REDLAND WATER

SPID: 541

Drinking Water Quality Management Plan (DWQMP) – Annual Report

2016/17

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Redland WATER

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ADWG 2004	Australian Drinking Water Guidelines (2004). Published by the National Health and Medical Research Council of Australia
ADWG 2011	Australian Drinking Water Guidelines (2011). Published by the National Health and Medical Research Council of Australia
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
ALS	ALS Laboratory Group
CFU/100mL	Colony forming units per 100 millilitres
<	Less than
>	Greater than
QUU SAS	Queensland Urban Utilities Scientific Analytical Services

1. Introduction

This report documents the performance of Redland Water's drinking water service with respect to water quality and performance in implementing the actions detailed in the DWQMP as required under the *Water Supply (Safety and Reliability) Act 2008* (the Act).

The report assists the Regulator to determine whether the approved DWQMP and any approval conditions have been complied with and provides a mechanism for providers to report publicly on their performance in managing drinking water quality.

It has been prepared in accordance with the *Guideline for Service Provider Annual Reports*, *July 2013* published by the Department of Environment and Resource Management, Queensland, accessible at www.dews.qld.gov.au.

2. Overview of operations

Redland City Council covers an area of approximately 537 square kilometres and has a population of approximately 150,000 people. Redland Water provides drinking water to Redland City residents through four water supply schemes:

- Redland City and Southern Moreton Bay Islands Supply Scheme
- Dunwich Supply Scheme
- Amity Point Supply Scheme
- Point Lookout Supply Scheme

Redland Water is responsible for receiving bulk water from Seqwater and delivering it to residents through its distribution network. This is done whilst ensuring that the water meets the Australian Drinking Water Guidelines (ADWG).

Redland Water manages drinking water quality through an approved Drinking Water Quality Management Plan (DWQMP) which protects public health by ensuring the provision of a safe water supply.

Redland Water manages, operates and maintains pumping stations and mains as part of its distribution network. Redland Water manages, operates and maintains reservoirs in each of the North Stradbroke Island (NSI) township schemes. Seqwater owns and operates all mainland reservoirs. Redland Water does not operate any re-chlorination facilities in its network.

3. Notifications to the Regulator under sections 102 and 102A of the Act

This financial year there was no instance where the Regulator was notified under sections 102 or 102A of the Act.

3.1 Non-compliances with the water quality criteria and corrective and preventive actions undertaken

100% compliance with the water quality criteria was achieved in all four water supply schemes.

3.2 Prescribed incidents or events reported to the Regulator and corrective and preventive actions undertaken

Incident description: No incident was reported.

Corrective and preventative actions: Nil

4. Actions taken to implement the DWQMP

4.1 Progress in implementing the risk management improvement program

Refer to Appendix B for a summary of progress in implementing each of the Improvement Program actions.

4.2 Revisions made to the operational monitoring program to assist in maintaining compliance with the water quality criteria[1] in verification monitoring

Verification monitoring is the only available option to monitor drinking water quality in the Redland City Council area. Seqwater owns, operates and monitors all chlorine dosing systems at the treatment plants and reservoirs and is responsible for operational monitoring of the system.

4.3 Amendments made to the DWQMP

DWQMP was reviewed on 20 June 2016 and was submitted for approval to the Regulator on 23 June 2016.

5. Customer complaints related to water quality

Redland Water is required to report on the number of complaints, general details of complaints, and the responses undertaken.

Throughout the year the following complaints about water quality were received:

Table 1 – complaints about water quality, (including per 1000 connections)

Water Supply Scheme	Suspected Illness	Discoloured Water	Taste and Odour	Total
Redland City Mainland Water Supply Scheme	0.03	1.33	0.60	1.95
Dunwich Water Supply Scheme	0.00	2.16	0.00	2.16
Point Lookout Water Supply Scheme	0.00	1.67	0.00	1.67
Amity Point Water Supply Scheme	0.00	0.00	0.00	0.00
Total	0.03	1.33	0.58	1.94

[1] Refer to *Water Quality and Reporting Guideline for a Drinking Water Service* for the water quality criteria for drinking water.

