



# DWQMP Annual Report

## Financial Year 2014/2015

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## GLOSSARY OF TERMS

Term	Definition
<	Less than
>	Greater than
µg/L	Micro grams per litre
<b>ADWG 2011</b>	Australian Drinking Water Guidelines (2011). Published by the National Health and Medical Research Council of Australia
<b>CFU/100mL</b>	Colony forming units per 100 millilitres
<b>DWQMP</b>	Drinking Water Quality Management Plan
<b><i>E. coli</i></b>	Escherichia coli, a bacterium which is considered to indicate the presence of faecal contamination and therefore potential health risk
<b>HACCP</b>	Hazard Analysis and Critical Control Points certification for protecting drinking water quality
<b>mg/L</b>	Milligrams per litre
<b>MPN/100mL</b>	Most probable number per 100 millilitres
<b>MRC</b>	Mackay Regional Council
<b>NHMRC</b>	National Health and Medical Research Council
<b>NRMMC</b>	Natural Resource Management Ministerial Council
<b>RMIP</b>	Risk Management Improvement Program
<b>SAS</b>	Mackay Water and Waste Services Scientific and Analytical Services Laboratory
<b>SCADA</b>	Supervisory Control and Data Acquisition
<b>the Act</b>	<i>Water Supply (Safety and Reliability) Act 2008</i>
<b>the Regulator</b>	Office of the Water Supply Regulator
<b>WTP</b>	Water Treatment Plant

## 1 INTRODUCTION

The Mackay Regional Council (MRC) Drinking Water Quality Management Plan (DWQMP) was initially approved by the Office of the Water Supply Regulator (the Regulator) on 6 July 2012. An amendment to the DWQMP was approved on 8 December 2014.

The following annual report has been developed to meet the statutory requirements associated with an approved DWQMP under the *Water Supply (Safety and Reliability) Act 2008* (the Act).

### 1.1 Registered Service Details

Service Provider Identification Number (SPID) 489  
Service Provider Name Mackay Regional Council

## 2 IMPLEMENTATION OF THE DWQMP

### 2.1 Risk Management Improvement Program

The MRC DWQMP Risk Management Improvement Program (RMIP) was reviewed and updated as part of the DWQMP internal review and amendment completed in September 2014. The progress of the implementation of each action was reviewed and updated as part of the amendment.

The RMIP will be reviewed and updated as part of the DWQMP internal review and amendment scheduled to be undertaken in January 2016.

### 2.2 Verification Monitoring

The verification monitoring program was reviewed and updated as part of the DWQMP internal review and amendment completed in September 2014. A review and update of the verification monitoring program will be undertaken as part of the DWQMP internal review and amendment schedules to be undertaken in January 2016.

The verification monitoring program has assisted MRC in maintaining water quality through identifying potential problem areas in the reticulation systems. The main water quality issue experienced in the drinking water schemes operated and managed by MRC is low chlorine residual in the reticulation which increases the risk to public health as it is indicative of possible ineffective disinfection. The leading causes for this issue are the climatic conditions of high temperatures; the large variation in demand between the dry season and wet season and in a few applicable schemes, the length and complexity of the reticulation network also plays a part.

Verification monitoring has assisted operations in ensuring chlorine residual is maintained in the extremities of the reticulation network through identifying when the chlorine residual begins to decline in the reticulation network. This has enabled the chlorine dosage at appropriate disinfection facilities to be increased and manual chlorine tablet dosing at appropriate reservoirs to be implemented to ensure the chlorine residual is maintained.

### 2.3 Operational Monitoring

The operational monitoring program was reviewed and updated as part of the DWQMP internal review and amendment completed in September 2014. A review and update of the operational monitoring program will be undertaken as part of the DWQMP internal review and amendment schedules to be undertaken in January 2016. The operational monitoring program has assisted in enhancing the efficiency of the treatment facilities.

## 2.4 Amendments to the DWQMP

The DWQMP underwent an internal review in the 2013/14 financial year and an amended DWQMP was submitted for approval in September 2014. The amended DWQMP was approved on 8 December 2014.

With the new Marian Water Treatment Plant (WTP) now online; MRC acknowledge that the DWQMP will require a review and amendment and this has been scheduled to be completed in January 2016. The amendment will include, but not be limited to, the new operational protocols for the Marian and Mirani schemes as the new WTP will supply both schemes while the current bore supplies for each scheme will be maintained as emergency or event supplies and a risk assessment will be also be completed on the new WTP.

## 3 WATER QUALITY CRITERIA

### 3.1 Drinking Water Quality Criteria

The drinking water quality criteria used to assess compliance were sourced from the ADWG 2011 Health guideline values and the Queensland *Public Health Regulation 2005*. Three water quality non-compliances were recorded for samples collected in the 2014/15 financial year as detailed in Table 4-1.

A tabulated summary of the water quality data analysis for water quality data collected in the 2014/15 financial year has been provided in Sections 3.2 to 3.12.

#### 3.1.1 Rolling 12 Month Annual Value

The rolling 12 month annual value calculated in accordance with the *Public Health Regulation 2005* was also applied to assess drinking water compliance. All drinking water schemes in the 2014/15 financial year met the requirement of 98% of samples taken in a 12 month period should contain no *E. coli* as shown in Table 3-1.

Table 3-1 Rolling 12 Month Annual Value

Date	Water Supply Scheme										
	Mackay	Bloomsbury	Calen	Eton	Finch Hatton	Gargett	Koumala	Marian	Midge Point	Mirani	Sarina
Jul-14	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Aug-14	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Sep-14	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Oct-14	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Date	Water Supply Scheme										
	Mackay	Bloomsbury	Calen	Eton	Finch Hatton	Gargett	Koumala	Marian	Midge Point	Mirani	Sarina
<b>Nov-14</b>	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
<b>Dec-14</b>	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
<b>Jan-15</b>	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
<b>Feb-15</b>	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
<b>Mar-15</b>	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
<b>Apr-15</b>	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
<b>May-15</b>	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
<b>Jun-15</b>	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%



### 3.2 Scheme: Mackay

Table 3-2 Nebo Road WTP Treated Water Quality Data Summary

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Arsenic	mg/L	SAS	1/07/2014	7/04/2015	4	0	<0.001	<0.001	<0.001	0	0.001
Boron	mg/L	SAS	1/07/2014	7/04/2015	10	9	<0.010	0.027	0.018	0	0.01
Cadmium	mg/L	SAS	1/07/2014	7/04/2015	10	0	<0.002	<0.002	<0.002	0	0.002
Chromium	mg/L	SAS	1/07/2014	7/04/2015	10	0	<0.01	<0.01	<0.01	0	0.01
Copper	mg/L	SAS	1/07/2014	29/06/2015	51	27	<0.015	0.037	0.013	0	0.015
<i>E. coli</i>	cfu/100mL	SAS	1/07/2014	29/06/2015	49	0	<1	<1	<1	0	1
<i>E. coli</i>	MPN/100mL	SAS	1/07/2014	29/06/2015	63	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	1/07/2014	29/06/2015	52	52	0.09	0.68	0.55	0	0.01
Lead	mg/L	SAS	1/07/2014	29/06/2015	50	6	<0.003	0.004	0.001	0	0.003
Manganese	mg/L	SAS	1/07/2014	29/06/2015	51	1	<0.004	0.24	0.006	0	0.004
Mercury	mg/L	SAS	1/07/2014	7/04/2015	4	0	<0.0006	<0.001	<0.001	0	0.001
Molybdenum	mg/L	SAS	1/07/2014	7/04/2015	10	0	<0.05	<0.05	<0.05	0	0.05
Nickel	mg/L	SAS	1/07/2014	7/04/2015	10	0	<0.03	<0.03	<0.03	*	0.03
Nitrate	mg/L	SAS	1/07/2014	29/06/2015	52	52	0.38	7.37	1.06	0	0.015
Nitrite	mg/L	SAS	1/07/2014	29/06/2015	52	5	<0.004	0.05	0.004	0	0.004
Selenium	mg/L	SAS	1/07/2014	7/04/2015	4	0	<0.001	<0.001	<0.001	0	0.001
Sulphate	mg/L	SAS	1/07/2014	29/06/2015	52	52	2.215	8.975	3.346	0	0.02
Total Chlorine	mg/L	SAS	1/07/2014	29/06/2015	51	51	0.75	1.62	1.36	0	0.02

\* Limit of Reporting is greater than ADWG 2011 Health guideline value

Table 3-3 Mackay Reticulation Water Quality Data Summary - Andergrove

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Arsenic	mg/L	SAS	5/01/2015	5/01/2015	1	0	<0.001	<0.001	N/A	0	0.001
Boron	mg/L	SAS	5/01/2015	5/01/2015	1	0	<0.010	<0.010	N/A	0	0.01
Cadmium	mg/L	SAS	5/01/2015	5/01/2015	1	0	<0.002	<0.002	N/A	0	0.002
Chromium	mg/L	SAS	5/01/2015	5/01/2015	1	0	<0.01	<0.01	N/A	0	0.01
Copper	mg/L	SAS	8/07/2014	1/06/2015	12	4	<0.015	0.031	0.026	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	8/07/2014	1/06/2015	13	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	8/07/2014	1/06/2015	12	12	0.526	0.637	0.579	0	0.01
Lead	mg/L	SAS	8/07/2014	1/06/2015	12	2	<0.003	0.003	0.001	0	0.003
Manganese	mg/L	SAS	8/07/2014	1/06/2015	12	0	<0.004	<0.004	<0.004	0	0.004
Mercury	mg/L	SAS	5/01/2015	5/01/2015	1	0	<0.001	<0.001	N/A	0	0.001
Molybdenum	mg/L	SAS	5/01/2015	5/01/2015	1	0	<0.05	<0.05	N/A	0	0.05
Nickel	mg/L	SAS	5/01/2015	5/01/2015	1	0	<0.03	<0.03	N/A	*	0.03
Nitrate	mg/L	SAS	8/07/2014	1/06/2015	12	12	0.491	2.507	0.776	0	0.015
Nitrite	mg/L	SAS	8/07/2014	1/06/2015	11	0	<0.004	<0.004	<0.004	0	0.004
Selenium	mg/L	SAS	5/01/2015	5/01/2015	1	0	<0.001	<0.001	N/A	0	0.001
Sulphate	mg/L	SAS	8/07/2014	1/06/2015	12	12	2.455	4.008	3.198	0	0.02
Total Chlorine	mg/L	SAS	8/07/2014	1/06/2015	12	12	0.38	1.07	0.76	0	0.02

\* Limit of Reporting is greater than ADWG 2011 Health guideline value

Table 3-4 Mackay Reticulation Water Quality Data Summary - Aspley Way

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Arsenic	mg/L	SAS	5/01/2015	5/01/2015	1	0	<0.001	<0.001	N/A	0	0.001
Boron	mg/L	SAS	7/10/2014	5/01/2015	2	1	<0.010	0.012	0.008	0	0.01
Cadmium	mg/L	SAS	7/10/2014	5/01/2015	2	0	<0.002	<0.002	<0.002	0	0.002
Chromium	mg/L	SAS	7/10/2014	5/01/2015	2	0	<0.01	<0.01	<0.01	0	0.01
Copper	mg/L	SAS	8/07/2014	1/06/2015	14	0	<0.015	<0.015	<0.015	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	8/07/2014	1/06/2015	14	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	8/07/2014	1/06/2015	14	14	0.443	0.663	0.562	0	0.01
Lead	mg/L	SAS	8/07/2014	1/06/2015	14	0	<0.003	<0.003	<0.003	0	0.003
Manganese	mg/L	SAS	8/07/2014	1/06/2015	14	0	<0.004	<0.004	<0.004	0	0.004
Mercury	mg/L	SAS	7/10/2014	5/01/2015	2	0	<0.001	<0.001	<0.001	0	0.001
Molybdenum	mg/L	SAS	7/10/2014	5/01/2015	2	0	<0.05	<0.05	<0.05	0	0.05
Nickel	mg/L	SAS	7/10/2014	5/01/2015	2	0	<0.03	<0.03	<0.03	*	0.03
Nitrate	mg/L	SAS	8/07/2014	1/06/2015	14	14	0.489	3.262	0.831	0	0.015
Nitrite	mg/L	SAS	8/07/2014	1/06/2015	14	0	<0.004	<0.004	<0.004	0	0.004
Selenium	mg/L	SAS	7/10/2014	5/01/2015	2	0	<0.001	<0.001	<0.001	0	0.001
Sulphate	mg/L	SAS	8/07/2014	1/06/2015	14	14	2.448	4.946	3.303	0	0.02
Total Chlorine	mg/L	SAS	8/07/2014	1/06/2015	15	15	0.13	1.00	0.56	0	0.02

\* Limit of Reporting is greater than ADWG 2011 Health guideline value

Table 3-5 Mackay Reticulation Water Quality Data Summary - Bakers Creek

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Copper	mg/L	SAS	16/07/2014	29/06/2015	11	1	<0.015	0.015	0.006	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	16/07/2014	29/06/2015	12	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	16/07/2014	29/06/2015	11	11	0.377	0.633	0.552	0	0.01
Lead	mg/L	SAS	16/07/2014	29/06/2015	11	1	<0.003	0.003	<0.003	0	0.003
Manganese	mg/L	SAS	16/07/2014	29/06/2015	11	0	<0.004	<0.004	<0.004	0	0.004
Nitrate	mg/L	SAS	16/07/2014	29/06/2015	11	11	0.425	4.937	1.004	0	0.015
Nitrite	mg/L	SAS	16/07/2014	29/06/2015	11	0	<0.004	<0.004	<0.004	0	0.004
Sulphate	mg/L	SAS	16/07/2014	29/06/2015	11	11	2.118	6.065	3.345	0	0.02
Total Chlorine	mg/L	SAS	16/07/2014	29/06/2015	12	12	0.19	1.04	0.63	0	0.02

Table 3-6 Mackay Reticulation Water Quality Data Summary - Ball Bay

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Copper	mg/L	SAS	22/09/2014	22/06/2015	9	1	<0.015	0.053	0.010	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	22/09/2014	22/06/2015	9	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	22/09/2014	22/06/2015	9	9	0.361	0.647	0.522	0	0.01
Lead	mg/L	SAS	22/09/2014	22/06/2015	9	1	<0.003	0.003	<0.003	0	0.003
Manganese	mg/L	SAS	22/09/2014	22/06/2015	9	0	<0.004	<0.004	<0.004	0	0.004
Nitrate	mg/L	SAS	22/09/2014	22/06/2015	9	9	0.482	5.093	1.485	0	0.015
Nitrite	mg/L	SAS	22/09/2014	22/06/2015	9	0	<0.004	<0.004	<0.004	0	0.004
Sulphate	mg/L	SAS	22/09/2014	22/06/2015	9	9	2.609	6.662	3.751	0	0.02
Total Chlorine	mg/L	SAS	22/09/2014	22/06/2015	9	9	0.48	1.72	1.00	0	0.02

Table 3-7 Mackay Reticulation Water Quality Data Summary - Beaconsfield

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Arsenic	mg/L	SAS	5/01/2015	5/01/2015	1	0	<0.001	<0.001	N/A	0	0.001
Boron	mg/L	SAS	5/01/2015	5/01/2015	1	1	0.048	0.048	N/A	0	0.01
Cadmium	mg/L	SAS	5/01/2015	5/01/2015	1	0	<0.002	<0.002	N/A	0	0.002
Chromium	mg/L	SAS	5/01/2015	5/01/2015	1	0	<0.01	<0.01	N/A	0	0.01
Copper	mg/L	SAS	8/07/2014	1/06/2016	11	1	<0.015	0.0205	<0.015	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	8/07/2014	1/06/2016	11	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	8/07/2014	1/06/2016	11	11	0.469	0.624	0.569	0	0.01
Lead	mg/L	SAS	8/07/2014	1/06/2016	11	3	<0.003	0.004	<0.003	0	0.003
Manganese	mg/L	SAS	8/07/2014	1/06/2016	11	0	<0.004	<0.004	<0.004	0	0.004
Mercury	mg/L	SAS	5/01/2015	5/01/2015	1	0	<0.001	<0.001	N/A	0	0.001
Molybdenum	mg/L	SAS	5/01/2015	5/01/2015	1	0	<0.05	<0.05	N/A	0	0.05
Nickel	mg/L	SAS	5/01/2015	5/01/2015	1	0	<0.03	<0.03	N/A	*	0.03
Nitrate	mg/L	SAS	8/07/2014	1/06/2016	11	11	0.495	1.022	0.602	0	0.015
Nitrite	mg/L	SAS	8/07/2014	1/06/2016	11	0	<0.004	<0.004	<0.004	0	0.004
Selenium	mg/L	SAS	5/01/2015	5/01/2015	1	0	<0.001	<0.001	N/A	0	0.001
Sulphate	mg/L	SAS	8/07/2014	1/06/2016	11	11	2.461	3.655	3.020	0	0.02
Total Chlorine	mg/L	SAS	8/07/2014	1/06/2016	11	11	0.49	1.16	0.90	0	0.02

