

Operational Audit Report

Altogether Combined Audit

Altogether Group Pty Ltd
August 2021



Contents

Executive Summary	1
Auditor Declaration	1
Major Findings	1
Recommendations	2
1. Introduction	5
1.1. The Scheme	5
1.2. Objectives	5
1.3. Audit Client	5
1.4. Audit Method	6
1.4.1. Audit Scope	6
1.4.2. Audit Standard	6
1.4.3. Audit Criteria	7
1.4.4. Audit Process	7
1.4.5. Auditor	8
1.4.6. Audit Grades	8
1.5. Regulatory Regime	8
1.6. Quality Assurance Process	9
1.7. Sampling	9
2. Site Inspection and Interviews	10
2.1. Site Inspection	10
2.2. Interviews	10
3. Summary of Findings Combined	12
3.1. Water Quality Plans - Recycled Water	12
3.1.1. Summary of Findings	12
3.1.2. Recommendations	12
3.1.3. Opportunities for Improvement	14
3.2. Water Quality Plans - Drinking Water	14
3.2.1. Summary of Findings	15
3.2.1. Recommendations	15
3.2.2. Opportunities for Improvement	16
3.3. Water Quality Plans - Sewage	16
3.3.1. Summary of Findings	16
3.3.2. Recommendations	16
3.3.3. Opportunities for Improvement	16
3.4. Water Quality Plans - Operational Procedures	16
3.4.1. Summary of Findings	17
3.4.2. Recommendations	17

3.4.3.	Opportunities for Improvement.....	17
3.5.	Water Quality Plans – Monitoring and Analysis.....	17
3.5.1.	Summary of Findings.....	17
3.5.2.	Recommendations.....	17
3.5.1.	Opportunities for Improvement.....	17
3.6.	Infrastructure Operating Plan.....	17
3.6.1.	Summary of Findings.....	18
3.6.2.	Recommendations.....	18
3.6.3.	Opportunities for Improvement.....	18
3.7.	Incident Notification.....	19
3.7.1.	Summary of findings.....	19
3.7.2.	Recommendations.....	19
3.7.1.	Opportunities for Improvement.....	19
3.8.	Compliance findings to be checked.....	19
4.	Audit Conclusions.....	20
	Appendix A Detailed findings.....	22
	Appendix B Summary Table	164
	Appendix C Summary of Findings Discovery Point Water.....	185
5.	Overall Summary.....	185
5.1.	Water Quality Plans - Recycled Water	185
5.1.1.	Summary of Findings.....	185
5.1.2.	Recommendations.....	185
5.2.	Water Quality Plans - Drinking Water	193
5.2.1.	Summary of Findings.....	193
5.2.2.	Recommendations.....	193
5.3.	Water Quality Plans - Sewage.....	197
5.3.1.	Summary of Findings.....	198
5.3.2.	Recommendations.....	198
5.4.	Water Quality Plans - Operational Procedures	199
5.4.1.	Summary of Findings.....	199
5.4.2.	Recommendations.....	199
5.5.	Water Quality Plans – Monitoring and Analysis.....	199
5.5.1.	Summary of Findings.....	200
5.5.2.	Recommendations.....	200
5.6.	Infrastructure Operating Plan	200
5.6.1.	Summary of Findings.....	201
5.6.2.	Recommendations.....	201
5.7.	Incident Notification.....	201
5.7.1.	Summary of findings.....	201
5.7.2.	Recommendations.....	201
5.8.	Compliance findings to be checked.....	201

Appendix D Summary of Findings Green Square Water.....208

6.	Overall Summary.....	208
6.1.	Water Quality Plans - Recycled Water	208
6.1.1.	Summary of Findings.....	208
6.1.2.	Recommendations.....	208
6.2.	Water Quality Plans - Operational Procedures	215
6.2.1.	Summary of Findings.....	215
6.2.2.	Recommendations.....	215
6.3.	Water Quality Plans – Monitoring and Analysis.....	215
6.3.1.	Summary of Findings.....	216
6.3.2.	Recommendations.....	216
6.4.	Infrastructure Operating Plan	216
6.4.1.	Summary of Findings.....	217
6.4.2.	Recommendations.....	217
6.5.	Incident Notification.....	217
6.5.1.	Summary of findings.....	217
6.5.2.	Recommendations.....	217
6.6.	Compliance findings to be checked	217

Appendix E Summary of Findings Central Park Water.....223

7.	Overall Summary.....	223
7.1.	Water Quality Plans - Recycled Water	223
7.1.1.	Summary of Findings.....	223
7.1.2.	Recommendations.....	223
7.2.	Water Quality Plans - Drinking Water	230
7.2.1.	Summary of Findings.....	230
7.2.2.	Recommendations.....	231
7.3.	Water Quality Plans - Sewage.....	235
7.3.1.	Summary of Findings.....	235
7.3.2.	Recommendations.....	235
7.4.	Water Quality Plans - Operational Procedures	236
7.4.1.	Summary of Findings.....	237
7.4.2.	Recommendations.....	237
7.5.	Water Quality Plans – Monitoring and Analysis.....	237
7.5.1.	Summary of Findings.....	237
7.5.2.	Recommendations.....	237
7.6.	Infrastructure Operating Plan	237
7.6.1.	Summary of Findings.....	238
7.6.2.	Recommendations.....	238
7.7.	Incident Notification.....	238
7.7.1.	Summary of findings.....	239
7.7.2.	Recommendations.....	239
7.8.	Compliance findings to be checked	239