5.1 Suspected illness

Complaints are sometimes received from customers who suspect their water may be associated with an illness they are experiencing. Redland Water investigates each complaint relating to alleged illness from our water supply, typically by testing the customer's tap and closest verification sampling point for the presence of *E. coli, Total coliforms* and free chlorine concentration.

During 2016/17 there were no confirmed cases of illness arising from the water supply system.

As a response to any suspected illness customer complaint, samples were taken and tested for E.coli, Total coliforms and free Chlorine.

All samples tested complied with ADWG for parameters tested. Investigation of each complaint found no public health risks.

5.2 Discoloured water

As a response to any discoloured water customer complaints, various water mains were flushed in the vicinity of the complaint.

A regular mains flush program is in place to address this issue.

Dirty water complaints were related to dead-end mains and distribution system areas with low consumption. Associated areas were flushed to remove the dirty water and to increase chlorine residual .

5.3 Taste and odour

As a response to any taste and odour customer complaints, samples were collected and tested for taste and odour and free chlorine concentration test.

All samples tested complied with ADWG for parameter tested.

Field staff explained to all customers the importance of free chlorine in drinking water.

The taste and odour complaints received are usually related to the taste of chlorine in the water supply. Investigation of each complaint found no public health risks.

Redland Water has also set up an internal water taste and odour panel to assist in determining the veracity of customer complaints.

6. Outcome of the review of the DWQMP and how issues raised have been addressed

The review of DWQMP included an update of demand projections, network information and verification monitoring water quality data. Procedures relevant to DWQMP and Emergency Response Plan were reviewed and information related to current use of EPI was updated. There were no changes made to risk rating. Please refer the Appendix B in regard to the required actions to be closed out.

The next internal review of the DWQMP is due before 1 July 2018.

6.1 Hazards and hazardous events that affected the quality of drinking water during the year and which were not addressed in the DWQMP

There were no new hazards or hazardous events identified during the year that were not addressed in the approved DWQMP

7. Findings and recommendations of the DWQMP auditor

There was no external DWQMP audit carried out in 2016/17 Next external DWQMP audit is due by 1 July 2020.

Appendix A – Summary of compliance with water quality criteria

The results from the verification monitoring program have been compared against the levels of the water quality criteria specified by the Regulator in the *Water Quality and Reporting Guideline for a Drinking Water Service*.

The reported statistics do not include results derived from repeat samples, or from emergency or investigative samples undertaken in response to an elevated result