\* Limit of Reporting is greater than ADWG 2011 Health guideline value

Table 3-8 Mackay Reticulation Water Quality Data Summary - Blacks Beach

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Copper	mg/L	SAS	21/07/2014	16/06/2015	10	0	<0.015	<0.015	<0.015	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	21/07/2014	16/06/2015	10	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	21/07/2014	16/06/2015	10	10	0.474	0.619	0.548	0	0.01
Lead	mg/L	SAS	21/07/2014	16/06/2015	10	0	<0.003	<0.003	<0.003	0	0.003
Manganese	mg/L	SAS	21/07/2014	16/06/2015	10	0	<0.004	<0.004	<0.004	0	0.004
Nitrate	mg/L	SAS	21/07/2014	16/06/2015	10	10	0.457	1.955	0.825	0	0.015
Nitrite	mg/L	SAS	21/07/2014	16/06/2015	10	0	<0.004	<0.004	<0.004	0	0.004
Sulphate	mg/L	SAS	21/07/2014	16/06/2015	10	10	2.595	3.676	3.071	0	0.02
Total Chlorine	mg/L	SAS	21/07/2014	16/06/2015	10	10	0.04	1.02	0.52	0	0.02

Table 3-9 Mackay Reticulation Water Quality Data Summary - Bucasia

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Copper	mg/L	SAS	21/07/2014	16/06/2015	10	0	<0.015	<0.015	<0.015	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	21/07/2014	16/06/2015	10	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	21/07/2014	16/06/2015	10	10	0.347	0.625	0.550	0	0.01
Lead	mg/L	SAS	21/07/2014	16/06/2015	10	0	<0.003	<0.003	<0.003	0	0.003
Manganese	mg/L	SAS	21/07/2014	16/06/2015	10	0	<0.004	<0.004	<0.004	0	0.004
Nitrate	mg/L	SAS	21/07/2014	16/06/2015	10	10	0.420	4.063	1.002	0	0.015
Nitrite	mg/L	SAS	21/07/2014	16/06/2015	10	0	<0.004	<0.004	<0.004	0	0.004
Sulphate	mg/L	SAS	21/07/2014	16/06/2015	10	6	<0.015	0.033	0.017	0	0.02
Total Chlorine	mg/L	SAS	21/07/2014	16/06/2015	10	10	0.30	1.27	0.84	0	0.02

Table 3-10 Mackay Reticulation Water Quality Data Summary - East Mackay

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Arsenic	mg/L	SAS	2/07/2014	7/04/2015	2	0	<0.001	<0.001	<0.001	0	0.001
Boron	mg/L	SAS	2/07/2014	7/04/2015	2	2	0.012	0.018	0.015	0	0.01
Cadmium	mg/L	SAS	2/07/2014	7/04/2015	2	0	<0.002	<0.002	<0.002	0	0.002
Chromium	mg/L	SAS	2/07/2014	7/04/2015	2	0	<0.01	<0.01	<0.01	0	0.01
Copper	mg/L	SAS	2/07/2014	9/06/2015	16	0	<0.015	<0.015	<0.015	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	2/07/2014	18/05/2015	16	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	2/07/2014	9/06/2015	16	16	0.104	0.591	0.493	0	0.01
Lead	mg/L	SAS	2/07/2014	9/06/2015	16	0	<0.003	<0.003	<0.003	0	0.003
Manganese	mg/L	SAS	2/07/2014	9/06/2015	16	1	<0.004	0.004	<0.004	0	0.004
Mercury	mg/L	SAS	2/07/2014	7/04/2015	2	0	<0.0006	<0.001	<0.001	0	0.001/0.0006
Molybdenum	mg/L	SAS	2/07/2014	7/04/2015	2	0	<0.05	<0.05	<0.05	0	0.05
Nickel	mg/L	SAS	2/07/2014	7/04/2015	2	0	<0.03	<0.03	<0.03	*	0.03
Nitrate	mg/L	SAS	2/07/2014	9/06/2015	16	16	0.399	5.154	1.183	0	0.015
Nitrite	mg/L	SAS	2/07/2014	9/06/2015	16	0	<0.004	<0.004	<0.004	0	0.004
Selenium	mg/L	SAS	2/07/2014	7/04/2015	2	0	<0.001	<0.001	<0.001	0	0.001
Sulphate	mg/L	SAS	2/07/2014	9/06/2015	16	16	2.414	5.981	3.415	0	0.02
Total Chlorine	mg/L	SAS	2/07/2014	18/05/2015	16	16	0.26	1.29	0.86	0	0.02

\* Limit of Reporting is greater than ADWG 2011 Health guideline value

Table 3-11 Mackay Reticulation Water Quality Data Summary - Eimeo

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Copper	mg/L	SAS	21/07/2014	16/06/2015	11	0	<0.015	<0.015	<0.015	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	21/07/2014	16/06/2015	10	0	<1	<1	N/A	0	1
Fluoride	mg/L	SAS	21/07/2014	16/06/2015	10	10	0.461	0.640	0.548	0	0.01
Lead	mg/L	SAS	21/07/2014	16/06/2015	11	0	<0.003	<0.003	<0.003	0	0.003
Manganese	mg/L	SAS	21/07/2014	16/06/2015	10	0	<0.004	<0.004	<0.004	0	0.004
Nitrate	mg/L	SAS	21/07/2014	16/06/2015	10	10	0.454	1.911	0.820	0	0.015
Nitrite	mg/L	SAS	21/07/2014	16/06/2015	10	0	<0.004	<0.004	<0.004	0	0.004
Sulphate	mg/L	SAS	21/07/2014	16/06/2015	11	11	2.612	3.664	3.057	0	0.02
Total Chlorine	mg/L	SAS	21/07/2014	16/06/2015	10	10	0.10	1.06	0.53	0	0.02

Table 3-12 Mackay Reticulation Water Quality Data Summary - Farleigh

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Copper	mg/L	SAS	22/09/2014	22/06/2015	9	0	<0.015	<0.015	<0.015	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	22/09/2014	22/06/2015	9	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	22/09/2014	22/06/2015	9	9	0.367	0.610	0.538	0	0.01
Lead	mg/L	SAS	22/09/2014	22/06/2015	9	0	<0.003	<0.003	<0.003	0	0.003
Manganese	mg/L	SAS	22/09/2014	22/06/2015	9	0	<0.004	<0.004	<0.004	0	0.004
Nitrate	mg/L	SAS	22/09/2014	22/06/2015	9	9	0.483	4.788	1.458	0	0.015
Nitrite	mg/L	SAS	22/09/2014	22/06/2015	9	0	<0.004	<0.004	<0.004	0	0.004
Sulphate	mg/L	SAS	22/09/2014	22/06/2015	9	5	<0.015	0.082	0.035	0	0.02
Total Chlorine	mg/L	SAS	22/09/2014	22/06/2015	9	9	0.57	1.97	1.29	0	0.02

Table 3-13 Mackay Reticulation Water Quality Data Summary - Glenella

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Arsenic	mg/L	SAS	7/10/2014	5/01/2015	2	0	<0.001	<0.001	<0.001	0	0.001
Boron	mg/L	SAS	7/10/2014	5/01/2015	2	2	0.034	0.034	0.034	0	0.01
Cadmium	mg/L	SAS	7/10/2014	5/01/2015	2	0	<0.002	<0.002	<0.002	0	0.002
Chromium	mg/L	SAS	7/10/2014	5/01/2015	2	0	<0.01	<0.01	<0.01	0	0.01
Copper	mg/L	SAS	8/07/2014	22/06/2015	15	0	<0.015	<0.015	<0.015	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	8/07/2014	22/06/2015	15	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	8/07/2014	22/06/2015	15	15	0.483	0.652	0.565	0	0.01
Lead	mg/L	SAS	8/07/2014	22/06/2015	15	1	<0.003	0.003	<0.003	0	0.003
Manganese	mg/L	SAS	8/07/2014	22/06/2015	15	0	<0.004	<0.004	<0.004	0	0.004
Mercury	mg/L	SAS	7/10/2014	5/01/2015	2	0	<0.001	<0.001	<0.001	0	0.001
Molybdenum	mg/L	SAS	7/10/2014	5/01/2015	2	0	<0.05	<0.05	<0.05	0	0.05
Nickel	mg/L	SAS	7/10/2014	5/01/2015	2	0	<0.03	<0.03	<0.03	*	0.03
Nitrate	mg/L	SAS	8/07/2014	22/06/2015	15	15	0.506	2.929	0.762	0	0.015
Nitrite	mg/L	SAS	8/07/2014	22/06/2015	15	1	<0.004	0.019	<0.004	0	0.004
Selenium	mg/L	SAS	7/10/2014	5/01/2015	2	0	<0.001	<0.001	0.001	0	0.001
Sulphate	mg/L	SAS	8/07/2014	22/06/2015	15	15	2.454	4.604	3.103	0	0.02
Total Chlorine	mg/L	SAS	8/07/2014	22/06/2015	11	11	0.29	1.15	0.72	0	0.02

\* Limit of Reporting is greater than ADWG 2011 Health guideline value



Table 3-14 Mackay Reticulation Water Quality Data Summary - Iluka Park

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Arsenic	mg/L	SAS	2/07/2014	7/04/2015	2	0	<0.001	<0.001	<0.001	0	0.001
Boron	mg/L	SAS	2/07/2014	7/04/2015	2	2	0.01	0.014	0.012	0	0.01
Cadmium	mg/L	SAS	2/07/2014	7/04/2015	2	0	<0.002	<0.002	<0.002	0	0.002
Chromium	mg/L	SAS	2/07/2014	7/04/2015	2	0	<0.01	<0.01	<0.01	0	0.01
Copper	mg/L	SAS	2/07/2014	9/06/2015	14	1	<0.015	0.05	<0.015	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	2/07/2014	18/05/2015	14	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	2/07/2014	9/06/2015	14	14	0.211	0.590	0.522	0	0.01
Lead	mg/L	SAS	2/07/2014	9/06/2015	14	0	<0.003	<0.003	<0.003	0	0.003
Manganese	mg/L	SAS	2/07/2014	9/06/2015	14	0	<0.004	<0.004	<0.004	0	0.004
Mercury	mg/L	SAS	2/07/2014	7/04/2015	2	0	<0.0006	<0.001	<0.001	0	0.0006/0.001
Molybdenum	mg/L	SAS	2/07/2014	7/04/2015	2	0	<0.05	<0.05	<0.05	0	0.05
Nickel	mg/L	SAS	2/07/2014	7/04/2015	2	0	<0.03	<0.03	<0.03	*	0.03
Nitrate	mg/L	SAS	2/07/2014	9/06/2015	14	14	0.410	5.182	0.980	0	0.015
Nitrite	mg/L	SAS	2/07/2014	9/06/2015	14	0	<0.004	<0.004	<0.004	0	0.004
Selenium	mg/L	SAS	2/07/2014	7/04/2015	2	0	<0.001	<0.001	0.001	0	0.001
Sulphate	mg/L	SAS	2/07/2014	9/06/2015	14	14	2.496	6.053	3.288	0	0.02
Total Chlorine	mg/L	SAS	2/07/2014	18/05/2015	14	14	0.05	1.24	0.67	0	0.02

\* Limit of Reporting is greater than ADWG 2011 Health guideline value

Table 3-15 Mackay Reticulation Water Quality Data Summary - Leap Pump Station

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Copper	mg/L	SAS	22/09/2014	22/06/2015	9	0	<0.015	<0.015	<0.015	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	22/09/2014	22/06/2015	9	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	22/09/2014	22/06/2015	9	9	0.413	0.603	0.546	0	0.01
Lead	mg/L	SAS	22/09/2014	22/06/2015	9	0	<0.003	<0.003	<0.003	0	0.003
Manganese	mg/L	SAS	22/09/2014	22/06/2015	9	0	<0.004	<0.004	<0.004	0	0.004
Nitrate	mg/L	SAS	22/09/2014	22/06/2015	9	9	0.494	4.185	1.341	0	0.015
Nitrite	mg/L	SAS	22/09/2014	22/06/2015	9	0	<0.004	<0.004	<0.004	0	0.004
Sulphate	mg/L	SAS	22/09/2014	22/06/2015	9	9	2.520	5.570	3.607	0	0.02
Total Chlorine	mg/L	SAS	22/09/2014	22/06/2015	9	9	0.45	1.97	1.37	0	0.02

Table 3-16 Mackay Reticulation Water Quality Data Summary - Leap View Estate

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Copper	mg/L	SAS	29/12/2014	22/06/2015	6	0	<0.015	<0.015	<0.015	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	29/12/2014	22/06/2015	6	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	29/12/2014	22/06/2015	6	6	0.372	0.608	0.507	0	0.01
Lead	mg/L	SAS	29/12/2014	22/06/2015	6	0	<0.003	<0.003	<0.003	0	0.003
Manganese	mg/L	SAS	29/12/2014	22/06/2015	6	0	<0.004	<0.004	<0.004	0	0.004
Nitrate	mg/L	SAS	29/12/2014	22/06/2015	6	6	0.631	4.722	1.827	0	0.015
Nitrite	mg/L	SAS	29/12/2014	22/06/2015	6	0	<0.004	<0.004	<0.004	0	0.004
Sulphate	mg/L	SAS	29/12/2014	22/06/2015	6	6	2.606	6.156	3.736	0	0.02
Total Chlorine	mg/L	SAS	31/07/2014	22/06/2015	7	7	0.22	1.98	1.04	0	0.02

Table 3-17 Mackay Reticulation Water Quality Data Summary - Mackay Harbour

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Arsenic	mg/L	SAS	7/10/2014	5/01/2015	2	0	<0.001	<0.001	N/A	0	0.001
Boron	mg/L	SAS	7/10/2014	5/01/2015	2	1	<0.010	0.017	0.010	0	0.01
Cadmium	mg/L	SAS	7/10/2014	5/01/2015	2	0	<0.002	<0.002	N/A	0	0.002
Chromium	mg/L	SAS	7/10/2014	5/01/2015	2	0	<0.01	<0.01	N/A	0	0.01
Copper	mg/L	SAS	8/07/2014	1/06/2015	14	0	<0.015	<0.015	<0.015	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	8/07/2014	1/06/2015	14	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	8/07/2014	1/06/2015	14	14	0.410	0.613	0.545	0	0.01
Lead	mg/L	SAS	8/07/2014	1/06/2015	14	1	<0.003	0.0032	<0.003	0	0.003
Manganese	mg/L	SAS	8/07/2014	1/06/2015	14	0	<0.004	<0.004	<0.004	0	0.004
Mercury	mg/L	SAS	7/10/2014	5/01/2015	2	0	<0.001	<0.001	N/A	0	0.001
Molybdenum	mg/L	SAS	7/10/2014	5/01/2015	2	0	<0.05	<0.05	N/A	0	0.05
Nickel	mg/L	SAS	7/10/2014	5/01/2015	2	0	<0.03	<0.03	N/A	*	0.03
Nitrate	mg/L	SAS	8/07/2014	1/06/2015	14	14	0.477	5.609	1.243	0	0.015
Nitrite	mg/L	SAS	8/07/2014	1/06/2015	14	0	<0.004	<0.004	<0.004	0	0.004
Selenium	mg/L	SAS	7/10/2014	5/01/2015	2	0	<0.001	<0.001	N/A	0	0.001
Sulphate	mg/L	SAS	8/07/2014	1/06/2015	14	14	2.479	7.126	3.710	0	0.02
Total Chlorine	mg/L	SAS	8/07/2014	1/06/2015	14	14	0.42	2.16	1.62	0	0.02

\* Limit of Reporting is greater than ADWG 2011 Health guideline value

Table 3-18 Mackay Reticulation Water Quality Data Summary - McEwens Beach

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Copper	mg/L	SAS	16/07/2014	29/06/2015	11	0	<0.015	<0.015	<0.015	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	16/07/2014	29/06/2015	12	1	<1	2	<1	1	1
Fluoride	mg/L	SAS	16/07/2014	29/06/2015	11	11	0.308	0.635	0.544	0	0.01
Lead	mg/L	SAS	16/07/2014	29/06/2015	11	0	<0.003	<0.003	<0.003	0	0.003
Manganese	mg/L	SAS	16/07/2014	29/06/2015	11	0	<0.004	<0.004	<0.004	0	0.004
Nitrate	mg/L	SAS	16/07/2014	29/06/2015	11	11	0.443	5.005	1.338	0	0.015
Nitrite	mg/L	SAS	16/07/2014	29/06/2015	11	0	<0.004	<0.004	<0.004	0	0.004
Sulphate	mg/L	SAS	16/07/2014	29/06/2015	11	11	2.321	7.072	3.586	0	0.02
Total Chlorine	mg/L	SAS	16/07/2014	29/06/2015	17	17	0.03	0.90	0.31	0	0.02