Appendix F Summary of Findings Flow Systems Shepherds Bay.....242

8.	Overall Summary.....	242
8.1.	Water Quality Plans - Recycled Water	242
8.1.1.	Summary of Findings.....	242
8.1.2.	Recommendations.....	242
8.2.	Water Quality Plans - Drinking Water	249
8.2.1.	Summary of Findings.....	249
8.2.2.	Recommendations.....	249
8.3.	Water Quality Plans - Sewage.....	252
8.3.1.	Summary of Findings.....	252
8.3.2.	Recommendations.....	253
8.4.	Water Quality Plans - Operational Procedures	254
8.4.1.	Summary of Findings.....	254
8.4.2.	Recommendations.....	254
8.5.	Water Quality Plans – Monitoring and Analysis.....	254
8.5.1.	Summary of Findings.....	254
8.5.2.	Recommendations.....	255
8.6.	Infrastructure Operating Plan	255
8.6.1.	Summary of Findings.....	255
8.6.2.	Recommendations.....	256
8.7.	Incident Notification.....	256
8.7.1.	Summary of findings.....	256
8.7.2.	Recommendations.....	256
8.8.	Compliance findings to be checked	256

Appendix G Summary of Findings Flow Systems Box Hill.....261

9.	Overall Summary.....	261
9.1.	Water Quality Plans - Recycled Water	261
9.1.1.	Summary of Findings.....	261
9.1.2.	Recommendations.....	261
9.2.	Water Quality Plans - Sewage.....	268
9.2.1.	Summary of Findings.....	268
9.2.2.	Recommendations.....	268
9.3.	Water Quality Plans - Operational Procedures	270
9.3.1.	Summary of Findings.....	270
9.3.2.	Recommendations.....	270
9.4.	Water Quality Plans – Monitoring and Analysis.....	270
9.4.1.	Summary of Findings.....	270
9.4.2.	Recommendations.....	271
9.5.	Infrastructure Operating Plan	271
9.5.1.	Summary of Findings.....	271
9.5.2.	Recommendations.....	272
9.6.	Incident Notification.....	272

9.6.1.	Summary of findings.....	272
9.6.2.	Recommendations.....	272
9.7.	Compliance findings to be checked	272
Appendix H Summary of Findings Pitt Town Water.....		275
10.	Overall Summary.....	275
10.1.	Water Quality Plans - Recycled Water	275
10.1.1.	Summary of Findings.....	275
10.1.2.	Recommendations.....	275
10.2.	Water Quality Plans - Sewage.....	282
10.2.1.	Summary of Findings.....	282
10.2.2.	Recommendations.....	282
10.3.	Water Quality Plans - Operational Procedures	283
10.3.1.	Summary of Findings.....	283
10.3.2.	Recommendations.....	284
10.4.	Water Quality Plans – Monitoring and Analysis.....	284
10.4.1.	Summary of Findings.....	284
10.4.2.	Recommendations.....	284
10.5.	Infrastructure Operating Plan	284
10.5.1.	Summary of Findings.....	285
10.5.2.	Recommendations.....	285
10.6.	Incident Notification.....	285
10.6.1.	Summary of findings	286
10.6.2.	Recommendations.....	286
10.7.	Compliance findings to be checked	286
Appendix I Summary of Findings Huntlee Water.....		290
11.	Overall Summary.....	290
11.1.	Water Quality Plans - Recycled Water	290
11.1.1.	Summary of Findings.....	290
11.1.2.	Recommendations.....	290
11.2.	Water Quality Plans - Drinking Water	298
11.2.1.	Summary of Findings.....	298
11.2.2.	Recommendations.....	299
11.3.	Water Quality Plans - Sewage.....	303
11.3.1.	Summary of Findings.....	304
11.3.2.	Recommendations.....	304
11.4.	Water Quality Plans - Operational Procedures	305
11.4.1.	Summary of Findings.....	305
11.4.2.	Recommendations.....	305
11.5.	Water Quality Plans – Monitoring and Analysis.....	305
11.5.1.	Summary of Findings.....	306
11.5.2.	Recommendations.....	306