Table 2 – Chemical verification monitoring results

Table 3 – Reticulation E.coli verification monitoring results

Table 2 - Verification Monitoring Redland City and Southern Moreton Bay Islands Supply Scheme July 2016 - June 2017										
Parameter	Laboratory Name	Unit of Measure	Limit of Reporting	Frequency of Sampling	Total No of Samples Taken	No of Samples in which Parameter Detected	No of Samples Exceeding Health Guidelines Value	Min Value	Max value	Average value
Alkalinity	Redland Laboratory	mg/L	1	Quarterly	20	20	~	20	70	47
Aluminium	QUU SAS	mg/L	0.001	Quarterly	20	20	~	0.03	0.05	0.03
Arsenic	QUU SAS	mg/L	0.001	Quarterly	20	0	0	<0.001	<0.001	0
Boron	QUU SAS	mg/L	0.001	Quarterly	20	20	0	0.012	0.035	0.021
Cadmium	QUU SAS	mg/L	0.001	Quarterly	20	0	0	<0.001	<0.001	0
Calcium	QUU SAS	mg/L	0.1	Quarterly	20	20	~	18.0	27.0	22.9
Chloride	QUU SAS	mg/L	1	Quarterly	20	20	~	24	58	39
Chlorine free	Redland Laboratory	mg/L	0.1	Weekly	2421	2402	0	<0.1	2.1	0.8
Chromium	QUU SAS	mg/L	0.001	Quarterly	20	7	0	<0.001	0.001	0
Colour true	Redland Laboratory	Pt/Co U	2	Quarterly	20	0	~	<2	<2	0
Conductivity	Redland Laboratory	µS/cm	1	Quarterly	20	20	~	180	380	271
Copper	QUU SAS	mg/L	0.001	Quarterly	20	20	0	0.003	0.020	0.008
Cyanide	ALS	mg/L	0.004	Quarterly	20	0	0	<0.004	<0.004	0
Fluoride	Redland Laboratory	mg/L	0.1	Weekly	111	111	0	0.3	0.9	0.8
Hardness	Redland Laboratory	mg/L	1	Quarterly	20	20	~	44	86	69
Iron	QUU SAS	mg/L	0.001	Quarterly	20	20	~	0.006	0.028	0.010
Lead	QUU SAS	mg/L	0.001	Quarterly	20	0	0	<0.001	<0.001	0
Mercury	QUU SAS	mg/L	0.0001	Quarterly	20	0	0	<0.0001	<0.0001	0
Magnesium	QUU SAS	mg/L	0.01	Quarterly	20	20	~	1.2	8.6	4.3
Manganese	QUU SAS	mg/L	0.001	Quarterly	20	20	0	0.002	0.005	0.003
Molybdenum	QUU SAS	mg/L	0.001	Quarterly	20	0	0	<0.001	<0.001	0
Nickel	QUU SAS	mg/L	0.001	Quarterly	20	0	0	<0.001	<0.001	0
Nitrate	QUU SAS	mg/L	0.001	Quarterly	20	20	0	0.027	0.290	0.199
pH	Redland Laboratory	pH Units	0.1	Weekly	1982	1982	~	7	8.0	7.4
Potassium	QUU SAS	mg/L	0.01	Quarterly	20	20	~	0.53	3.10	1.6
Selenium	QUU SAS	mg/L	0.001	Quarterly	20	0	0	<0.001	<0.001	0
Silica	QUU SAS	mg/L	0.1	Quarterly	20	20	~	1.8	12.1	8.9
Sodium	QUU SAS	mg/L	1	Quarterly	20	20	~	13	33	22
Sulphate	Redland Laboratory	mg/L	1	Quarterly	20	20	0	2	60	20
Total Dissolved Solids	Redland Laboratory	mg/L	5	Quarterly	20	20	~	100	230	160
Total THMs	QUU SAS	µg/L	<10	Monthly	96	93	0	<10	140	67
Turbidity	Redland Laboratory	NTU	0.1	Weekly	901	901	~	0.1	5.5	0.2
Zinc	QUU SAS	mg/L	0.001	Quarterly	20	18	0	<0.001	0.012	0.003