Table 3-19 Mackay Reticulation Water Quality Data Summary - MRC Library

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Copper	mg/L	SAS	21/07/2014	9/06/2015	14	4	<0.015	0.113	0.024	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	21/07/2014	18/05/2015	14	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	21/07/2014	9/06/2015	14	14	0.124	0.634	0.524	0	0.01
Lead	mg/L	SAS	21/07/2014	9/06/2015	14	2	<0.003	0.007	<0.003	0	0.003
Manganese	mg/L	SAS	21/07/2014	9/06/2015	14	1	<0.004	0.008	<0.004	0	0.004
Nitrate	mg/L	SAS	21/07/2014	9/06/2015	14	14	0.341	1.724	0.690	0	0.015
Nitrite	mg/L	SAS	21/07/2014	9/06/2015	14	0	<0.004	<0.004	<0.004	0	0.004
Sulphate	mg/L	SAS	21/07/2014	9/06/2015	14	14	2.403	3.665	3.034	0	0.02
Total Chlorine	mg/L	SAS	21/07/2014	18/05/2015	14	14	0.63	1.15	0.87	0	0.02

Table 3-20 Mackay Reticulation Water Quality Data Summary - North Mackay

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Arsenic	mg/L	SAS	7/10/2014	7/10/2014	1	0	<0.001	<0.001	N/A	0	0.001
Boron	mg/L	SAS	7/10/2014	7/10/2014	2	2	0.0153	0.019	0.017	0	0.01
Cadmium	mg/L	SAS	7/10/2014	7/10/2014	2	0	<0.002	<0.002	<0.002	0	0.002
Chromium	mg/L	SAS	7/10/2014	7/10/2014	2	0	<0.01	<0.01	<0.01	0	0.01
Copper	mg/L	SAS	17/07/2014	16/06/2015	15	0	<0.015	<0.015	<0.015	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	17/07/2014	16/06/2015	15	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	17/07/2014	16/06/2015	15	15	0.221	0.698	0.586	0	0.01
Lead	mg/L	SAS	17/07/2014	16/06/2015	15	2	<0.003	0.0032	<0.003	0	0.003
Manganese	mg/L	SAS	17/07/2014	16/06/2015	15	0	<0.004	<0.004	<0.004	0	0.004
Mercury	mg/L	SAS	7/10/2014	7/10/2014	1	0	<0.001	<0.001	N/A	0	0.001
Molybdenum	mg/L	SAS	7/10/2014	7/10/2014	2	0	<0.05	<0.05	<0.05	0	0.05
Nickel	mg/L	SAS	7/10/2014	7/10/2014	2	0	<0.03	<0.03	<0.03	*	0.03
Nitrate	mg/L	SAS	17/07/2014	16/06/2015	15	15	0.403	4.765	1.112	0	0.015
Nitrite	mg/L	SAS	17/07/2014	16/06/2015	15	1	<0.004	0.019	<0.004	0	0.004
Selenium	mg/L	SAS	7/10/2014	7/10/2014	1	0	<0.001	<0.001	N/A	0	0.001
Sulphate	mg/L	SAS	17/07/2014	16/06/2015	15	15	2.636	5.832	3.463	0	0.02
Total Chlorine	mg/L	SAS	17/07/2014	16/06/2015	15	15	0.34	1.24	0.74	0	0.02

\* Limit of Reporting is greater than ADWG 2011 Health guideline value

Table 3-21 Mackay Reticulation Water Quality Data Summary - Paget

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Arsenic	mg/L	SAS	7/10/2014	7/10/2014	1	0	<0.001	<0.001	N/A	0	0.001
Boron	mg/L	SAS	7/10/2014	7/10/2014	1	1	0.073	0.073	N/A	0	0.01
Cadmium	mg/L	SAS	7/10/2014	7/10/2014	1	0	<0.002	<0.002	N/A	0	0.002
Chromium	mg/L	SAS	7/10/2014	7/10/2014	1	0	<0.01	<0.01	N/A	0	0.01
Copper	mg/L	SAS	16/07/2014	29/06/2015	13	2	<0.015	0.039	<0.015	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	16/07/2014	29/06/2015	14	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	16/07/2014	29/06/2015	13	0	0.148	0.68	0.494	0	0.01
Lead	mg/L	SAS	16/07/2014	29/06/2015	13	3	<0.003	0.006	<0.003	0	0.003
Manganese	mg/L	SAS	16/07/2014	29/06/2015	13	2	<0.004	0.012	<0.004	0	0.004
Mercury	mg/L	SAS	7/10/2014	7/10/2014	1	0	<0.001	<0.001	N/A	0	0.001
Molybdenum	mg/L	SAS	7/10/2014	7/10/2014	1	0	<0.05	<0.05	N/A	0	0.05
Nickel	mg/L	SAS	7/10/2014	7/10/2014	1	0	<0.03	<0.03	N/A	*	0.03
Nitrate	mg/L	SAS	16/07/2014	29/06/2015	13	13	0.458	1.2	0.723	0	0.015
Nitrite	mg/L	SAS	16/07/2014	29/06/2015	13	0	<0.004	<0.004	<0.004	0	0.004
Selenium	mg/L	SAS	7/10/2014	7/10/2014	1	0	<0.001	<0.001	N/A	0	0.001
Sulphate	mg/L	SAS	16/07/2014	29/06/2015	13	13	2.157	3.863	3.183	0	0.02
Total Chlorine	mg/L	SAS	16/07/2014	29/06/2015	14	14	0.25	1.25	0.72	0	0.02

\* Limit of Reporting is greater than ADWG 2011 Health guideline value

Table 3-22 Mackay Reticulation Water Quality Data Summary - Planlands

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Arsenic	mg/L	SAS	2/07/2014	7/04/2014	2	0	<0.001	<0.001	N/A	0	0.001
Boron	mg/L	SAS	2/07/2014	7/04/2014	2	1	<0.010	0.015	<0.010	0	0.01
Cadmium	mg/L	SAS	2/07/2014	7/04/2014	2	0	<0.002	<0.002	N/A	0	0.002
Chromium	mg/L	SAS	2/07/2014	7/04/2014	2	0	<0.01	<0.01	N/A	0	0.01
Copper	mg/L	SAS	2/07/2014	10/06/2015	15	1	<0.015	0.017	<0.015	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	2/07/2014	10/06/2015	16	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	2/07/2014	10/06/2015	15	15	0.185	0.615	0.524	0	0.01
Lead	mg/L	SAS	2/07/2014	10/06/2015	15	2	<0.003	0.003	<0.003	0	0.003
Manganese	mg/L	SAS	2/07/2014	10/06/2015	15	0	<0.004	<0.004	<0.004	0	0.004
Mercury	mg/L	SAS	2/07/2014	7/04/2014	2	0	<0.0006	<0.001	<0.001	0	0.0006/0.001
Molybdenum	mg/L	SAS	2/07/2014	7/04/2014	2	0	<0.05	<0.05	<0.05	0	0.05
Nickel	mg/L	SAS	2/07/2014	7/04/2014	2	0	<0.03	<0.03	<0.05	*	0.03
Nitrate	mg/L	SAS	2/07/2014	10/06/2015	15	15	0.412	5.242	0.942	0	0.015
Nitrite	mg/L	SAS	2/07/2014	10/06/2015	15	0	<0.004	<0.004	0.005	0	0.004
Selenium	mg/L	SAS	2/07/2014	7/04/2014	2	1	0.0027	0.0027	N/A	0	0.001
Sulphate	mg/L	SAS	2/07/2014	10/06/2015	15	15	2.512	6.314	3.366	0	0.02
Total Chlorine	mg/L	SAS	2/07/2014	10/06/2015	16	16	0.57	1.29	0.95	0	0.02

\* Limit of Reporting is greater than ADWG 2011 Health guideline value

Table 3-23 Mackay Reticulation Water Quality Data Summary - Rural View

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Copper	mg/L	SAS	25/08/2014	29/06/2015	11	0	<0.015	<0.015	<0.015	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	25/08/2014	29/06/2015	11	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	25/08/2014	29/06/2015	11	11	0.392	0.638	0.567	0	0.01
Lead	mg/L	SAS	25/08/2014	29/06/2015	11	0	<0.003	<0.003	<0.003	0	0.003
Manganese	mg/L	SAS	25/08/2014	29/06/2015	11	0	<0.004	<0.004	<0.004	0	0.004
Nitrate	mg/L	SAS	25/08/2014	29/06/2015	11	11	0.47	2.687	0.805	0	0.015
Nitrite	mg/L	SAS	25/08/2014	29/06/2015	11	1	<0.004	0.004	<0.004	0	0.004
Sulphate	mg/L	SAS	25/08/2014	29/06/2015	11	11	1.942	3.71	3.1	0	0.02
Total Chlorine	mg/L	SAS	25/08/2014	29/06/2015	11	11	0.59	1.40	1.05	0	0.02

Table 3-24 Mackay Reticulation Water Quality Data Summary - Seaforth

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Copper	mg/L	SAS	22/09/2014	22/06/2015	10	0	<0.015	<0.015	<0.015	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	22/09/2014	22/06/2015	10	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	22/09/2014	22/06/2015	10	10	0.286	0.586	0.509	0	0.01
Lead	mg/L	SAS	22/09/2014	22/06/2015	10	1	<0.003	0.0034	<0.003	0	0.003
Manganese	mg/L	SAS	22/09/2014	22/06/2015	10	0	<0.004	<0.004	<0.004	0	0.004
Nitrate	mg/L	SAS	22/09/2014	22/06/2015	10	10	0.447	4.544	1.342	0	0.015
Nitrite	mg/L	SAS	22/09/2014	22/06/2015	10	1	<0.004	0.023	<0.004	0	0.004
Sulphate	mg/L	SAS	22/09/2014	22/06/2015	10	10	2.6	6.196	3.881	0	0.02
Total Chlorine	mg/L	SAS	22/09/2014	22/06/2015	11	11	0.06	1.58	0.723	0	0.02

Table 3-25 Mackay Reticulation Water Quality Data Summary - Shoal Point

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Copper	mg/L	SAS	21/07/2014	16/06/2014	10	0	<0.015	<0.015	<0.015	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	21/07/2014	16/06/2014	10	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	21/07/2014	16/06/2014	10	10	0.51	0.846	0.590	0	0.01
Lead	mg/L	SAS	21/07/2014	16/06/2014	10	0	<0.003	<0.003	<0.003	0	0.003
Manganese	mg/L	SAS	21/07/2014	16/06/2014	10	0	<0.004	<0.004	<0.004	0	0.004
Nitrate	mg/L	SAS	21/07/2014	16/06/2014	10	10	0.458	1.928	0.833	0	0.015
Nitrite	mg/L	SAS	21/07/2014	16/06/2014	10	0	<0.004	<0.004	<0.004	0	0.004
Sulphate	mg/L	SAS	21/07/2014	16/06/2014	10	10	2.648	3.976	3.251	0	0.02
Total Chlorine	mg/L	SAS	21/07/2014	16/06/2014	10	15	0.12	1.08	0.60	0	0.02



Table 3-26 Mackay Reticulation Water Quality Data Summary - Slade Point

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Arsenic	mg/L	SAS	7/10/2014	5/01/2015	2	0	<0.001	<0.001	N/A	0	0.001
Boron	mg/L	SAS	7/10/2014	5/01/2015	2	1	<0.010	0.014	<0.010	0	0.01
Cadmium	mg/L	SAS	7/10/2014	5/01/2015	2	0	<0.002	<0.002	N/A	0	0.002
Chromium	mg/L	SAS	7/10/2014	5/01/2015	2	0	<0.01	<0.01	N/A	0	0.01
Copper	mg/L	SAS	8/07/2014	1/06/2015	14	1	<0.015	0.016	<0.015	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	8/07/2014	1/06/2015	14	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	8/07/2014	1/06/2015	14	14	0.46	0.63	0.55	0	0.01
Lead	mg/L	SAS	8/07/2014	1/06/2015	14	3	<0.003	0.0046	<0.003	0	0.003
Manganese	mg/L	SAS	8/07/2014	1/06/2015	14	0	<0.004	<0.004	<0.004	0	0.004
Mercury	mg/L	SAS	7/10/2014	5/01/2015	2	0	<0.001	<0.001	<0.001	0	0.001
Molybdenum	mg/L	SAS	7/10/2014	5/01/2015	2	0	<0.05	<0.05	<0.05	0	0.05
Nickel	mg/L	SAS	7/10/2014	5/01/2015	2	0	<0.03	<0.03	<0.03	*	0.03
Nitrate	mg/L	SAS	8/07/2014	1/06/2015	11	11	0.49	3.481	0.940	0	0.015
Nitrite	mg/L	SAS	8/07/2014	1/06/2015	11	0	<0.004	<0.004	<0.004	0	0.004
Selenium	mg/L	SAS	7/10/2014	5/01/2015	2	0	<0.001	<0.001	<0.001	0	0.001
Sulphate	mg/L	SAS	7/10/2014	5/01/2015	11	11	2.453	5.006	3.328	0	0.02
Total Chlorine	mg/L	SAS	7/10/2014	5/01/2015	12	12	0.15	1.36	0.67	0	0.02

\* Limit of Reporting is greater than ADWG 2011 Health guideline value



Table 3-27 Mackay Reticulation Water Quality Data Summary - South Mackay

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Arsenic	mg/L	SAS	2/07/2014	7/04/2015	2	0	<0.001	<0.001	<0.001	0	0.001
Boron	mg/L	SAS	2/07/2014	7/04/2015	2	2	0.013	0.015	0.014	0	0.01
Cadmium	mg/L	SAS	2/07/2014	7/04/2015	2	0	<0.002	<0.002	<0.002	0	0.002
Chromium	mg/L	SAS	2/07/2014	7/04/2015	2	0	<0.01	<0.01	<0.01	0	0.01
Copper	mg/L	SAS	2/07/2014	29/06/2015	14	2	<0.015	0.018	<0.015	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	2/07/2014	29/06/2015	14	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	2/07/2014	29/06/2015	14	14	0.155	0.58	0.503	0	0.01
Lead	mg/L	SAS	2/07/2014	29/06/2015	14	1	<0.003	0.003	<0.003	0	0.003
Manganese	mg/L	SAS	2/07/2014	29/06/2015	14	0	<0.004	<0.004	<0.004	0	0.004
Mercury	mg/L	SAS	2/07/2014	7/04/2015	2	0	<0.0006	<0.001	<0.001	0	0.0006/0001
Molybdenum	mg/L	SAS	2/07/2014	7/04/2015	2	0	<0.05	<0.05	<0.05	0	0.05
Nickel	mg/L	SAS	2/07/2014	29/06/2015	2	0	<0.03	<0.03	<0.03	*	0.03
Nitrate	mg/L	SAS	2/07/2014	29/06/2015	14	14	0.455	5.15	0.982	0	0.015
Nitrite	mg/L	SAS	2/07/2014	29/06/2015	12	1	<0.004	0.006	<0.004	0	0.004
Selenium	mg/L	SAS	2/07/2014	7/04/2015	2	0	<0.001	<0.001	<0.001	0	0.001
Sulphate	mg/L	SAS	2/07/2014	29/06/2015	14	14	1.958	5.999	3.183	0	0.02
Total Chlorine	mg/L	SAS	2/07/2014	29/06/2015	14	14	0.49	1.15	0.78	0	0.02

