWQMP implementation**

The actions undertaken to implement the DWQMP are summarised below.

During the 2017-18 financial year Richmond undertook a comprehensive review and update of the DWQMP. The review included risk assessment workshops facilitated by an external consultant which engaged RSC staff and were used as a training tool to improve awareness and understanding of regulatory requirements, risks and management practices for all levels of staff including operations, administration and management.

A revised DWQMP was submitted to DNRME on the 31st January 2018. The amended DWQMP was approved by DNRME on the 18<sup>th</sup> May 2018.

Once the new plan was approved RSC commenced moving forward to progress key action items as identified in the Risk Management Improvement Plan (RMIP). Key areas for improvement identified in the Risk review process included;

- Water quality data management and chemical compliance – develop new verification and operational monitoring plans.
- Operational procedures and maintenance logs
- Maintenance scheduling
- Assessment of resources and staff roles

Due to the plans approval being late in the financial year progress is limited and some preliminary target dates which were quite optimistic revised. These dates have also been revised to align better with financial year reporting requirements etc for the future.

The progress linked to “high priority” actions undertaken to implement the risk management improvement program are discussed in Table 2.

**Table 2 – Risk management improvement program implementation status**

Scheme name	Ref	Component	Improvement actions	Target date	Actions taken to date	Status and revised target date	Responsible Officer / Position
Richmond	IP3	System operations	Develop WTP & Bore operating procedures (inspection, preventative maintenance, record keeping). Develop a standardised Council format for procedure development.	Jun 18	Numerous procedures identified. Preliminary works such as labelling all valves and updating drawings for bores so Procedures can be written with clear understanding of asset location etc. backflow prevention annual testing procedure developed. Main break repair procedure developed.	Ongoing project. A number of procedures in progress which will require field testing and implementation. Jun 19 – complete bore operation and maintenance procedures and logs – Jun 20 WTP operations procedures.	Water and Sewerage Officer – External consultant.
Richmond	IP7	Verification monitoring	Review all the verification monitoring program and develop revised verification monitoring. Liaise with Laboratory Services for data transfer. Update DWMP Appendix F.	Jan 18	Request for quotation prepared for laboratories to quote the revised plan as approved. Contract not awarded.	Awarded contract August – implemented September 18.	Director of works
Richmond	IP8	Resourcing	Review operator resource requirements (after appropriate procedures), training requirements and position descriptions.	Jun 18	On – hold – Requires maintenance and routine operations procedures and schedules to be developed in order to define the ‘business as usual’ work load and resource requirements.	On Hold: Jun 20	Director of works – external consultant

Scheme name	Ref	Component	Improvement actions	Target date	Actions taken to date	Status and revised target date	Responsible Officer / Position
Richmond	IP12	Internal testing and Instrument maintenance	Develop online and portable instrument procedures including calibration and maintenance schedules (internal & or external contractors)	Jun 18	Calibration procedures prepared for most instruments – require field testing. Calibration record log sheets to be prepared.	Jun 19	Water and Sewerage officer
Richmond	IP21	Document control and records management	Council to formalise document storage folder structure and location for all DWQMP related documents and records	Jun 18	Investigate data management options complete – upgrade to full version of SWIM local for data recording and alerts. DWQMP Storage developed in InfoXpert Document management system.	Jun 19 – SWIM data base development in progress – tasks scheduling and reporting to be finalised – implementation Feb through June 2019.	Works Administration Officer, Water and Sewerage officer – external consultant.

## 4 Verification monitoring - water quality information and summary

This section discusses the compliance with the water quality criteria. Due to the approval of the DWQMP late in the financial year there is discrepancy between samples scheduled vs. samples collected. The updated DWQMP also specifies monthly sampling and analysis by an external NATA accredited laboratory to validate RSC's internal analysis. The external verification monitoring program is not presented, this is to be implemented 2018-19 as per RMIP revised target (RFQ released but not yet awarded).

Richmond Shire Council has not analysed for chemical physical parameters as per the previous nor current DWQMP in this financial year. Summary statistics for internal analysis of water at the reticulation entry point is summarised below for information. On a monthly basis Richmond has been undertaking routine in house ecoli testing and returned a 100% compliance rate in the 2017-18 financial year. These results are presented in table three below.

**Table 3 – Drinking water quality performance - verification monitoring**

Scheme name	Parameter	No. of samples required to be collected (as per the approved DWQMP)	No. of samples actually collected and tested	Water quality criteria (i.e. ADWG health guideline value)	No. of non-compliant samples	Comments
Richmond	Ecoli	24 (external) + 104 (Internal)	0 (external), 120 (internal)	Not detected	120	100% compliant

Operational monitoring results for the Richmond Water Reticulation entry Point.