Table 2 -Verification Monitoring Amity Point Water Supply Scheme July 2016- June 2017										
Parameter	Laboratory Name	Unit of Measure	Limit of Reporting	Frequency of Sampling	Total No of Samples Taken	No of Samples in which Parameter Detected	No of Samples Exceeding Health Guidelines Value	Min Value	Max value	Average value
Alkalinity	Redland Laboratory	mg/L	1	Quarterly	4	4	~	34	36	35
Aluminium	QUU SAS	mg/L	0.001	Quarterly	4	4	~	0.052	0.057	0.055
Arsenic	QUU SAS	mg/L	0.001	Quarterly	4	0	0	<0.001	<0.001	0
Boron	QUU SAS	mg/L	0.001	Quarterly	4	4	0	0.052	0.057	0.055
Cadmium	QUU SAS	mg/L	0.001	Quarterly	4	0	0	<0.001	<0.001	0
Calcium	QUU SAS	mg/L	0.1	Quarterly	4	4	~	9.6	9.9	9.7
Chloride	QUU SAS	mg/L	1	Quarterly	4	4	~	44	50	48
Chlorine free	Redland Laboratory	mg/L	0.1	Weekly	132	132	0	0.3	1.5	1.0
Chromium	QUU SAS	mg/L	0.001	Quarterly	4	0	0	<0.001	<0.001	0
Colour true	Redland Laboratory	Pt/Co U	2	Quarterly	4	0	~	<2	<2	0
Conductivity	Redland Laboratory	µS/cm	1	Quarterly	4	4	~	220	240	230
Copper	QUU SAS	mg/L	0.001	Quarterly	4	4	0	0.002	0.004	0.003
Cyanide	ALS	mg/L	0.004	Quarterly	4	0	0	<0.004	<0.004	0
Fluoride	Redland Laboratory	mg/L	0.1	Weekly	55	55	0	0.7	0.9	0.8
Hardness	Redland Laboratory	mg/L	1	Quarterly	4	4	~	36	41	38
Iron	QUU SAS	mg/L	0.001	Quarterly	4	4	~	0.015	0.025	0.018
Lead	QUU SAS	mg/L	0.001	Quarterly	4	0	0	<0.001	<0.001	0
Mercury	QUU SAS	mg/L	0.0001	Quarterly	4	0	0	<0.0001	<0.0001	0
Magnesium	QUU SAS	mg/L	0.01	Quarterly	4	4	~	2.3	2.7	2.6
Manganese	QUU SAS	mg/L	0.001	Quarterly	4	0	0	<0.001	<0.001	0
Molybdenum	QUU SAS	mg/L	0.001	Quarterly	4	0	0	<0.001	<0.001	0
Nickel	QUU SAS	mg/L	0.001	Quarterly	4	0	0	<0.001	<0.001	0
Nitrate	QUU SAS	mg/L	0.001	Quarterly	4	4	0	0.270	0.280	0.273
pH	Redland Laboratory	pH Units	0.1	Weekly	102	102	~	7.2	8	7.6
Potassium	QUU SAS	mg/L	0.01	Quarterly	4	4	~	0.79	0.84	0.8
Selenium	QUU SAS	mg/L	0.001	Quarterly	4	0	0	<0.001	<0.001	0
Silica	QUU SAS	mg/L	0.1	Quarterly	4	4	~	8.0	9.2	8.5
Sodium	QUU SAS	mg/L	1	Quarterly	4	4	~	27	31	29
Sulphate	Redland Laboratory	mg/L	1	Quarterly	4	4	0	4	5	5
Total Dissolved Solids	Redland Laboratory	mg/L	5	Quarterly	4	4	~	120	130	128
Total THMs	QUU SAS	ug/L	<10	Monthly	12	11	0	<10	56	34
Turbidity	Redland Laboratory	NTU	0.1	Weekly	55	4	~	0.1	0.4	0.2
Zinc	QUU SAS	mg/L	0.001	Quarterly	4	1	0	<0.001	0.001	0