\* Limit of Reporting is greater than ADWG 2011 Health guideline value

Table 3-28 Mackay Reticulation Water Quality Data Summary - Walkerston

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Arsenic	mg/L	SAS	7/04/2015	7/04/2015	1	0	<0.001	<0.001	N/A	0	0.001
Boron	mg/L	SAS	7/04/2015	7/04/2015	1	1	0.011	0.011	N/A	0	0.01
Cadmium	mg/L	SAS	7/04/2015	7/04/2015	1	0	<0.002	<0.002	N/A	0	0.002
Chromium	mg/L	SAS	7/04/2015	7/04/2015	1	0	<0.01	<0.01	N/A	0	0.01
Copper	mg/L	SAS	18/08/2014	10/06/2015	10	0	<0.015	<0.015	<0.015	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	18/08/2014	10/06/2015	10	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	18/08/2014	10/06/2015	10	10	0.402	0.592	0.546	0	0.01
Lead	mg/L	SAS	18/08/2014	10/06/2015	10	1	<0.003	0.0031	<0.003	0	0.003
Manganese	mg/L	SAS	18/08/2014	10/06/2015	10	0	<0.004	<0.004	<0.004	0	0.004
Mercury	mg/L	SAS	7/04/2015	7/04/2015	1	0	<0.001	<0.001	N/A	0	0.001
Molybdenum	mg/L	SAS	7/04/2015	7/04/2015	1	0	<0.05	<0.05	N/A	0	0.05
Nickel	mg/L	SAS	7/04/2015	7/04/2015	1	0	<0.03	<0.03	N/A	*	0.03
Nitrate	mg/L	SAS	18/08/2014	10/06/2015	10	10	0.462	5.144	1.114	0	0.015
Nitrite	mg/L	SAS	18/08/2014	10/06/2015	10	0	<0.004	<0.004	<0.004	0	0.004
Selenium	mg/L	SAS	7/04/2015	7/04/2015	1	0	<0.001	<0.001	N/A	0	0.001
Sulphate	mg/L	SAS	18/08/2014	10/06/2015	10	0	2.493	6.161	3.355	0	0.02
Total Chlorine	mg/L	SAS	18/08/2014	10/06/2015	10	0	0.1	1.16	0.66	0	0.02

\* Limit of Reporting is greater than ADWG 2011 Health guideline value

Table 3-29 Mackay Reticulation Water Quality Data Summary - West Mackay

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Arsenic	mg/L	SAS	2/07/2014	9/06/2015	3	0	<0.001	<0.001	<0.001	0	0.001
Boron	mg/L	SAS	2/07/2014	9/06/2015	3	2	<0.010	0.025	0.011	0	0.01
Cadmium	mg/L	SAS	2/07/2014	9/06/2015	3	0	<0.002	<0.002	<0.002	0	0.002
Chromium	mg/L	SAS	2/07/2014	9/06/2015	3	0	<0.01	<0.01	<0.01	0	0.01
Copper	mg/L	SAS	2/07/2014	9/06/2015	17	7	<0.015	0.138	0.018	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	2/07/2014	9/06/2015	16	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	2/07/2014	9/06/2015	17	17	0.0145	0.677	0.533	0	0.01
Lead	mg/L	SAS	2/07/2014	9/06/2015	17	4	<0.003	0.004	<0.003	0	0.003
Manganese	mg/L	SAS	2/07/2014	9/06/2015	17	0	<0.004	<0.004	<0.004	0	0.004
Mercury	mg/L	SAS	2/07/2014	9/06/2015	3	0	<0.001	<0.001	<0.001	0	0.001
Molybdenum	mg/L	SAS	2/07/2014	9/06/2015	3	0	<0.05	<0.05	<0.05	0	0.05
Nickel	mg/L	SAS	2/07/2014	9/06/2015	3	0	<0.03	<0.03	<0.03	*	0.03
Nitrate	mg/L	SAS	2/07/2014	9/06/2015	17	17	0.392	3.668	0.799	0	0.015
Nitrite	mg/L	SAS	2/07/2014	9/06/2015	17	0	<0.004	<0.004	<0.004	0	0.004
Selenium	mg/L	SAS	2/07/2014	9/06/2015	3	0	<0.001	<0.001	<0.001	0	0.001
Sulphate	mg/L	SAS	2/07/2014	9/06/2015	17	17	2.448	5.381	3.262	0	0.02
Total Chlorine	mg/L	SAS	2/07/2014	9/06/2015	17	17	0.3	1.33	0.88	0	0.02

\* Limit of Reporting is greater than ADWG 2011 Health guideline value

Table 3-30 Mackay Reticulation Water Quality Data Summary – Ball Bay Reservoir

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Copper	mg/L	SAS	20/10/2014	22/06/2015	4	0	<0.015	<0.015	<0.015	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	20/10/2014	22/06/2015	4	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	20/10/2014	22/06/2015	4	4	0.494	0.656	0.558	0	0.01
Lead	mg/L	SAS	20/10/2014	22/06/2015	4	0	<0.003	<0.003	<0.003	0	0.003
Manganese	mg/L	SAS	20/10/2014	22/06/2015	4	0	<0.004	<0.004	<0.004	0	0.004
Nitrate	mg/L	SAS	20/10/2014	22/06/2015	4	4	0.615	0.92	0.773	0	0.015
Nitrite	mg/L	SAS	20/10/2014	22/06/2015	4	0	<0.004	<0.004	<0.004	0	0.004
Sulphate	mg/L	SAS	20/10/2014	22/06/2015	4	4	2.666	3.623	3.311	0	0.02
Total Chlorine	mg/L	SAS	31/07/2014	22/06/2015	9	9	0.03	0.94	0.31	0	0.02

Table 3-31 Mackay Reticulation Water Quality Data Summary – Blacks Beach Reservoir

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Copper	mg/L	SAS	21/07/2014	16/06/2015	8	1	<0.015	0.082	<0.015	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	21/07/2014	16/06/2015	8	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	21/07/2014	16/06/2015	8	8	0.43	0.648	0.556	0	0.01
Lead	mg/L	SAS	21/07/2014	16/06/2015	8	1	<0.003	0.0031	<0.003	0	0.003
Manganese	mg/L	SAS	21/07/2014	16/06/2015	8	0	<0.004	<0.004	<0.004	0	0.004
Nitrate	mg/L	SAS	21/07/2014	16/06/2015	8	8	0.442	2.038	0.890	0	0.015
Nitrite	mg/L	SAS	21/07/2014	16/06/2015	8	0	<0.004	<0.004	<0.004	0	0.004
Sulphate	mg/L	SAS	21/07/2014	16/06/2015	8	8	2.549	3.639	3.045	0	0.02
Total Chlorine	mg/L	SAS	11/07/2014	16/06/2015	9	9	0.04	1.16	0.65	0	0.02

Table 3-32 Mackay Reticulation Water Quality Data Summary – Mt Oscar Reservoir

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Arsenic	mg/L	SAS	7/10/2014	7/10/2014	1	0	<0.001	<0.001	N/A	0	0.001
Boron	mg/L	SAS	7/10/2014	7/10/2014	1	1	0.026	0.026	N/A	0	0.01
Cadmium	mg/L	SAS	7/10/2014	7/10/2014	1	0	<0.002	<0.002	N/A	0	0.002
Chromium	mg/L	SAS	7/10/2014	7/10/2014	1	0	<0.01	<0.01	N/A	0	0.01
Copper	mg/L	SAS	8/07/2014	29/06/2015	15	0	<0.015	<0.015	<0.015	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	8/07/2014	29/06/2015	15	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	8/07/2014	29/06/2015	15	15	0.336	0.629	0.541	0	0.01
Lead	mg/L	SAS	8/07/2014	29/06/2015	15	0	<0.003	<0.003	<0.003	0	0.003
Manganese	mg/L	SAS	8/07/2014	29/06/2015	15	0	<0.004	<0.004	<0.004	0	0.004
Mercury	mg/L	SAS	7/10/2014	7/10/2014	1	0	<0.001	<0.001	N/A	0	0.001
Molybdenum	mg/L	SAS	7/10/2014	7/10/2014	1	0	<0.05	<0.05	N/A	0	0.05
Nickel	mg/L	SAS	7/10/2014	7/10/2014	1	0	<0.03	<0.03	N/A	*	0.03
Nitrate	mg/L	SAS	8/07/2014	29/06/2015	15	15	0.46	5.203	0.983	0	0.015
Nitrite	mg/L	SAS	8/07/2014	29/06/2015	15	0	<0.004	<0.004	<0.004	0	0.004
Selenium	mg/L	SAS	7/10/2014	7/10/2014	1	0	<0.001	<0.001	N/A	0	0.001
Sulphate	mg/L	SAS	8/07/2014	29/06/2015	15	15	2.311	6.454	3.242	0	0.02
Total Chlorine	mg/L	SAS	8/07/2014	29/06/2015	19	19	0.28	1.46	0.81	0	0.02

\* Limit of Reporting is greater than ADWG 2011 Health guideline value

### 3.3 Scheme: Bloomsbury

Table 3-33 Bloomsbury WTP Treated Water Quality Data Summary

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Boron	mg/L	SAS	9/10/2014	9/10/2014	1	0	<0.010	<0.010	N/A	0	0.01
Cadmium	mg/L	SAS	9/10/2014	9/10/2014	1	0	<0.002	<0.002	N/A	0	0.002
Chromium	mg/L	SAS	9/10/2014	9/10/2014	1	0	<0.01	<0.01	N/A	0	0.01
Copper	mg/L	SAS	29/07/2014	17/06/2015	14	10	<0.015	0.135	0.058	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	29/07/2014	17/06/2015	15	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	29/07/2014	17/06/2015	14	14	0.073	0.119	0.093	0	0.01
Lead	mg/L	SAS	29/07/2014	17/06/2015	14	3	<0.003	0.003	<0.003	0	0.003
Manganese	mg/L	SAS	29/07/2014	17/06/2015	14	1	<0.004	0.004	<0.004	0	0.004
Molybdenum	mg/L	SAS	9/10/2014	9/10/2014	1	0	<0.05	<0.05	N/A	0	0.05
Nickel	mg/L	SAS	9/10/2014	9/10/2014	1	0	<0.03	<0.03	N/A	*	0.03
Nitrate	mg/L	SAS	29/07/2014	17/06/2015	14	14	0.07	0.227	0.127	0	0.015
Nitrite	mg/L	SAS	29/07/2014	17/06/2015	14	0	<0.004	<0.004	<0.004	0	0.004
Sulphate	mg/L	SAS	29/07/2014	17/06/2015	14	14	0.4	3.78	1.27	0	0.02
Total Chlorine	mg/L	SAS	29/07/2014	17/06/2015	15	15	0.67	1.47	0.91	0	0.02

\* Limit of Reporting is greater than ADWG 2011 Health guideline value

Table 3-34 Bloomsbury Reticulated Water Quality Data Summary

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Boron	mg/L	SAS	9/10/2014	9/10/2014	1	0	<0.010	<0.010	N/A	0	0.01
Cadmium	mg/L	SAS	9/10/2014	9/10/2014	1	0	<0.002	<0.002	N/A	0	0.002
Chromium	mg/L	SAS	9/10/2014	9/10/2014	1	0	<0.01	<0.01	N/A	0	0.01
Copper	mg/L	SAS	13/08/2014	17/06/2015	11	3	<0.015	0.072	0.025	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	13/08/2014	17/06/2015	12	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	13/08/2014	17/06/2015	11	11	0.082	0.102	0.092	0	0.01
Lead	mg/L	SAS	13/08/2014	17/06/2015	11	2	<0.003	0.003	<0.003	0	0.003
Manganese	mg/L	SAS	13/08/2014	17/06/2015	11	1	<0.004	0.014	<0.004	0	0.004
Molybdenum	mg/L	SAS	9/10/2014	9/10/2014	1	0	<0.05	<0.05	N/A	0	0.05
Nickel	mg/L	SAS	9/10/2014	9/10/2014	1	0	<0.03	<0.03	N/A	*	0.03
Nitrate	mg/L	SAS	13/08/2014	17/06/2015	11	11	0.086	0.176	0.109	0	0.015
Nitrite	mg/L	SAS	13/08/2014	17/06/2015	11	0	<0.004	<0.004	<0.004	0	0.004
Sulphate	mg/L	SAS	13/08/2014	17/06/2015	11	11	0.427	3.422	1.006	0	0.02
Total Chlorine	mg/L	SAS	13/08/2014	17/06/2015	12	12	0.37	1.2	0.75	0	0.02

\* Limit of Reporting is greater than ADWG 2011 Health guideline value

### 3.4 Scheme: Calen

Table 3-35 Calen Reticulated Water Quality Data Summary

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Arsenic	mg/L	SAS	21/04/2015	21/04/2015	1	0	<0.001	<0.001	N/A	0	0.001
Boron	mg/L	SAS	17/07/2014	21/04/2015	3	2	<0.010	0.02	0.013	0	0.01
Cadmium	mg/L	SAS	17/07/2014	21/04/2015	3	0	<0.002	<0.002	<0.002	0	0.002
Chromium	mg/L	SAS	17/07/2014	21/04/2015	3	0	<0.01	<0.01	<0.01	0	0.01
Copper	mg/L	SAS	17/07/2014	21/04/2015	10	8	<0.015	0.066	0.030	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	17/07/2014	19/05/2015	11	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	17/07/2014	21/04/2015	10	10	0.118	0.156	0.141	0	0.01
Lead	mg/L	SAS	17/07/2014	19/05/2015	10	4	<0.001	0.0066	0.003	0	0.001/0.003
Manganese	mg/L	SAS	17/07/2014	21/04/2015	10	0	<0.004	<0.004	<0.004	0	0.004
Mercury	mg/L	SAS	21/04/2015	21/04/2015	1	0	<0.001	<0.001	N/A	0	0.001
Molybdenum	mg/L	SAS	17/07/2014	21/04/2015	3	0	<0.05	<0.05	<0.05	0	0.05
Nickel	mg/L	SAS	17/07/2014	21/04/2015	3	0	<0.03	<0.03	<0.03	*	0.03
Nitrate	mg/L	SAS	17/07/2014	21/04/2015	10	10	16.432	19.661	18.717	0	0.015
Nitrite	mg/L	SAS	17/07/2014	21/04/2015	10	0	<0.004	<0.004	<0.004	0	0.004
Selenium	mg/L	SAS	21/04/2015	21/04/2015	1	0	<0.001	<0.001	N/A	0	0.001
Sulphate	mg/L	SAS	17/07/2014	21/04/2015	10	10	4.744	5.499	5.085	0	0.02
Total Chlorine	mg/L	SAS	17/07/2014	19/05/2015	11	11	0.61	1.48	1.07	0	0.02

\* Limit of Reporting is greater than ADWG 2011 Health guideline value

Table 3-36 Kooljoo Reticulated Water Quality Data Summary

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Arsenic	mg/L	SAS	21/04/2015	21/04/2015	1	0	<0.001	<0.001	N/A	0	0.001
Boron	mg/L	SAS	17/07/2014	21/04/2015	3	2	<0.010	0.024	0.012	0	0.01
Cadmium	mg/L	SAS	17/07/2014	21/04/2015	3	0	<0.002	<0.002	<0.002	0	0.002
Chromium	mg/L	SAS	17/07/2014	21/04/2015	3	0	<0.01	<0.01	<0.01	0	0.01
Copper	mg/L	SAS	17/07/2014	17/06/2015	11	6	<0.015	0.061	0.021	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	17/07/2014	17/06/2015	12	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	17/07/2014	17/06/2015	11	11	0.095	0.175	0.143	0	0.01
Lead	mg/L	SAS	17/07/2014	17/06/2015	11	4	<0.001	0.0064	<0.003	0	0.001/0.003
Manganese	mg/L	SAS	17/07/2014	17/06/2015	11	0	<0.004	<0.004	<0.004	0	0.004
Mercury	mg/L	SAS	21/04/2015	21/04/2015	1	0	<0.001	<0.001	N/A	0	0.001
Molybdenum	mg/L	SAS	17/07/2014	21/04/2015	3	0	<0.05	<0.05	<0.05	0	0.05
Nickel	mg/L	SAS	17/07/2014	21/04/2015	3	0	<0.03	<0.03	<0.03	*	0.03
Nitrate	mg/L	SAS	17/07/2014	17/06/2015	11	11	12.99	19.726	18.297	0	0.015
Nitrite	mg/L	SAS	17/07/2014	17/06/2015	11	0	<0.004	<0.004	<0.004	0	0.004
Selenium	mg/L	SAS	21/04/2015	21/04/2015	1	0	<0.001	<0.001	N/A	0	0.001
Sulphate	mg/L	SAS	17/07/2014	17/06/2015	11	11	3.051	5.759	5.088	0	0.02
Total Chlorine	mg/L	SAS	17/07/2014	17/06/2015	12	12	0.91	1.57	1.11	0	0.02