	<i>Town Water Turbidity</i>	<i>Town Water pH</i>	<i>Town Water Chlorine residual</i>	<i>Town Water Iron</i>	<i>Town Water Manganese</i>
	NTU	pH	mg/L	mg/L	mg/L
Mean	0.232	7.265	0.948	0.118	0.012
Median	0.230	7.200	0.940	0.130	0.013
Range	0.260	1.410	1.600	0.070	0.008
Minimum	0.140	6.600	0.290	0.080	0.007
Maximum	0.400	8.010	1.890	0.150	0.015
Count	126.000	126.000	126.000	5.000	5.000
Confidence Level (95.0%)	0.007	0.039	0.048	0.039	0.004

**Table 4. E. coli compliance with annual value**

**Drinking water scheme:** Richmond

Year	2017 – 2018												
	Month	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
No. of samples collected	10	10	10	10	10	10	10	10	10	10	10	10	10
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	0
No. of samples collected in previous 12 month period	120	120	120	120	120	120	120	120	120	120	120	120	120
No. of failures for previous 12 month period	0	0	0	0	0	0	0	0	0	0	0	0	0
% of samples that comply	100	100	100	100	100	100	100	100	100	100	100	100	100
Compliance with 98% annual value	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

## 5 Incidents reported to the regulator

No incidents were reported to the regulator in 2017-18.

*Table 5 – Incidents reported to the regulator*

Incident date	Scheme / location	Parameter / issue	Preventive actions



## 7 DWQMP review outcomes

A summary of the outcomes of the review and how issues/changes raised in the review, were actioned is provided in this section. Richmond Shire Council undertook a comprehensive update of the DWQMP in order to incorporate improved controls following the commissioning of a water treatment plant in 2015. The revised DWQMP was approved for implementation in May of 2018. Richmond Shire council is committed to reviewing the DWQMP annually to ensure risk management improvement actions are being addressed and the risk profile is reducing over time. Annual reviews will be conducted between May and August to align with the date of approval and to improve financial year reporting in the future.

**Table 7 – DWQMP review outcomes**

**Review Date: 09/10/17**

Review component	Findings	Outcomes	Status of actions	Responsible Officer / Position
Service description	Did not accurately reflect process control points and new treatment process.	Updated Service description as part of DWQMP Amendment.	Complete	Director of Works
Details of infrastructure	Did not accurately reflect process control points and new treatment process.	Updated infrastructure details to include new WTP.	Complete	Water and Sewer Officer – External Contractor
Water quality and catchment characteristics	Water quality lacking and limited with gaps, external monitoring program not implemented appropriately – old STP chain of custody in use requesting wrong analysis. Developed revised external monitoring program for both chemical and biological compliance for implementation.	Alternative monitoring program developed for approval with amendment to DWQMP	Monitoring program approved – RFQ issued but contract not yet awarded.	Water and Sewer Officer – External Contractor

Review component	Findings	Outcomes	Status of actions	Responsible Officer / Position
Risk assessment	Lacking detail on catchment/collection/WTP/and distribution and whole of supply. No uncertainty ranking.	Complete revision of risks assessments – workshops completed with external contractor and RSC staff.	Risk Tables updated	Water and Sewer Officer – Admin staff – Director of Works - External Contractor
Operations and maintenance procedures	Lacking numerous procedures, current procedures require updating and review.	Numerous procedures identified and associated to specific risks that require development – included in RMIP. Development to be staged based on criticality and risk associated with each procedure.	List of required procedures developed, assess risk and prioritise.	Water and Sewer Officer – Admin staff – Director of Works - External Contractor
Management of incidents and emergencies	Update alert limits – contact details etc.	General update to ensure current emergency response documents and associated references are correct.	Complete – Updated with revised DWQMP	Water and Sewer Officer – Admin staff – Director of Works - External Contractor
Risk management improvement program	Limited and does not address all risks as assessed.	Complete update/re-development of RMIP.	Complete – Updated and approved with amended DWQMP	Water and Sewer Officer – Admin staff – Director of Works - External Contractor
Service wide information management	Lacking detail on document control and data management.	Develop records management procedure assign roles and responsibilities, assess processes to ensure hard copy information is also stored electronically.	Action developed in RMIP	Water and Sewer Officer – Admin staff – Director of Works - External Contractor

Review component	Findings	Outcomes	Status of actions	Responsible Officer / Position
Operational monitoring	Does not reflect current activities due to installation of new WTP and addition of new monitoring points and parameters.	Revised operational monitoring program developed for implementation. Submitted with DWQMP amendment.	Program developed, some aspect yet to be fully implemented in the field.	Water and Sewer Officer – Admin staff – Director of Works - External Contractor
Verification monitoring	Verification monitoring program not reflective of new WTP process, some sample sites differ to those specified.	Revised verification monitoring program developed including external verification to validate RSC internal analysis.	Plan approved may 18, RFQ released but not awarded for external analysis. Implementation 2018-19	Water and Sewer Officer – Admin staff – Director of Works - External Contractor

## **8 DWQMP audit findings**

No Audit was conducted in 2017-18 financial year. Next Audit scheduled for September 2018.

The actions undertaken to address the audit recommendations are outlined in Table 8.

**Table 8 – DWQMP audit findings and status**

Item	Recommendation or OFI	Action	Status of actions	Responsible Officer / Position