Table 2 -Verification Monitoring Dunwich Water Supply Scheme July 2016 - June 2017										
Parameter	Laboratory Name	Unit of Measure	Limit of Reporting	Frequency of Sampling	Total No of Samples Taken	No of Samples in which Parameter Detected	No of Samples Exceeding Health Guidelines Value	Min Value	Max value	Average value
Alkalinity	Redland Laboratory	mg/L	1	Quarterly	4	4	~	19	20	20
Aluminium	QUU SAS	mg/L	0.001	Quarterly	4	4	~	0.007	0.012	0.010
Arsenic	QUU SAS	mg/L	0.001	Quarterly	4	0	0	<0.001	<0.001	0
Boron	QUU SAS	mg/L	0.001	Quarterly	4	4	0	0.011	0.012	0.011
Cadmium	QUU SAS	mg/L	0.001	Quarterly	4	0	0	<0.001	<0.001	0
Calcium	QUU SAS	mg/L	0.1	Quarterly	4	4	~	8.5	9.7	9.0
Chloride	QUU SAS	mg/L	1	Quarterly	4	4	~	22	28	24
Chlorine free	Redland Laboratory	mg/L	0.1	Weekly	134	134	0	0.4	1.5	1.0
Chromium	QUU SAS	mg/L	0.001	Quarterly	4	0	0	<0.001	<0.001	0
Colour true	Redland Laboratory	Pt/Co U	2	Quarterly	4	0	~	<2	<2	0
Conductivity	Redland Laboratory	µS/cm	1	Quarterly	4	4	~	120	130	125
Copper	QUU SAS	mg/L	0.001	Quarterly	4	4	0	0.014	0.020	0.019
Cyanide	ALS	mg/L	0.004	Quarterly	4	0	0	<0.004	<0.004	0
Fluoride	Redland Laboratory	mg/L	0.1	Weekly	55	55	0	0.2	1.0	0.8
Hardness	Redland Laboratory	mg/L	1	Quarterly	4	4	~	28	33	31
Iron	QUU SAS	mg/L	0.001	Quarterly	4	4	~	0.023	0.034	0.030
Lead	QUU SAS	mg/L	0.001	Quarterly	4	0	0	<0.001	<0.001	0
Mercury	QUU SAS	mg/L	0.0001	Quarterly	4	0	0	<0.0001	<0.0001	0
Magnesium	QUU SAS	mg/L	0.01	Quarterly	4	4	~	0.87	0.97	0.93
Manganese	QUU SAS	mg/L	0.001	Quarterly	4	0	0	<0.001	<0.001	0
Molybdenum	QUU SAS	mg/L	0.001	Quarterly	4	0	0	<0.001	<0.001	0
Nickel	QUU SAS	mg/L	0.001	Quarterly	4	0	0	<0.001	<0.001	0.000
Nitrate	QUU SAS	mg/L	0.001	Quarterly	4	4	0	0.069	0.085	0.075
pH	Redland Laboratory	pH Units	0.1	Weekly	102	102	~	7	8.1	7.5
Potassium	QUU SAS	mg/L	0.01	Quarterly	4	4	~	0.37	0.43	0.41
Selenium	QUU SAS	mg/L	0.001	Quarterly	4	0	0	<0.001	<0.001	0
Silica	QUU SAS	mg/L	0.1	Quarterly	4	4	~	10.2	12.2	11.1
Sodium	QUU SAS	mg/L	1	Quarterly	4	4	~	12	13	13
Sulphate	Redland Laboratory	mg/L	1	Quarterly	4	4	0	1	2	1
Total Dissolved Solids	Redland Laboratory	mg/L	5	Quarterly	4	4	~	66	73	70
Total THMs	QUU SAS	µg/L	<10	Monthly	12	12	0	10	33	19
Turbidity	Redland Laboratory	NTU	0.1	Weekly	55	55	~	0.2	0.6	0.3
Zinc	QUU SAS	mg/L	0.001	Quarterly	4	2	0	<0.001	0.002	0