\* Limit of Reporting is greater than ADWG 2011 Health guideline value



### 3.5 Scheme: Eton

Table 3-37 Eton Reticulated Water Quality Data Summary

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Arsenic	mg/L	SAS	7/04/2015	7/04/2015	1	0	<0.001	<0.001	N/A	0	0.001
Boron	mg/L	SAS	7/04/2015	7/04/2015	1	1	0.028	0.028	N/A	0	0.01
Cadmium	mg/L	SAS	7/04/2015	7/04/2015	1	0	<0.002	<0.002	N/A	0	0.002
Chromium	mg/L	SAS	7/04/2015	7/04/2015	1	0	<0.01	<0.01	N/A	0	0.01
Copper	mg/L	SAS	14/07/2014	15/06/2015	12	2	<0.015	0.019	<0.015	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	14/07/2014	15/06/2015	15	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	14/07/2014	15/06/2015	12	12	0.162	0.083	0.131	0	0.01
Lead	mg/L	SAS	14/07/2014	15/06/2015	12	4	<0.003	0.005	<0.003	0	0.003
Manganese	mg/L	SAS	14/07/2014	15/06/2015	12	0	<0.004	<0.004	<0.004	0	0.004
Mercury	mg/L	SAS	7/04/2015	7/04/2015	1	0	<0.001	<0.001	N/A	0	0.001
Molybdenum	mg/L	SAS	7/04/2015	7/04/2015	1	0	<0.05	<0.05	N/A	0	0.05
Nickel*	mg/L	SAS	7/04/2015	7/04/2015	1	0	<0.03	<0.03	N/A	*	0.03
Nitrate	mg/L	SAS	14/07/2014	15/06/2015	12	12	5.143	11.868	9.527	0	0.015
Nitrite	mg/L	SAS	14/07/2014	15/06/2015	12	0	<0.004	<0.004	<0.004	0	0.004
Selenium	mg/L	SAS	7/04/2015	7/04/2015	1	1	0.0076	0.0076	N/A	0	0.001
Sulphate	mg/L	SAS	14/07/2014	15/06/2015	12	12	5.608	13.106	11.59	0	0.02
Total Chlorine	mg/L	SAS	14/07/2014	15/06/2015	12	12	0.18	0.99	0.56	0	0.02

\* Limit of Reporting is greater than ADWG 2011 Health guideline value

Table 3-38 Eton Reservoir Water Quality Data Summary

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Copper	mg/L	SAS	26/08/2014	22/12/2014	2	0	<0.015	<0.015	<0.015	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	26/08/2014	22/12/2014	2	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	26/08/2014	22/12/2014	2	2	0.103	0.14	0.122	0	0.01
Lead	mg/L	SAS	26/08/2014	22/12/2014	2	1	<0.003	0.005	<0.003	0	0.003
Manganese	mg/L	SAS	26/08/2014	22/12/2014	2	0	<0.004	<0.004	<0.004	0	0.004
Nitrate	mg/L	SAS	26/08/2014	22/12/2014	2	2	11.523	11.553	11.538	0	0.015
Nitrite	mg/L	SAS	26/08/2014	22/12/2014	2	0	<0.004	<0.004	<0.004	0	0.004
Sulphate	mg/L	SAS	26/08/2014	22/12/2014	2	2	12.413	13.736	13.075	0	0.02
Total Chlorine	mg/L	SAS	31/07/2014	19/06/2015	6	6	0.31	1.09	0.8	0	0.02



### 3.6 Scheme: Finch Hatton

Table 3-39 Finch Hatton Treated Water Quality Data Summary

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Arsenic	mg/L	SAS	14/10/2014	13/05/2015	2	0	<0.001	<0.001	<0.001	0	0.001
Boron	mg/L	SAS	8/07/2014	13/05/2015	4	3	0.013	0.031	0.021	0	0.01
Cadmium	mg/L	SAS	8/07/2014	13/05/2015	4	0	<0.002	<0.002	<0.002	0	0.002
Chromium	mg/L	SAS	8/07/2014	13/05/2015	4	0	<0.01	<0.01	<0.01	0	0.01
Copper	mg/L	SAS	8/07/2014	09/06/2015	12	12	0.028	0.072	0.043	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	8/07/2014	09/06/2015	13	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	8/07/2014	09/06/2015	12	12	0.04	0.08	0.06	0	0.01
Lead	mg/L	SAS	8/07/2014	09/06/2015	12	0	<0.003	<0.003	<0.003	0	0.003
Manganese	mg/L	SAS	8/07/2014	09/06/2015	12	0	<0.004	<0.004	<0.004	0	0.004
Mercury	mg/L	SAS	14/10/2014	13/05/2015	2	0	<0.001	<0.001	<0.001	0	0.001
Molybdenum	mg/L	SAS	8/07/2014	13/05/2015	4	0	<0.05	<0.05	<0.05	0	0.05
Nickel*	mg/L	SAS	8/07/2014	13/05/2015	4	0	<0.03	<0.03	<0.03	*	0.03
Nitrate	mg/L	SAS	8/07/2014	09/06/2015	12	12	1.238	3.106	1.876	0	0.015
Nitrite	mg/L	SAS	8/07/2014	09/06/2015	12	3	<0.004	0.021	0.004	0	0.004
Selenium	mg/L	SAS	14/10/2014	13/05/2015	2	0	<0.001	<0.001	<0.001	0	0.001
Sulphate	mg/L	SAS	8/07/2014	09/06/2015	12	12	2.68	3.542	3.034	0	0.02
Total Chlorine	mg/L	SAS	8/07/2014	09/06/2015	13	13	0.72	1.51	1.12	0	0.02

\* Limit of Reporting is greater than ADWG 2011 Health guideline value

Table 3-40 Finch Hatton Reticulated Water Quality Data Summary

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Arsenic	mg/L	SAS	29/10/2014	14/04/2015	2	2	<0.001	<0.001	<0.001	0	0.001
Boron	mg/L	SAS	22/07/2014	14/04/2015	4	4	0.01	0.045	0.028	0	0.01
Cadmium	mg/L	SAS	22/07/2014	14/04/2015	4	0	<0.002	<0.002	<0.002	0	0.002
Chromium	mg/L	SAS	22/07/2014	14/04/2015	4	0	<0.01	<0.01	<0.01	0	0.01
Copper	mg/L	SAS	22/07/2014	10/06/2015	12	3	<0.015	0.018	<0.015	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	22/07/2014	10/06/2015	12	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	22/07/2014	10/06/2015	12	12	0.046	0.095	0.063	0	0.01
Lead	mg/L	SAS	22/07/2014	10/06/2015	12	1	<0.003	0.004	<0.003	0	0.003
Manganese	mg/L	SAS	22/07/2014	10/06/2015	12	0	<0.004	<0.004	<0.004	0	0.004
Mercury	mg/L	SAS	29/10/2014	14/04/2015	2	0	<0.001	<0.001	<0.001	0	0.001
Molybdenum	mg/L	SAS	22/07/2014	14/04/2015	4	0	<0.05	<0.05	<0.05	0	0.05
Nickel	mg/L	SAS	22/07/2014	14/04/2015	4	0	<0.03	<0.03	<0.03	*	0.03
Nitrate	mg/L	SAS	22/07/2014	10/06/2015	12	12	1.248	3.179	1.900	0	0.015
Nitrite	mg/L	SAS	22/07/2014	10/06/2015	12	0	<0.004	<0.004	<0.004	0	0.004
Selenium	mg/L	SAS	29/10/2014	14/04/2015	2	1	<0.001	0.0015	<0.001	0	0.001
Sulphate	mg/L	SAS	22/07/2014	10/06/2015	12	12	2.885	3.267	3.024	0	0.02
Total Chlorine	mg/L	SAS	22/07/2014	10/06/2015	12	12	0.87	1.42	1.15	0	0.02

\* Limit of Reporting is greater than ADWG 2011.1 Health guideline value

### 3.7 Scheme: Gargett

Table 3-41 Gargett Treated Water Quality Data Summary

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Arsenic	mg/L	SAS	14/10/2014	13/05/2015	2	0	<0.001	<0.001	<0.001	0	0.001
Boron	mg/L	SAS	8/07/2014	13/05/2015	4	3	<0.010	0.02	0.012	0	0.01
Cadmium	mg/L	SAS	8/07/2014	13/05/2015	4	0	<0.01	<0.01	<0.01	0	0.002
Chromium	mg/L	SAS	8/07/2014	13/05/2015	4	0	<0.03	<0.03	<0.03	0	0.01
Copper	mg/L	SAS	8/07/2015	9/06/2015	12	8	<0.015	0.385	0.121	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	8/07/2015	9/06/2015	12	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	8/07/2015	9/06/2015	12	12	0.04	0.06	0.05	0	0.01
Lead	mg/L	SAS	8/07/2015	9/06/2015	12	0	<0.003	<0.003	<0.003	0	0.003
Manganese	mg/L	SAS	8/07/2015	9/06/2015	12	0	<0.004	<0.004	<0.004	0	0.004
Mercury	mg/L	SAS	14/10/2014	13/05/2015	2	0	<0.001	<0.001	<0.001	0	0.001
Molybdenum	mg/L	SAS	8/07/2014	13/05/2015	4	0	<0.05	<0.05	<0.05	0	0.05
Nickel	mg/L	SAS	8/07/2014	13/05/2015	4	0	<0.03	<0.03	<0.03	*	0.03
Nitrate	mg/L	SAS	8/07/2015	9/06/2015	12	12	0.883	7.496	3.581	0	0.015
Nitrite	mg/L	SAS	8/07/2015	9/06/2015	12	3	<0.004	0.008	<0.004	0	0.004
Selenium	mg/L	SAS	14/10/2014	13/05/2015	2	0	<0.001	<0.001	<0.001	0	0.001
Sulphate	mg/L	SAS	8/07/2015	9/06/2015	12	12	2.292	4.785	2.955	0	0.02
Total Chlorine	mg/L	SAS	8/07/2015	9/06/2015	12	12	0.5	2.3	1.3	0	0.02

\* Limit of Reporting is greater than ADWG 2011 Health guideline value

Table 3-42 Gargett Reticulated Water Quality Data Summary

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Arsenic	mg/L	SAS	14/10/2014	13/05/2015	2	0	<0.001	<0.001	<0.001	0	0.001
Boron	mg/L	SAS	8/07/2014	13/05/2015	4	3	<0.010	0.02	0.012	0	0.01
Cadmium	mg/L	SAS	8/07/2014	13/05/2015	4	0	<0.002	<0.002	<0.002	0	0.002
Chromium	mg/L	SAS	8/07/2014	13/05/2015	4	0	<0.01	<0.01	<0.01	0	0.01
Copper	mg/L	SAS	8/07/2014	9/06/2015	12	8	<0.015	0.385	0.121	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	8/07/2014	9/06/2015	11	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	8/07/2014	9/06/2015	12	12	0.038	0.056	0.048	0	0.01
Lead	mg/L	SAS	8/07/2014	9/06/2015	12	0	<0.003	<0.003	<0.003	0	0.003
Manganese	mg/L	SAS	8/07/2014	9/06/2015	12	0	<0.004	<0.004	<0.004	0	0.004
Mercury	mg/L	SAS	14/10/2014	13/05/2015	2	0	<0.001	<0.001	<0.001	0	0.001
Molybdenum	mg/L	SAS	8/07/2014	13/05/2015	4	0	<0.05	<0.05	<0.05	0	0.05
Nickel	mg/L	SAS	8/07/2014	13/05/2015	4	0	<0.03	<0.03	<0.03	*	0.03
Nitrate	mg/L	SAS	8/07/2014	9/06/2015	12	12	0.883	7.496	3.581	0	0.015
Nitrite	mg/L	SAS	8/07/2014	9/06/2015	12	3	<0.004	0.008	<0.004	0	0.004
Selenium	mg/L	SAS	14/10/2014	13/05/2015	2	0	<0.001	<0.001	<0.001	0	0.001
Sulphate	mg/L	SAS	8/07/2014	9/06/2015	12	12	2.292	4.785	2.955	0	0.02
Total Chlorine	mg/L	SAS	8/07/2014	9/06/2015	12	12	0.5	2.3	1.3	0	0.02

\* Limit of Reporting is greater than ADWG 2011 Health guideline value

### 3.8 Scheme: Koumala

Table 3-43 Koumala Treated Water Quality Data Summary

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Arsenic	mg/L	SAS	8/10/2014	16/06/2015	3	1	<0.001	0.0015	<0.001	0	0.001
Boron	mg/L	SAS	22/07/2014	16/06/2015	4	4	0.012	0.037	0.022	0	0.01
Cadmium	mg/L	SAS	22/07/2014	16/06/2015	4	0	<0.002	<0.002	<0.002	0	0.002
Chromium	mg/L	SAS	22/07/2014	16/06/2015	4	0	<0.01	<0.01	<0.01	0	0.01
Copper	mg/L	SAS	22/07/2014	16/06/2015	12	0	<0.015	<0.015	<0.015	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	22/07/2014	20/05/2015	11	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	22/07/2014	16/06/2015	12	12	0.128	0.219	0.184	0	0.01
Lead	mg/L	SAS	22/07/2014	16/06/2015	12	3	<0.003	0.0042	0.003	0	0.003
Manganese	mg/L	SAS	22/07/2014	16/06/2015	12	0	<0.004	<0.004	<0.004	0	0.004
Mercury	mg/L	SAS	8/10/2014	16/06/2015	3	0	<0.001	<0.001	<0.001	0	0.001
Molybdenum	mg/L	SAS	22/07/2014	16/06/2015	4	0	<0.05	<0.05	<0.05	0	0.05
Nickel	mg/L	SAS	22/07/2014	16/06/2015	4	0	<0.03	<0.03	<0.03	*	0.03
Nitrate	mg/L	SAS	22/07/2014	16/06/2015	12	12	13.762	21.542	20.163	0	0.015
Nitrite	mg/L	SAS	22/07/2014	16/06/2015	12	1	<0.004	0.045	<0.004	0	0.004
Selenium	mg/L	SAS	8/10/2014	16/06/2015	3	0	<0.001	<0.001	<0.001	0	0.001
Sulphate	mg/L	SAS	22/07/2014	16/06/2015	12	12	3.123	4.999	4.615	0	0.02
Total Chlorine	mg/L	SAS	22/07/2014	16/06/2015	12	12	0.63	1.68	1.11	0	0.02

\* Limit of Reporting is greater than ADWG 2011 Health guideline value

### 3.9 Scheme: Marian

Table 3-44 Marian Reticulated Water Quality Data Summary

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Arsenic	mg/L	SAS	7/10/2014	13/05/2015	4	0	<0.001	<0.001	<0.001	0	0.001
Boron	mg/L	SAS	1/10/2014	13/05/2015	7	4	<0.010	0.018	0.010	0	0.01
Cadmium	mg/L	SAS	1/10/2014	13/05/2015	7	0	<0.002	<0.002	<0.002	0	0.002
Chromium	mg/L	SAS	1/10/2014	13/05/2015	7	0	<0.01	<0.01	<0.01	0	0.01
Copper	mg/L	SAS	1/07/2014	22/06/2015	61	33	<0.015	0.005	0.027	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	1/07/2014	22/06/2015	63	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	1/07/2014	22/06/2015	61	61	0.058	0.425	0.110	0	0.01
Lead	mg/L	SAS	1/07/2014	22/06/2015	61	17	<0.003	0.008	<0.003	0	0.003
Manganese	mg/L	SAS	1/07/2014	22/06/2015	61	0	<0.004	<0.004	<0.004	0	0.004
Mercury	mg/L	SAS	7/10/2014	13/05/2015	4	0	<0.001	<0.001	<0.001	0	0.001
Molybdenum	mg/L	SAS	1/10/2014	13/05/2015	7	0	<0.05	<0.05	<0.05	0	0.05
Nickel	mg/L	SAS	1/10/2014	13/05/2015	7	0	<0.03	<0.03	<0.03	*	0.03
Nitrate	mg/L	SAS	1/07/2014	22/06/2015	61	61	0.144	32.003	24.589	0	0.015
Nitrite	mg/L	SAS	1/07/2014	22/06/2015	61	1	<0.004	0.058	<0.004	0	0.004
Selenium	mg/L	SAS	7/10/2014	13/05/2015	4	0	<0.001	<0.001	<0.001	0	0.001
Sulphate	mg/L	SAS	1/07/2014	22/06/2015	61	61	2.357	6.832	5.180	0	0.02
Total Chlorine	mg/L	SAS	1/07/2014	22/06/2015	62	62	0.68	1.38	1.00	0	0.02