Table 2 -Verification Monitoring Point Lookout Water Supply Scheme July 2016 - June 2017										
Parameter	Laboratory Name	Unit of Measure	Limit of Reporting	Frequency of Sampling	Total No of Samples Taken	No of Samples in which Parameter Detected	No of Samples Exceeding Health Guidelines Value	Min Value	Max value	Average value
Alkalinity	Redland Laboratory	mg/L	1	Quarterly	4	4	~	15	16	15
Aluminium	QUU SAS	mg/L	0.001	Quarterly	4	4	~	0.020	0.024	0.022
Arsenic	QUU SAS	mg/L	0.001	Quarterly	4	0	0	<0.001	<0.001	0
Boron	QUU SAS	mg/L	0.001	Quarterly	4	4	0	0.017	0.020	0.019
Cadmium	QUU SAS	mg/L	0.001	Quarterly	4	0	0	<0.001	<0.001	0
Calcium	QUU SAS	mg/L	0.1	Quarterly	4	4	~	0.9	1.1	1.1
Chloride	QUU SAS	mg/L	1	Quarterly	4	4	~	45	47	46
Chlorine free	Redland Laboratory	mg/L	0.1	Weekly	132	132	0	<0.1	1.6	1.1
Chromium	QUU SAS	mg/L	0.001	Quarterly	4	1	0	<0.001	0.001	0
Colour true	Redland Laboratory	Pt/Co U	2	Quarterly	4	0	~	<2	<2	0
Conductivity	Redland Laboratory	µS/cm	1	Quarterly	4	4	~	200	210	208
Copper	QUU SAS	mg/L	0.001	Quarterly	4	4	0	0.020	0.020	0.020
Cyanide	ALS	mg/L	0.004	Quarterly	4	0	0	<0.004	<0.004	0
Fluoride	Redland Laboratory	mg/L	0.1	Weekly	55	55	0	0.2	0.9	0.8
Hardness	Redland Laboratory	mg/L	1	Quarterly	4	4	~	28	32	30
Iron	QUU SAS	mg/L	0.001	Quarterly	4	4	~	0.008	0.009	0.008
Lead	QUU SAS	mg/L	0.001	Quarterly	4	0	0	<0.001	<0.001	0
Mercury	QUU SAS	mg/L	0.0001	Quarterly	4	0	0	<0.0001	<0.0001	0
Magnesium	QUU SAS	mg/L	0.01	Quarterly	4	4	~	2.6	2.7	2.7
Manganese	QUU SAS	mg/L	0.001	Quarterly	4	4	0	0.001	0.002	0.002
Molybdenum	QUU SAS	mg/L	0.001	Quarterly	4	0	0	<0.001	<0.001	0
Nickel	QUU SAS	mg/L	0.001	Quarterly	4	0	0	<0.001	<0.001	0
Nitrate	QUU SAS	mg/L	0.001	Quarterly	4	4	0	0.053	0.065	0.058
pH	Redland Laboratory	pH Units	0.1	Weekly	102	102	~	7.2	8.3	7.8
Potassium	QUU SAS	mg/L	0.01	Quarterly	4	4	~	0.93	1.10	1.1
Selenium	QUU SAS	mg/L	0.001	Quarterly	4	0	0	<0.001	<0.001	0
Silica	QUU SAS	mg/L	0.1	Quarterly	4	4	~	9.6	12.3	11.0
Sodium	QUU SAS	mg/L	1	Quarterly	4	4	~	26	29	28
Sulphate	Redland Laboratory	mg/L	1	Quarterly	4	4	0	6	7	7
Total Dissolved Solids	Redland Laboratory	mg/L	5	Quarterly	4	4	~	110	120	118
Total THMs	QUU SAS	µg/L	<10	Monthly	12	6	0	<10	88	12
Turbidity	Redland Laboratory	NTU	0.1	Weekly	54	54	~	0.1	0.4	0.1
Zinc	QUU SAS	mg/L	0.001	Quarterly	4	4	0	0.011	0.017	0.015

Table 3 - Reticulation *E. coli* verification monitoring

Drinking water scheme: Redland City and SMBI Water Supply Scheme

Year	***2016***											
Month	***Jan***	***Feb***	***Mar***	***Apr***	***May***	***June***	***July***	***Aug***	***Sept***	***Oct***	***Nov***	***Dec***
No. of samples collected	52	62	56	52	70	56	56	60	56	63	55	42
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	716	722	719	708	715	712	698	702	702	695	694	680
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

Drinking water scheme: Redland City and SMBI Water Supply Scheme

Year	*2017*											
Month	***Jan***	***Feb***	***Mar***	***Apr***	***May***	***June***	***July***	***Aug***	***Sept***	***Oct***	***Nov***	***Dec***
No. of samples collected	71	56	56	48	70	56						
No. of samples collected in which *E. coli* is detected (i.e. a failure)	0	0	0	0	0	0						
No. of samples collected in previous 12 month period	735	735	732	717	724	721	651	595	539	469	413	357
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

Drinking water scheme: Dunwich Water Supply Scheme

Year	*2016*											
Month	***Jan***	***Feb***	***Mar***	***Apr***	***May***	***June***	***July***	***Aug***	***Sept***	***Oct***	***Nov***	***Dec***
No. of samples collected	8	10	8	8	10	8	8	10	8	10	8	6
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	102	104	104	102	104	104	102	104	104	104	104	102
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

Drinking water scheme: Dunwich Water Supply Scheme

Year	*2017*											
Month	***Jan***	***Feb***	***Mar***	***Apr***	***May***	***June***	***July***	***Aug***	***Sept***	***Oct***	***Nov***	***Dec***
No. of samples collected	10	8	8	8	10	8						
No. of samples collected in which *E. coli* is detected (i.e. a failure)	0	0	0	0	0	0						
No. of samples collected in previous 12 month period	104	104	104	102	104	104	94	86	78	68	60	52
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