\* Limit of Reporting is greater than ADWG 2011 Health guideline value

### 3.10 Scheme: Midge Point

Table 45 Midge Point Treated Quality Data Summary – Kelsey Creek

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Arsenic	mg/L	SAS	15/10/2014	20/04/2015	2	1	<0.001	0.001	<0.001	0	0.001
Boron	mg/L	SAS	15/10/2014	20/04/2015	2	2	0.021	0.167	0.094	0	0.01
Cadmium	mg/L	SAS	15/10/2014	20/04/2015	2	0	<0.02	<0.02	<0.02	0	0.002
Chromium	mg/L	SAS	15/10/2014	20/04/2015	2	0	<0.01	<0.01	<0.01	0	0.01
Copper	mg/L	SAS	15/10/2014	20/04/2015	3	0	<0.015	<0.015	<0.015	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	15/10/2014	20/04/2015	4	1	<1	2	<1	1	1
Fluoride	mg/L	SAS	15/10/2014	20/04/2015	3	3	0.081	0.084	0.082	0	0.01
Lead	mg/L	SAS	15/10/2014	20/04/2015	3	0	<0.003	<0.003	<0.003	0	0.003
Manganese	mg/L	SAS	15/10/2014	20/04/2015	3	2	<0.004	0.06	0.030	0	0.004
Mercury	mg/L	SAS	15/10/2014	20/04/2015	2	0	<0.001	<0.001	<0.001	0	0.001
Molybdenum	mg/L	SAS	15/10/2014	20/04/2015	2	0	<0.05	<0.05	<0.05	0	0.05
Nickel	mg/L	SAS	15/10/2014	20/04/2015	2	0	<0.03	<0.03	<0.03	*	0.03
Nitrate	mg/L	SAS	15/10/2014	20/04/2015	3	3	0.161	0.336	0.274	0	0.015
Nitrite	mg/L	SAS	15/10/2014	20/04/2015	3	0	<0.004	<0.004	<0.004	0	0.004
Selenium	mg/L	SAS	15/10/2014	20/04/2015	2	0	<0.001	<0.001	<0.001	0	0.001
Sulphate	mg/L	SAS	15/10/2014	20/04/2015	3	3	1.03	2.726	1.629	0	0.02
Total Chlorine	mg/L	SAS	15/10/2014	20/04/2015	4	4	0.02	1.86	1.29	0	0.02

\* Limit of Reporting is greater than ADWG 2011 Health guideline value

Table 3-46 Midge Point Reticulated Water Quality Data Summary - Midge Point Beach

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Arsenic	mg/L	SAS	15/04/2015	15/04/2015	1	0	<0.001	<0.001	N/A	0	0.001
Boron	mg/L	SAS	9/10/2014	15/04/2015	3	3	0.022	0.06	0.035	0	0.01
Cadmium	mg/L	SAS	9/10/2014	15/04/2015	3	0	<0.002	<0.002	<0.002	0	0.002
Chromium	mg/L	SAS	9/10/2014	15/04/2015	3	0	<0.01	<0.01	<0.01	0	0.01
Copper	mg/L	SAS	18/07/2014	17/06/2015	23	0	<0.015	<0.015	<0.015	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	18/07/2014	17/06/2015	24	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	18/07/2014	17/06/2015	23	23	0.059	0.112	0.081	0	0.01
Lead	mg/L	SAS	18/07/2014	17/06/2015	24	0	<0.001	<0.003	<0.003	0	0.001/0.003
Manganese	mg/L	SAS	18/07/2014	17/06/2015	23	0	<0.004	<0.004	<0.004	0	0.004
Mercury	mg/L	SAS	15/04/2015	15/04/2015	1	0	<0.001	<0.001	N/A	0	0.001
Molybdenum	mg/L	SAS	9/10/2014	15/04/2015	3	0	<0.05	<0.05	<0.05	0	0.05
Nickel	mg/L	SAS	9/10/2014	15/04/2015	3	0	<0.03	<0.03	<0.03	*	0.03
Nitrate	mg/L	SAS	18/07/2014	17/06/2015	23	23	0.219	0.394	0.324	0	0.015
Nitrite	mg/L	SAS	18/07/2014	17/06/2015	23	1	<0.004	0.027	<0.004	0	0.004
Selenium	mg/L	SAS	15/04/2015	15/04/2015	1	0	<0.001	<0.001	N/A	0	0.001
Sulphate	mg/L	SAS	18/07/2014	17/06/2015	23	23	1.093	3.654	2.136	0	0.02
Total Chlorine	mg/L	SAS	18/07/2014	17/06/2015	25	25	0.03	1.25	0.17	0	0.02

\* Limit of Reporting is greater than ADWG 2011 Health guideline value



Table 3-47 Midge Point Reticulated Water Quality Data Summary - Midge Point Park

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Arsenic	mg/L	SAS	15/04/2015	15/04/2015	1	0	<0.001	<0.001	N/A	0	0.001
Boron	mg/L	SAS	9/10/2014	15/04/2015	3	3	0.025	0.045	0.032	0	0.01
Cadmium	mg/L	SAS	9/10/2014	15/04/2015	3	0	<0.002	<0.002	<0.002	0	0.002
Chromium	mg/L	SAS	9/10/2014	15/04/2015	3	0	<0.01	<0.01	<0.01	0	0.01
Copper	mg/L	SAS	18/07/2014	17/06/2015	23	0	<0.015	<0.015	<0.015	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	18/07/2014	17/06/2015	24	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	18/07/2014	17/06/2015	23	23	0.056	0.1	0.082	0	0.01
Lead	mg/L	SAS	18/07/2014	17/06/2015	24	0	<0.001	<0.003	<0.003	0	0.001/0.003
Manganese	mg/L	SAS	18/07/2014	17/06/2015	23	0	<0.004	<0.004	<0.004	0	0.004
Mercury	mg/L	SAS	15/04/2015	15/04/2015	1	0	<0.001	<0.001	N/A	0	0.001
Molybdenum	mg/L	SAS	9/10/2014	15/04/2015	3	0	<0.05	<0.05	<0.05	0	0.05
Nickel	mg/L	SAS	9/10/2014	15/04/2015	3	0	<0.03	<0.03	<0.03	*	0.03
Nitrate	mg/L	SAS	18/07/2014	17/06/2015	23	23	0.219	0.465	0.331	0	0.015
Nitrite	mg/L	SAS	18/07/2014	17/06/2015	23	2	<0.004	0.031	<0.004	0	0.004
Selenium	mg/L	SAS	15/04/2015	15/04/2015	1	0	<0.001	<0.001	N/A	0	0.001
Sulphate	mg/L	SAS	18/07/2014	17/06/2015	23	23	0.984	3.816	2.118	0	0.02
Total Chlorine	mg/L	SAS	18/07/2014	17/06/2015	26	25	<0.02	1.05	0.26	0	0.02

\* Limit of Reporting is greater than ADWG 2011 Health guideline value

Table 3-48 Midge Point Reticulated Water Quality Data Summary - Midge Point SES

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Copper	mg/L	SAS	23/09/2014	22/04/2015	4	1	<0.015	0.103	0.029	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	23/09/2014	22/04/2015	4	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	23/09/2014	22/04/2015	4	4	0.066	0.088	0.082	0	0.01
Lead	mg/L	SAS	23/09/2014	22/05/2015	5	0	<0.001	<0.003	<0.003	0	0.001/0.003
Manganese	mg/L	SAS	23/09/2014	22/04/2015	4	0	<0.004	<0.004	<0.004	0	0.004
Nitrate	mg/L	SAS	23/09/2014	22/04/2015	4	4	0.279	0.399	0.343	0	0.015
Nitrite	mg/L	SAS	23/09/2014	22/04/2015	4	0	<0.004	<0.004	<0.004	0	0.004
Sulphate	mg/L	SAS	23/09/2014	22/04/2015	4	4	1.546	3.447	2.189	0	0.02
Total Chlorine	mg/L	SAS	23/09/2014	13/05/2015	5	5	0.11	1.2	0.38	0	0.02

Table 3-49 Midge Point Reticulated Water Quality Data Summary - Midge Point Reservoir

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Boron	mg/L	SAS	9/10/2014	9/10/2014	2	1	<0.010	0.02	0.012	0	0.01
Cadmium	mg/L	SAS	9/10/2014	9/10/2014	2	0	<0.002	<0.002	<0.002	0	0.002
Chromium	mg/L	SAS	9/10/2014	9/10/2014	2	0	<0.01	<0.01	<0.01	0	0.01
Copper	mg/L	SAS	18/07/2014	9/10/2014	14	0	<0.015	<0.015	<0.015	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	18/07/2014	9/10/2014	14	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	18/07/2014	9/10/2014	14	14	0.055	0.075	0.067	0	0.01
Lead	mg/L	SAS	18/07/2014	22/05/2015	15	0	<0.001	<0.003	<0.003	0	0.001/0.003
Manganese	mg/L	SAS	18/07/2014	9/10/2014	14	0	<0.004	<0.004	<0.004	0	0.004
Molybdenum	mg/L	SAS	9/10/2014	9/10/2014	2	0	<0.05	<0.05	<0.05	0	0.05
Nickel	mg/L	SAS	9/10/2014	9/10/2014	2	0	<0.03	<0.03	<0.03	*	0.03
Nitrate	mg/L	SAS	18/07/2014	9/10/2014	14	14	0.205	0.416	0.354	0	0.015
Nitrite	mg/L	SAS	18/07/2014	9/10/2014	14	0	<0.004	<0.004	<0.004	0	0.004
Sulphate	mg/L	SAS	18/07/2014	9/10/2014	14	14	3.006	3.632	3.323	0	0.02
Total Chlorine	mg/L	SAS	18/07/2014	9/10/2014	14	14	0.03	0.76	0.17	0	0.02

\* Limit of Reporting is greater than ADWG 2011 Health guideline value

**3.11 Scheme: Mirani**

Table 3-50 Mirani Reticulated Water Quality Data Summary

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Arsenic	mg/L	SAS	7/10/2014	13/05/2015	4	0	<0.001	<0.001	<0.001	0	0.001
Boron	mg/L	SAS	1/07/2014	13/05/2015	7	4	<0.010	0.019	<0.010	0	0.01
Cadmium	mg/L	SAS	1/07/2014	13/05/2015	8	0	<0.002	<0.002	<0.002	0	0.002
Chromium	mg/L	SAS	1/07/2014	13/05/2015	8	0	<0.01	<0.01	<0.01	0	0.01
Copper	mg/L	SAS	1/07/2014	13/05/2015	62	13	<0.015	0.058	<0.015	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	1/07/2014	13/05/2015	61	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	1/07/2014	13/05/2015	61	61	0.069	0.344	0.125	0	0.01
Lead	mg/L	SAS	1/07/2014	13/05/2015	61	9	<0.003	0.007	<0.003	0	0.003
Manganese	mg/L	SAS	1/07/2014	13/05/2015	61	0	<0.004	<0.004	<0.004	0	0.004
Mercury	mg/L	SAS	7/10/2014	13/05/2015	4	0	<0.001	<0.001	<0.001	0	0.001
Molybdenum	mg/L	SAS	1/07/2014	13/05/2015	7	0	<0.05	<0.05	<0.05	0	0.05
Nickel	mg/L	SAS	1/07/2014	13/05/2015	7	1	<0.03	0.836	<0.03	*	0.03
Nitrate	mg/L	SAS	1/07/2014	13/05/2015	61	61	0.188	30.009	12.969	0	0.015
Nitrite	mg/L	SAS	1/07/2014	13/05/2015	61	0	<0.004	<0.004	<0.004	0	0.004
Selenium	mg/L	SAS	7/10/2014	13/05/2015	4	0	<0.001	<0.001	<0.001	0	0.001
Sulphate	mg/L	SAS	1/07/2014	13/05/2015	61	61	2.349	6.641	3.839	0	0.02
Total Chlorine	mg/L	SAS	1/07/2014	13/05/2015	62	62	0.7	1.48	1.09	0	0.02

\* Limit of Reporting is greater than ADWG 2011 Health guideline value

**3.12 Scheme: Sarina**

Table 3-51 Sarina Treated Water Quality Data Summary – Sarina WTP

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Arsenic	mg/L	SAS	7/10/2014	8/04/2015	4	2	<0.001	0.0013	<0.001	0	0.001
Boron	mg/L	SAS	1/07/2014	8/04/2015	7	7	0.014	0.022	0.017	0	0.01
Cadmium	mg/L	SAS	1/07/2014	8/04/2015	7	0	<0.002	<0.002	<0.002	0	0.002
Chromium	mg/L	SAS	1/07/2014	8/04/2015	7	0	<0.01	<0.01	<0.01	0	0.01
Copper	mg/L	SAS	1/07/2014	8/04/2015	19	0	<0.015	<0.015	<0.015	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	1/07/2014	8/04/2015	19	1	<1	1	<1	1	1
Fluoride	mg/L	SAS	1/07/2014	8/04/2015	19	19	0.062	0.886	0.270	0	0.01
Lead	mg/L	SAS	1/07/2014	8/04/2015	19	0	<0.003	<0.003	<0.003	0	0.003
Manganese	mg/L	SAS	1/07/2014	8/04/2015	19	1	<0.004	0.009	<0.004	0	0.004
Mercury	mg/L	SAS	7/10/2014	8/04/2015	4	0	<0.001	<0.001	<0.001	0	0.001
Molybdenum	mg/L	SAS	1/07/2014	8/04/2015	7	0	<0.05	<0.05	<0.05	0	0.05
Nickel	mg/L	SAS	1/07/2014	8/04/2015	7	0	<0.03	<0.03	<0.03	*	0.03
Nitrate	mg/L	SAS	1/07/2014	8/04/2015	19	19	0.084	3.39	0.440	0	0.015
Nitrite	mg/L	SAS	1/07/2014	8/04/2015	19	6	<0.004	0.066	0.013	0	0.004
Selenium	mg/L	SAS	7/10/2014	8/04/2015	4	0	<0.001	<0.001	<0.001	0	0.001
Sulphate	mg/L	SAS	1/07/2014	8/04/2015	19	19	2.095	6.338	3.772	0	0.02
Total Chlorine	mg/L	SAS	1/07/2014	8/04/2015	18	18	0.26	2.9	1.46	0	0.02

\* Limit of Reporting is greater than ADWG 2011 Health guideline value

Table 3-52 Sarina Reticulated Water Quality Data Summary - Armstrong Beach

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Arsenic	mg/L	SAS	21/10/2014	16/06/2015	2	0	<0.001	<0.001	<0.001	0	0.001
Boron	mg/L	SAS	22/07/2014	16/06/2015	3	3	0.011	0.034	0.021	0	0.01
Cadmium	mg/L	SAS	22/07/2014	16/06/2015	3	0	<0.002	<0.002	<0.002	0	0.002
Chromium	mg/L	SAS	22/07/2014	16/06/2015	3	0	<0.01	<0.01	<0.01	0	0.01
Copper	mg/L	SAS	22/07/2014	22/06/2015	24	1	<0.015	0.0169	<0.015	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	22/07/2014	22/06/2015	24	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	22/07/2014	22/06/2015	24	24	0.201	0.516	0.302	0	0.01
Lead	mg/L	SAS	22/07/2014	22/06/2015	24	7	<0.003	0.0043	<0.003	0	0.003
Manganese	mg/L	SAS	22/07/2014	22/06/2015	25	0	<0.004	<0.004	<0.004	0	0.004
Mercury	mg/L	SAS	21/10/2014	16/06/2015	2	0	<0.001	<0.001	<0.001	0	0.001
Molybdenum	mg/L	SAS	22/07/2014	16/06/2015	3	0	<0.05	<0.05	<0.05	0	0.05
Nickel	mg/L	SAS	22/07/2014	16/06/2015	3	0	<0.03	<0.03	<0.03	*	0.03
Nitrate	mg/L	SAS	22/07/2014	22/06/2015	24	24	2.694	8.813	4.937	0	0.015
Nitrite	mg/L	SAS	22/07/2014	22/06/2015	24	2	<0.004	0.026	<0.004	0	0.004
Selenium	mg/L	SAS	21/10/2014	16/06/2015	2	0	<0.001	<0.001	<0.001	0	0.001
Sulphate	mg/L	SAS	22/07/2014	22/06/2015	24	24	2.825	9.082	5.971	0	0.02
Total Chlorine	mg/L	SAS	22/07/2014	22/06/2015	26	26	0.13	2.28	1.10	0	0.02

\* Limit of Reporting is greater than ADWG 2011.1 Health guideline value

Table 3-53 Sarina Reticulated Water Quality Data Summary - Sarina Beach

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Arsenic	mg/L	SAS	7/04/2015	7/04/2015	1	0	<0.001	<0.001	N/A	0	0.001
Boron	mg/L	SAS	14/07/2014	7/04/2015	2	2	0.022	0.029	0.026	0	0.01
Cadmium	mg/L	SAS	14/07/2014	7/04/2015	2	0	<0.002	<0.002	<0.002	0	0.002
Chromium	mg/L	SAS	14/07/2014	7/04/2015	2	0	<0.01	<0.01	<0.01	0	0.01
Copper	mg/L	SAS	14/07/2014	15/06/2015	12	0	<0.015	<0.015	<0.015	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	14/07/2014	15/06/2015	12	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	14/07/2014	15/06/2015	12	12	0.346	0.613	0.512	0	0.01
Lead	mg/L	SAS	14/07/2014	15/06/2015	12	2	<0.003	0.0032	<0.003	0	0.003
Manganese	mg/L	SAS	14/07/2014	15/06/2015	12	0	<0.004	<0.004	<0.004	0	0.004
Mercury	mg/L	SAS	7/04/2015	7/04/2015	1	0	<0.001	<0.001	N/A	0	0.001
Molybdenum	mg/L	SAS	14/07/2014	7/04/2015	2	0	<0.05	<0.05	<0.05	0	0.05
Nickel	mg/L	SAS	14/07/2014	7/04/2015	2	0	<0.03	<0.03	<0.03	*	0.03
Nitrate	mg/L	SAS	14/07/2014	15/06/2015	12	12	0.996	8.392	4.067	0	0.015
Nitrite	mg/L	SAS	14/07/2014	15/06/2015	12	1	<0.004	0.02	<0.004	0	0.004
Selenium	mg/L	SAS	7/04/2015	7/04/2015	1	0	<0.001	<0.001	N/A	0	0.001
Sulphate	mg/L	SAS	14/07/2014	15/06/2015	12	12	2.784	5.612	3.765	0	0.02
Total Chlorine	mg/L	SAS	14/07/2014	15/06/2015	13	13	0.07	1.03	0.63	0	0.02