Drinking water scheme: Point Lookout Water Supply Scheme

Year	*2016*											
Month	***Jan***	***Feb***	***Mar***	***Apr***	***May***	***June***	***July***	***Aug***	***Sept***	***Oct***	***Nov***	***Dec***
No. of samples collected	8	10	8	8	10	8	8	10	8	10	8	6
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	102	104	104	102	104	104	102	104	104	104	104	102
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

Drinking water scheme: Point Lookout Water Supply Scheme

Year	*2017*											
Month	***Jan***	***Feb***	***Mar***	***Apr***	***May***	***June***	***July***	***Aug***	***Sept***	***Oct***	***Nov***	***Dec***
No. of samples collected	10	8	8	8	10	8						
No. of samples collected in which *E. coli* is detected (i.e. a failure)	0	0	0	0	0	0						
No. of samples collected in previous 12 month period	104	104	104	102	104	104	94	86	78	68	60	52
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

Drinking water scheme: Amity Point Water Supply Scheme

Year	*2016*											
Month	***Jan***	***Feb***	***Mar***	***Apr***	***May***	***June***	***July***	***Aug***	***Sept***	***Oct***	***Nov***	***Dec***
No. of samples collected	8	10	8	8	10	8	8	10	8	10	8	6
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	102	104	104	102	104	104	102	104	104	104	104	102
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

Drinking water scheme: Amity Point Water Supply Scheme

Year	***2017***											
Month	***Jan***	***Feb***	***Mar***	***Apr***	***May***	***June***	***July***	***Aug***	***Sept***	***Oct***	***Nov***	***Dec***
No. of samples collected	10	8	8	8	10	8						
No. of samples collected in which *E. coli* is detected (i.e. a failure)	0	0	0	0	0	0						
No. of samples collected in previous 12 month period	104	104	104	102	104	104	94	86	78	68	60	52
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

Appendix B – Implementation of the DWQMP Risk Management Improvement Program

Risk Management Improvement Program – General Improvements – Update and Completed Works

No.	Risk Type	Management Measure / Requirement	Proposed Action/s	Priority	Responsibility	Due Date	Status	Date Reviewed	Review Comments	New Close out Date	Status	Close out comments
RMIP- GI8	General Improvement	Need to develop a system so O & M staff can more effectively provide asset condition feedback for use in asset management and planning.	Develop a system so O & M staff can more effectively provide asset condition feedback for use in asset management and planning.	2	Kevin McGuire	30/06/2013	Underway	27/05/2014	RCC commenced a project to replace its current maintenance management system. This project should provide better systems for asset condition feedback & recording.	30/06/2019		
RMIP-GI18	General Improvement	Manage water quality trends better	Procure database software solution integrated with RCC's BI	3	Daniela Simon	30/06/2019	Underway	30/06/2017	RCC completed review of 3 possible vendors and database will be purchased in 2017/18 financial year.	30/06/2019		
RMIP-GI19	General Improvement	Review ERP & Develop training and testing modules	Complete review of ERP including training examples	2	Kevin McGuire	30/06/2018	Underway	30/06/2017	ERP revision 5 was completed in June 2016 and emergency respond training will be carry out annually.	30/06/2018		
RMIP-GI20	General Improvement	Development of the maintenance hygiene procedure	Finalise draft procedure	3	Kevin McGuire	30/06/2019	Underway	30/06/2017	The maintenance hygien procedure is in draft version and going through consultation process.	30/06/2019		
RMIP-GI21	General Improvement	Ensure all procedures are reviewed within the appropriate timeframe. The operational procedures around managing the distribution network should be reviewed as priority.	Develop review schedule	3	Daniela Simon	30/06/2018	Completed	30/06/2017				The operational procedures were reviewed in 2016 with review schedule being 3 years; next review is due in 2019.
RMIP-GI22	General Improvement	Investigate the RCC Plumbing & Drainage department processes and records for annual certification of backflow prevention devices.	Develop review schedule	3	Bradley Taylor	30/06/2017	Underway	30/06/2017	Plumbing and drainage team are improving the tracking of RPZs. Re-certification requested for critical RCC installations at closed landfills and wastewater assets	30/06/2019		