\* Limit of Reporting is greater than ADWG 2011.1 Health guideline value

Table 3-54 Sarina Reticulated Water Quality Data Summary - Sarina Apex Park

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Arsenic	mg/L	SAS	7/04/2015	7/04/2015	1	0	<0.001	<0.001	N/A	0	0.001
Boron	mg/L	SAS	14/07/2015	7/04/2015	3	3	0.01	0.029	0.020	0	0.01
Cadmium	mg/L	SAS	14/07/2015	7/04/2015	3	0	<0.002	<0.002	<0.002	0	0.002
Chromium	mg/L	SAS	14/07/2015	7/04/2015	3	0	<0.01	<0.01	<0.01	0	0.01
Copper	mg/L	SAS	7/07/2014	2/06/2015	28	2	<0.015	0.019	<0.015	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	7/07/2014	11/05/2015	28	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	7/07/2014	2/06/2015	28	28	0.163	0.628	0.409	0	0.01
Lead	mg/L	SAS	7/07/2014	2/06/2015	28	7	<0.003	0.006	<0.003	0	0.003
Manganese	mg/L	SAS	7/07/2014	2/06/2015	25	0	<0.004	<0.004	<0.004	0	0.004
Mercury	mg/L	SAS	7/04/2015	7/04/2015	1	0	<0.001	<0.001	N/A	0	0.001
Molybdenum	mg/L	SAS	14/07/2015	7/04/2015	3	0	<0.05	<0.05	<0.05	0	0.05
Nickel	mg/L	SAS	14/07/2015	7/04/2015	3	0	<0.03	<0.03	<0.03	*	0.03
Nitrate	mg/L	SAS	7/07/2014	2/06/2015	28	28	0.276	12.099	4.486	0	0.015
Nitrite	mg/L	SAS	7/07/2014	2/06/2015	28	1	<0.004	0.035	<0.004	0	0.004
Selenium	mg/L	SAS	7/04/2015	7/04/2015	1	0	<0.001	<0.001	N/A	0	0.001
Sulphate	mg/L	SAS	7/07/2014	2/06/2015	28	28	3.335	11.573	6.475	0	0.02
Total Chlorine	mg/L	SAS	7/07/2014	11/05/2015	31	31	0.26	3.7	1.11	0	0.02

\* Limit of Reporting is greater than ADWG 2011 Health guideline value

Table 3-55 Sarina Reticulated Water Quality Data Summary - Sarina Anzac Park

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Arsenic	mg/L	SAS	7/10/2014	7/04/2015	2	1	<0.001	0.001	<0.001	0	0.001
Boron	mg/L	SAS	1/07/2014	7/04/2015	4	4	0.01	0.021	0.015	0	0.01
Cadmium	mg/L	SAS	1/07/2014	7/04/2015	4	0	<0.002	<0.002	<0.002	0	0.002
Chromium	mg/L	SAS	1/07/2014	7/04/2015	4	0	<0.01	<0.01	<0.01	0	0.01
Copper	mg/L	SAS	1/07/2014	22/06/2015	33	1	<0.015	0.025	<0.015	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	1/07/2014	22/06/2015	36	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	1/07/2014	22/06/2015	33	33	0.197	0.689	0.426	0	0.01
Lead	mg/L	SAS	1/07/2014	22/06/2015	33	8	<0.003	0.004	<0.003	0	0.003
Manganese	mg/L	SAS	1/07/2014	22/06/2015	33	0	<0.004	<0.004	<0.004	0	0.004
Mercury	mg/L	SAS	7/10/2014	7/04/2015	2	0	<0.001	<0.001	<0.001	0	0.001
Molybdenum	mg/L	SAS	1/07/2014	7/04/2015	4	0	<0.05	<0.05	<0.05	0	0.05
Nickel	mg/L	SAS	1/07/2014	7/04/2015	4	0	<0.03	<0.03	<0.03	*	0.03
Nitrate	mg/L	SAS	1/07/2014	22/06/2015	33	33	0.305	11.322	3.534	0	0.015
Nitrite	mg/L	SAS	1/07/2014	22/06/2015	33	3	<0.004	0.031	<0.004	0	0.004
Selenium	mg/L	SAS	7/10/2014	7/04/2015	2	0	<0.001	<0.001	<0.001	0	0.001
Sulphate	mg/L	SAS	1/07/2014	15/06/2015	33	33	1.774	11.461	5.710	0	0.02
Total Chlorine	mg/L	SAS	1/07/2014	15/06/2015	38	38	0.08	2	1.20	0	0.02

\* Limit of Reporting is greater than ADWG 2011 Health guideline value



Table 3-56 Sarina Reticulated Water Quality Data Summary - Salonika Beach

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Boron	mg/L	SAS	22/07/2014	22/07/2014	1	1	0.03124	0.03124	N/A	0	0.01
Cadmium	mg/L	SAS	22/07/2014	22/07/2014	1	0	<0.002	<0.002	N/A	0	0.002
Chromium	mg/L	SAS	22/07/2014	22/07/2014	1	0	<0.01	<0.01	N/A	0	0.01
Copper	mg/L	SAS	22/07/2014	22/06/2014	8	1	<0.015	0.027	<0.015	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	22/07/2014	22/06/2014	8	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	22/07/2014	22/06/2014	8	8	0.395	0.615	0.527	0	0.01
Lead	mg/L	SAS	22/07/2014	22/06/2014	8	0	<0.003	<0.003	<0.003	0	0.003
Manganese	mg/L	SAS	22/07/2014	22/06/2014	8	0	<0.004	<0.004	<0.004	0	0.004
Molybdenum	mg/L	SAS	22/07/2014	22/07/2014	1	0	<0.05	<0.05	N/A	0	0.05
Nickel	mg/L	SAS	22/07/2014	22/07/2014	1	0	<0.03	<0.03	N/A	*	0.03
Nitrate	mg/L	SAS	22/07/2014	22/06/2014	8	8	0.705	8.098	4.436	0	0.015
Nitrite	mg/L	SAS	22/07/2014	22/06/2014	8	0	<0.004	<0.004	<0.004	0	0.004
Sulphate	mg/L	SAS	22/07/2014	22/06/2014	8	8	2.513	7.129	4.252	0	0.02
Total Chlorine	mg/L	SAS	22/07/2014	22/06/2014	8	8	0.42	1.2	0.78	0	0.02

\* Limit of Reporting is greater than ADWG 2011 Health guideline value

Table 3-57 Sarina Reticulated Water Quality Data Summary - Grassie Beach

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Boron	mg/L	SAS	5/01/2015	5/01/2015	1	1	0.017	0.017	N/A	0	0.01
Cadmium	mg/L	SAS	5/01/2015	5/01/2015	1	0	<0.002	<0.002	N/A	0	0.002
Chromium	mg/L	SAS	5/01/2015	5/01/2015	1	0	<0.01	<0.01	N/A	0	0.01
Copper	mg/L	SAS	7/07/2014	2/06/2015	12	1	<0.015	0.016	<0.015	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	7/07/2014	2/06/2015	12	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	7/07/2014	2/06/2015	12	12	0.389	0.593	6.203	0	0.01
Lead	mg/L	SAS	7/07/2014	2/06/2015	12	12	<0.003	0.005	<0.003	0	0.003
Manganese	mg/L	SAS	7/07/2014	2/06/2015	12	0	<0.004	<0.004	<0.004	0	0.004
Molybdenum	mg/L	SAS	5/01/2015	5/01/2015	1	0	<0.05	<0.05	N/A	0	0.05
Nickel	mg/L	SAS	5/01/2015	5/01/2015	1	0	<0.03	<0.03	N/A	*	0.03
Nitrate	mg/L	SAS	7/07/2014	2/06/2015	12	12	0.775	8.884	4.320	0	0.015
Nitrite	mg/L	SAS	7/07/2014	2/06/2015	12	0	<0.004	<0.004	<0.004	0	0.004
Sulphate	mg/L	SAS	7/07/2014	2/06/2015	12	12	2.726	5.957	4.138	0	0.02
Total Chlorine	mg/L	SAS	7/07/2014	2/06/2015	12	12	0.13	1.01	0.51	0	0.02

\* Limit of Reporting is greater than ADWG 2011 Health guideline value

Table 3-58 Sarina Reticulated Water Quality Data Summary - Louisa Creek

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Arsenic	mg/L	SAS	7/10/2014	7/10/2014	1	0	<0.001	<0.001	N/A	0	0.001
Boron	mg/L	SAS	1/07/2014	19/01/2015	3	3	0.015	0.04	0.029	0	0.01
Cadmium	mg/L	SAS	1/07/2014	19/01/2015	3	0	<0.002	<0.002	<0.002	0	0.002
Chromium	mg/L	SAS	1/07/2014	19/01/2015	3	0	<0.01	<0.01	<0.01	0	0.01
Copper	mg/L	SAS	1/07/2014	19/01/2015	11	1	<0.015	0.029	<0.015	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	1/07/2014	19/01/2015	11	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	1/07/2014	19/01/2015	11	11	0.404	0.618	0.544	0	0.01
Lead	mg/L	SAS	1/07/2014	19/01/2015	11	1	<0.003	0.003	<0.003	0	0.003
Manganese	mg/L	SAS	1/07/2014	19/01/2015	11	0	<0.004	<0.004	<0.004	0	0.004
Mercury	mg/L	SAS	7/10/2014	7/10/2014	1	0	<0.001	<0.001	N/A	0	0.001
Molybdenum	mg/L	SAS	1/07/2014	19/01/2015	3	0	<0.05	<0.05	<0.05	0	0.05
Nickel	mg/L	SAS	1/07/2014	19/01/2015	3	0	<0.03	<0.03	<0.03	*	0.03
Nitrate	mg/L	SAS	1/07/2014	19/01/2015	11	11	0.708	9.206	4.074	0	0.015
Nitrite	mg/L	SAS	1/07/2014	19/01/2015	11	0	<0.004	<0.004	<0.004	0	0.004
Selenium	mg/L	SAS	7/10/2014	7/10/2014	1	0	<0.001	<0.001	N/A	0	0.001
Sulphate	mg/L	SAS	1/07/2014	19/01/2015	11	11	2.61	7.964	1.102	0	0.02
Total Chlorine	mg/L	SAS	1/07/2014	19/01/2015	11	11	0.16	1.19	0.69	0	0.02

\* Limit of Reporting is greater than ADWG 2011 Health guideline value

Table 3-59 Sarina Reticulated Water Quality Data Summary - Northern Beaches

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Arsenic	mg/L	SAS	21/10/2014	16/06/2015	2	0	<0.001	<0.001	<0.001	0	0.001
Boron	mg/L	SAS	22/07/2014	16/06/2015	3	2	<0.010	0.039	0.025	0	0.01
Cadmium	mg/L	SAS	22/07/2014	16/06/2015	3	0	<0.002	<0.002	<0.002	0	0.002
Chromium	mg/L	SAS	22/07/2014	16/06/2015	3	0	<0.01	<0.01	<0.01	0	0.01
Copper	mg/L	SAS	22/07/2014	16/06/2015	11	0	<0.015	<0.015	<0.015	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	22/07/2014	20/05/2015	10	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	22/07/2014	16/06/2015	11	2	<0.003	0.005	<0.003	0	0.01
Lead	mg/L	SAS	22/07/2014	16/06/2015	11	3	<0.003	0.0063	<0.003	0	0.003
Manganese	mg/L	SAS	22/07/2014	16/06/2015	11	0	<0.004	<0.004	<0.004	0	0.004
Mercury	mg/L	SAS	21/10/2014	16/06/2015	2	0	<0.001	<0.001	<0.001	0	0.001
Molybdenum	mg/L	SAS	22/07/2014	16/06/2015	3	0	<0.05	<0.05	<0.05	0	0.05
Nickel	mg/L	SAS	22/07/2014	16/06/2015	3	0	<0.03	<0.03	<0.03	*	0.03
Nitrate	mg/L	SAS	22/07/2014	16/06/2015	11	11	0.658	7.64	4.157	0	0.015
Nitrite	mg/L	SAS	22/07/2014	16/06/2015	11	1	<0.004	0.02	<0.004	0	0.004
Selenium	mg/L	SAS	21/10/2014	16/06/2015	2	0	<0.001	<0.001	<0.001	0	0.001
Sulphate	mg/L	SAS	22/07/2014	16/06/2015	11	11	2.434	4.179	3.493	0	0.02
Total Chlorine	mg/L	SAS	22/07/2014	16/06/2015	11	11	0.03	3	1.10	0	0.02

\* Limit of Reporting is greater than ADWG 2011 Health guideline value

Table 3-60 Sarina Reticulated Water Quality Data Summary – Sarina Reservoir

Parameter	Unit of measure	Laboratory name	First Data Point Date	Last Data Point Date	Total number of samples taken	Total number of samples in which the parameter was detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count	Number of samples exceeding health guideline value or in which pathogens were detected	Limit of reporting
Arsenic	mg/L	SAS	21/10/2014	16/06/2015	2	0	<0.001	<0.001	<0.001	0	0.001
Boron	mg/L	SAS	22/07/2014	16/06/2015	3	3	0.011	0.027	0.018	0	0.01
Cadmium	mg/L	SAS	22/07/2014	16/06/2015	3	0	<0.002	<0.002	<0.002	0	0.002
Chromium	mg/L	SAS	22/07/2014	16/06/2015	3	0	<0.01	<0.01	<0.01	0	0.01
Copper	mg/L	SAS	22/07/2014	16/06/2015	12	0	<0.015	<0.015	<0.015	0	0.015
<i>E. coli</i>	MPN/100mL	SAS	22/07/2014	20/05/2015	13	0	<1	<1	<1	0	1
Fluoride	mg/L	SAS	22/07/2014	16/06/2015	12	12	0.085	0.527	0.368	0	0.01
Lead	mg/L	SAS	22/07/2014	16/06/2015	12	2	<0.003	0.0047	<0.003	0	0.003
Manganese	mg/L	SAS	22/07/2014	16/06/2015	12	0	<0.004	<0.004	<0.004	0	0.004
Mercury	mg/L	SAS	21/10/2014	16/06/2015	2	0	<0.001	<0.001	<0.001	0	0.001
Molybdenum	mg/L	SAS	22/07/2014	16/06/2015	3	0	<0.05	<0.05	<0.05	0	0.05
Nickel	mg/L	SAS	22/07/2014	16/06/2015	3	0	<0.03	<0.03	<0.03	*	0.03
Nitrate	mg/L	SAS	22/07/2014	16/06/2015	12	12	0.719	8.79	5.250	0	0.015
Nitrite	mg/L	SAS	22/07/2014	16/06/2015	12	2	<0.004	0.033	0.007	0	0.004
Selenium	mg/L	SAS	21/10/2014	16/06/2015	2	0	<0.001	<0.001	<0.001	0	0.001
Sulphate	mg/L	SAS	22/07/2014	16/06/2015	12	12	5.255	9.269	6.927	0	0.02
Total Chlorine	mg/L	SAS	22/07/2014	16/06/2015	17	17	0.54	2.5	1.17	0	0.02

\* Limit of Reporting is greater than ADWG 2011 Health guideline value

## 4 NON-COMPLIANCES

Details of the non-compliances reported to the regulator in the 2014/15 financial year have been tabulated in Table 4-1.

Table 4-1 Drinking Water Non-compliances for the 2014/15 Financial Year

Date of Non-compliance	Date of notification	Scheme	Scheme Component	Parameter	Level Detected	Action Taken
7 October 2014	8 October 2014	Sarina	Sarina WTP – Treated Water	E.coli	1 MPN/100mL	<p>1 MPN/100mL E.coli was detected in a sample labelled as 'treated water' from Sarina WTP, collected 7 October 2014. The sample was immediately retested at the laboratory when the E.coli detection was identified and the results were confirmed by the retest.</p> <p>Following notification of the non-compliant result, the treatment plant operators checked the treatment process for issues including the chlorine dosing for disinfection.</p> <p>A resample of treated water was collected 8 October 2014 and no E.coli were detected.</p> <p>The detection of E.coli in the treated water sample when on site testing revealed there was sufficient chlorine in the treated water and that both turbidity and pH met the ADWG values allowing for efficient disinfection, suggest that a sampling or sample bottle labelling error occurred and that the sample analysed was actually a raw water sample from the treated plant, not a treated water sample.</p> <p>Investigation into the sampling techniques on the day of the non-compliant result revealed that sampling error is likely to blame. The sampler was made aware of the sampling error and assured that greater care would be taken when collecting future samples.</p>

Date of Non-compliance	Date of notification	Scheme	Scheme Component	Parameter	Level Detected	Action Taken
19 January 2015	20 January 2015	Mackay	McEwens Beach	E.coli	2 MPN/100mL	<p>2 MPN/100mL E.coli was detected in a sample collected from the Mackay water supply scheme reticulation system sample point of McEwens Beach on 19 January 2015. A resample was collected from the sample point on 20 January 2015 with the result meeting the compliance level.</p> <p>Water quality results from the field tests and reticulation samples collected on the same day as the non-compliant sample were reviewed for any potential issues and no issues were found in the other reticulation samples.</p> <p>The McEwens Beach reticulation area was flushed in the afternoon of 20 January 2015 in an attempt to increase the chlorine levels through refreshing the water in the pipeline. A follow up sample collected on 27 January 2015 indicated that flushing did refresh the water as the free chlorine level increased.</p> <p>Previous experience at the McEwens Beach sample point indicated that the sample point tends to be contaminated by frogs. Due to no E.coli being detected in the samples collected on the same day from other reticulation sample points and in the resample, after the sample point was thoroughly flushed and disinfected, suggests that the initial detection was the result of contamination of the sample point itself.</p>

Date of Non-compliance	Date of notification	Scheme	Scheme Component	Parameter	Level Detected	Action Taken
20 January 2015	10 March 2015	Midge Point	Kelsey Creek	E.coli	2 MPN/100mL	<p>2 MPN/100mL E.coli was detected in a sample collected from the Midge Point water supply scheme reticulation system sample point of Kelsey Creek on 20 January 2015. Residual and total chlorine was &lt;0.02 mg/L. As the E.coli result was not flagged by the laboratory, the non-compliance was not realised until the results were issued.</p> <p>A resample was collected on 11 March 2015, once the non-compliance was notified. The E.coli result for the resample was &lt;1 MPN/100mL. Free residual chlorine was 1.71 mg/L and total chlorine was 1.86 mg/L. Investigation revealed the chlorine injection system was checked the day before the non-compliant sample was collected. Extra chlorine was added to the system on 10 March 2015.</p> <p>The result may relate to the fact that the sample point may have not been completely sterilised, as is difficult in rainfall conditions (as was experienced during sampling).</p> <p>As a result on the investigation into the non-compliance a directive was released that sampling of potable water should not be undertaken whilst it is raining as this can lead to contamination of the water samples due to failure to fully disinfect the sample point. A change to the way samples are registered with the laboratory was also implemented so to ensure non-compliances are passed onto the relevant council staff as soon as the results are known to allow re-sampling and the implementation of corrective actions as soon as possible.</p>

## 5 PRESCRIBED INCIDENTS

MRC did not experience any prescribed incidents in the 2014/15 financial year.

## 6 CUSTOMER COMPLAINTS

A tabulated summary of the customer complaints received in the 2014/15 financial year has been provided in Table 6-1.

**Table 6-1 Summary of Customer Complaints Received in the 2014/15 Financial Year**

Scheme	Location within scheme	Complaint description	Number of complaints	Rectification actions
Mackay	Andergrove	No water	13	Scheduled outage - notifications were provided prior to works - water was reinstated after works completed Vandals had closed meter valve – meter valve opened - water reinstated Water meter replaced Water meter repaired Unplanned outage - emergency and reactive works - water was reinstated after works completed
		Low water pressure	7	Pressure was tested - pressure met standards - advised customer that issue was on their side of the meter Water meter repaired Scheduled outage - notifications were provided prior to works - water pressure was reinstated after works completed
		Water Odour/Taste/Smell	2	Investigated and samples collected – no issues detected Flushed lines
		Dirty water / Cloudy water	4	Flushed lines
	Bakers Creek	No water	5	Unplanned outage - emergency and reactive works - water was reinstated after works completed Investigated and found to be responsibility of customer
		Dirty water / Cloudy water	1	Unplanned outage - emergency and reactive works – event passed after works completed



Scheme	Location within scheme	Complaint description	Number of complaints	Rectification actions
	Ball Bay	Dirty water / Cloudy water	1	Flushed lines
	Beaconsfield	No water Low water pressure	1 3	Investigated and found to be responsibility of customer Water meter repaired Pump station outage – pressure returned when pump station turned on
	Blacks Beach	Dirty water / Cloudy water No water	3 6	Flushed lines Investigated and found to be responsibility of customer Water meter repaired Investigated and found to be responsibility of customer Unplanned outage - emergency and reactive works - water was reinstated after works completed
		Dirty water / Cloudy water	1	Investigated and found to be responsibility of customer
	Bucasia	No water	2	Water meter replaced Water meter repaired
		Dirty water / Cloudy water	1	Flushed lines
	Cape Hillsborough	Low water pressure No water	1 6	Investigated and found to be responsibility of customer Unplanned outage - emergency and reactive works - water was reinstated after works completed
		Low water pressure	1	Unplanned outage - emergency and reactive works - water was reinstated after works completed
	Dolphin Heads	No water	8	Ergon working on pump station – pump station reinstated after Ergon completed works Pump station failure – pump reset and water service returned Investigated and found to be responsibility of customer Unplanned outage - emergency and reactive works - water was reinstated after works completed
	East Mackay	No water	2	Water meter repaired

Scheme	Location within scheme	Complaint description	Number of complaints	Rectification actions
				Meter valve was closed – meter valve opened - water reinstated
		Low water pressure	2	Pressure was tested - pressure met standards - advised customer that issue was on their side of the meter Water meter repaired
		Water Odour/Taste/Smell	1	Investigated – no issues detected
		Dirty water / Cloudy water	1	Flushed lines
	Eimeo	No water	8	Meter valve was not opened - opened valve fully Unplanned outage - emergency and reactive works - water was reinstated after works completed
		Low water pressure	6	Meter valve was not opened fully - opened valve fully Water meter repaired Pump station failure – pump reset and water pressure service returned Investigated and found to be responsibility of customer
		Dirty water / Cloudy water	1	Investigated and samples collected – no issues detected
		Water Odour/Taste/Smell	1	Investigated and samples collected – no issues detected
	Erakala	No water	1	Unplanned outage - emergency and reactive works - water was reinstated after works completed
	Farleigh	No water	1	Investigated and found to be responsibility of customer
		Low water pressure	2	Water meter repaired
	Glenella	No water	9	Water meter repaired Unplanned outage - emergency and reactive works - water was reinstated after works completed Scheduled outage - notifications were provided prior to works - water pressure was reinstated after works completed

Scheme	Location within scheme	Complaint description	Number of complaints	Rectification actions
		Low water pressure	2	Pressure was tested - pressure met standards - advised customer that issue was on their side of the meter Water meter cleaned and tested
		High water pressure	1	Investigated and pressure reducing valve repaired
	Greenmount	Low water pressure	1	Water meter repaired
	Haliday Bay	Dirty water / Cloudy water	1	Flushed lines
	Kuttabul	No water	1	Investigated and found to be responsibility of customer
	Mackay	No water	7	Water meter blockage cleared Investigated and found to be responsibility of customer Unplanned outage - reactive works - water was reinstated after works completed Scheduled outage - notifications were provided prior to works - water pressure was reinstated after works completed
		Low water pressure	5	Water meter replaced Investigated and found to be responsibility of customer Pressure was tested - pressure met standards - advised customer that issue was on their side of the meter
		Dirty water / Cloudy water	6	Flushed lines
	Mackay Harbour	No water	1	Meter valve was not opened - opened valve fully – caused by private plumber
		Low water pressure	1	Within in Mackay Bulk Ports reticulation system – not MRC jurisdiction
		Dirty water / Cloudy water	1	Investigated and found to be responsibility of customer
	Mount Jukes	No water	2	Unplanned outage - reactive works - water was reinstated after works completed Investigated and found to be responsibility of customer
		Low water pressure	3	Replaced maincock Pressure was tested - pressure met standards - advised customer that issue was

Scheme	Location within scheme	Complaint description	Number of complaints	Rectification actions
	Mount Pleasant	No water	6	on their side of the meter Replaced Joiner with gate valve Scheduled outage - notifications were provided prior to works - water pressure was reinstated after works completed Unplanned outage - reactive works - water was reinstated after works completed
		Low water pressure	4	Pressure was tested - pressure met standards - advised customer that issue was on their side of the meter Replaced meter service Neighbour was filling swimming pool
		Dirty water / Cloudy water	6	Flushed lines
	North Mackay	No water	5	Scheduled outage - notifications were provided prior to works - water pressure was reinstated after works completed Unplanned outage - reactive works - water was reinstated after works completed Investigated and found to be responsibility of customer Ergon power outage – supply returned when power returned
		Low water pressure	7	Ergon power outage – pressure returned when power returned Pressure was tested - pressure met standards - advised customer that issue was on their side of the meter Water meter serviced
		Dirty water / Cloudy water	12	Flushed lines Unplanned outage - reactive works - water improved after works completed
		Water Odour/Taste/Smell	2	Investigated and samples collected – no issues detected in samples Flushed lines
	Ooralea	Low water pressure	1	Water service replaced
		Dirty water / Cloudy water	1	Flushed lines
	Paget	No water	1	Meter valve jammed - replaced valve
	Richmond	Low water pressure	1	Unplanned outage - reactive works - water was reinstated after works completed – main damaged by contractor

Scheme	Location within scheme	Complaint description	Number of complaints	Rectification actions
		Dirty water / Cloudy water	2	Flushed lines
		Water Odour/Taste/Smell	1	Investigated and samples collected – no issues detected in samples
	Rural View	No water	4	Meter cock replaced Water meter replaced Investigated and found to be responsibility of customer
		Low water pressure	5	Pressure was tested - pressure met standards
		Dirty water / Cloudy water	1	Flushed lines
		Water Odour/Taste/Smell	1	Investigated and samples collected – no issues detected
	Seaforth	No water	1	Investigated and found to be responsibility of customer
	Shoal Point	No water	1	Investigated and found to be responsibility of customer
		Dirty water / Cloudy water	1	Investigated and found to be responsibility of customer
		Water Odour/Taste/Smell	1	Investigated and samples collected – no issues detected in samples
	Slade Point	No water	6	Installed valve Meter valve was not opened - opened valve fully Unplanned outage - reactive works - water was reinstated after works completed Investigated and found to be responsibility of neighbour who had plumber undertaking works that required water to be turned off Replaced service to meter
		Low water pressure	2	Investigated and found to be responsibility of customer
		Dirty water / Cloudy water	4	Replaced service to meter Investigated and samples collected – no issues detected

Scheme	Location within scheme	Complaint description	Number of complaints	Rectification actions
				Flushed lines Investigated and found to be responsibility of customer
	South Mackay	No water	2	Serviced water meter Meter valve was not opened - opened valve fully
		Low water pressure	3	Pressure was tested - pressure met standards – advised customer it was their responsibility Serviced water meter
		Dirty water / Cloudy water	6	Serviced water meter Flushed lines Investigated and found to be responsibility of customer
		Water Odour/Taste/Smell	2	Investigated and samples collected – no issues detected
	The Leap	No water	1	Scheduled outage - notifications were provided prior to works - water pressure was reinstated after works completed
		Low water pressure	2	Power isolated at pump station by contractor - water supply returned when power returned Scheduled outage - notifications were provided prior to works - water pressure was reinstated after works completed
	Walkerston	No water	3	Fault at pump station - water supply returned when issue resolved Meter valve was not opened - opened valve fully
		Low water pressure	3	Replaced water meter service Pressure was tested - pressure met standards Investigated and found to be responsibility of customer
		Dirty water / Cloudy water	1	Flushed lines Investigated and samples collected

Scheme	Location within scheme	Complaint description	Number of complaints	Rectification actions
	West Mackay	No water	5	Water meter repaired Investigated and found to be responsibility of customer Meter valve not opened - opened meter valve Scheduled outage - notifications were provided prior to works - water was reinstated after works completed
		Low water pressure	4	Water meter repaired Pressure was tested - pressure met standards - advised customer that issue was on their side of the meter
		Dirty water / Cloudy water	17	Flushed lines Water observed to be clear - event appeared to have passed Investigated and found to be responsibility of customer
		Water Odour/Taste/Smell	1	Flushed lines
Bloomsbury	Bloomsbury	No water	7	Booster pumps reset – supply returned once pumps operational Faulty analyser repaired
		Low water pressure	1	Faulty analyser repaired
Calen	Calen	Low water pressure	1	Investigated and found to be responsibility of customer
Eton	Eton	No water	8	Investigated and found to be responsibility of customer Pumps reset - supply returned once pumps operational Flushed lines
		Low water pressure	3	Water meter replaced Investigated and found to be responsibility of customer
		Dirty water / Cloudy water	7	Flushed lines Main roads undertaking work near lines – event passed when works stopped MRC civil crew undertaking work near lines - event passed when works stopped Investigated and found to be responsibility of customer
Gargett	Gargett	Low water pressure	1	Investigated and found to be responsibility of customer

Scheme	Location within scheme	Complaint description	Number of complaints	Rectification actions
Marian		No water	4	Meter ball valve cleared of debris Ergon power outage – water supply returned with power Pump station failure – pump attendant resolved issue
		Low water pressure	3	Pressure was tested - pressure met standards - advised customer that issue was on their side of the meter Pump station failure – pump attendant resolved issue
		Dirty water / Cloudy water	1	Flushed lines
Midge Point		Water Odour/Taste/Smell	5	Flushed lines Investigated and samples collected – no issues detected
		No water	5	Scheduled outage - notifications were provided prior to works - water was reinstated after works completed Water meter repaired Meter valve not opened - opened meter valve
		Low water pressure	2	Pressure was tested - pressure met standards - advised customer that issue was on their side of the meter
		Dirty water / Cloudy water	15	Flushed lines
		No water	3	Pump station failure – pump attendant resolved issue Scheduled outage - notifications were provided prior to works - water was reinstated after works completed
Mirani		Low water pressure	5	Pressure was tested - pressure met standards Serviced water meter
		Water Odour/Taste/Smell	1	Flushed lines
		No water	1	Power failure at pump station – electrician reset pumps
Sarina	Alligator Creek Armstrong Beach	Low water pressure	2	Pump station failure – pump station repaired Investigated and found to be responsibility of customer



Scheme	Location within scheme	Complaint description	Number of complaints	Rectification actions
		Water Odour/Taste/Smell	1	Flushed lines
		Dirty water / Cloudy water	4	Flushed lines
	Grasstree Beach	No water	1	Water meter repaired
		Water Odour/Taste/Smell	1	Flushed lines Cleaned water meter
	Hay Point	Low water pressure	1	Faulty pressure reducing valve replaced
		Dirty water / Cloudy water	1	Flushed lines
	Sarina	No water	8	Meter valve not opened - opened meter valve High consumption in area – house higher than reservoir Meter installed backwards – corrected installation orientation Ergon power outage – water supply returned with power Pump station failure – pump attendant resolved issue
		Low water pressure	7	Pressure was tested - pressure met standards - advised customer that issue was on their side of the meter Replaced water meter service Pump station fault – pump attendant resolved issue
		Dirty water / Cloudy water	3	Flushed lines
		Water Odour/Taste/Smell	1	Investigated and found to be responsibility of customer
	Sarina Beach	Low water pressure	4	Pump station fault – pump attendant resolved issue Pressure was tested - pressure met standards - advised customer that issue was on their side of the meter

## 7 REVIEWS

The DWQMP underwent an internal review in the 2013/14 financial year and an amended DWQMP was submitted for approval in September 2014. The amended DWQMP was approved on 8 December 2014.

An internal review and amendment of the DWQMP is scheduled to be completed in January 2016.

## 8 AUDITS

The DWQMP was initially approved on 6 July 2012 and an amendment approved on 8 December 2014. An external audit of the DWQMP has therefore not yet been undertaken; however it has been scheduled to be completed in the current financial year. Quotes from external auditors are in the process of being requested by MRC.

## 9 REFERENCES

- NHMRC & NRMCC, Australian Drinking Water Guidelines, 2011
- QLD, Public Health Regulation, 2005, Current as at 1 March 2014
- QLD, Water Supply (Safety and Reliability) Act 2008