11.6. Infrastructure Operating Plan.....	306
11.6.1. Summary of Findings.....	307
11.6.2. Recommendations.....	307
11.7. Incident Notification.....	307
11.7.1. Summary of findings.....	307
11.7.2. Recommendations.....	307
11.8. Compliance findings to be checked.....	307
Appendix J Summary of Findings Cooranbong Water.....	312
12. Overall Summary.....	312
12.1. Water Quality Plans - Recycled Water.....	312
12.1.1. Summary of Findings.....	312
12.1.2. Recommendations.....	312
12.2. Water Quality Plans - Drinking Water.....	319
12.2.1. Summary of Findings.....	319
12.2.2. Recommendations.....	320
12.3. Water Quality Plans - Sewage.....	324
12.3.1. Summary of Findings.....	324
12.3.2. Recommendations.....	324
12.4. Water Quality Plans - Operational Procedures.....	325
12.4.1. Summary of Findings.....	325
12.4.2. Recommendations.....	326
12.5. Water Quality Plans – Monitoring and Analysis.....	326
12.5.1. Summary of Findings.....	326
12.5.2. Recommendations.....	326
12.6. Infrastructure Operating Plan.....	326
12.6.1. Summary of Findings.....	327
12.6.2. Recommendations.....	327
12.7. Incident Notification.....	327
12.7.1. Summary of findings.....	328
12.7.2. Recommendations.....	328
12.8. Compliance findings to be checked.....	328

Tables

Table 1 Audit Steps.....	7
Table 2 Audit Grades.....	8
Table 3 Level of Compliance.....	12
Table 4 Water Quality Plan – Recycled Water.....	23
Table 5 Water Quality Plan - Drinking Water.....	76
Table 6 Water Quality Plan - Sewage.....	103
Table 7 Network Operators Licence Clauses.....	106
Table 8 Infrastructure Operating Plan.....	110
Table 9 Incident Notification.....	120
Table 10 Incidents Notified to IPART 1 March 2020 – 30 April 2021.....	121
Table 11 Compliance findings to be checked.....	129
Table 12 Level of Compliance.....	Error! Bookmark not defined.

EXECUTIVE SUMMARY

Auditor Declaration

This report presents the findings of the Combined Operational Audit of the Altogether Group of Companies [Altogether Group Pty Ltd] (Altogether) *Water Industry Competition (General) Regulation 2008* (WIC Reg) and network operator's licences for its eight water infrastructure schemes.

The auditor confirms that:

- sufficient evidence has been sighted to support the conclusions
- the audit findings accurately reflect the professional opinion of the auditor
- the lead auditor has conducted the audit, determined audit findings and prepared this report in accordance with the requirements of the *Audit Guideline Water Industry Competition Act 2006 July 2020*
- the audit findings have not been unduly influenced by the utility and/or any of its associates.

Major Findings




Altogether demonstrated that it had implemented a number of processes over the audit period to improve the implementation of the management framework in relation to sewage, recycled water and drinking water including:


- a new process to review compliance of the verification monitoring program
- review of the scheme risk assessments, sewage risk assessment and drinking water risk assessment
- review and update to licence plans, scheme management plans and incident management plans.

The audit found that, despite the improvements noted above, there were a number of gaps in the implementation of the water quality plans that have led to non-compliances in relation the water quality plans for recycled water, drinking water and sewage, including but not limited to:

- failure to implement the documented risk assessment methodology resulting in under estimation of risk
- failure to implement the procedure for undertaking cross-connection audits, and inadequacy in the procedure
- failure to allocate adequate resources to the implementation of the recycled and drinking water policies and management framework.

The compliance summary for the combined audit is shown in the table below. Appendices C-J provide a scheme specific audit summary of compliance.

Compliance Grades		Number of Findings							
		Discovery Point	Green Square	Central Park	Shepherds Bay	Box Hill	Pitt Town	Huntlee	Cooranbong
	Compliant	9	9	9	9	9	9	9	9
	Non-compliant (non-material)	2	-	2	2	1	1	2	2
	Non-compliant (material)	1	1	1	1	1	1	1	1

Compliance Grades		Number of Findings							
		Discovery Point	Green Square	Central Park	Shepherds Bay	Box Hill	Pitt Town	Huntlee	Cooranbong
	No requirement	0	2	0	0	1	1	0	0

Recommendations

The following recommendations have been identified as a result of this audit.

Recycled Water Quality Plan

- Element 1

REC-RW-2021-001 Implement a process to ensure the Stakeholders Emergency Contact List is reviewed by the due date to ensure it remains current.

REC-RW-2021-002 Where the water quality plans or legislation identify information to be included on the website, ensure that information is made available.

REC-RW-2021-003 Review and update stakeholder lists or equivalent to reflect all potential stakeholders and the methods for engagement, including engaging with the public.

REC-RW-2021-004 Undertake an internal audit of interpretive signage at all Altogether sites and remove any references to 'purified' water and ensure all relevant signage refers to recycled water.

REC-RW-2021-005 Implement a program to increase staff awareness of recycled water risks, improve ownership for managing risk and allocation of adequate resources to implement licence plans and meet regulatory requirements.

- Element 2

REC-RW-2021-006 Review the risk assessments or risk assessment methodology to ensure that consequence values align with the risk being assessed, for example, where the consequence descriptor is limited to aesthetic or undetectable, these cannot be attributed to a risk that has an acute health impact. Frequencies should also be applied taking into consideration historical performance and the occurrence of incidents. Any reduction in consequence should be justified.

- Element 3

REC-RW-2021-007 Clearly document the UV dose calculations documenting the evidence used. This is required to validate that the UV Systems are able to achieve the LRV required for the site-specific operational conditions (flow and UVT), documented in the log reduction tables and CCP Tables. Critical limits must be set to ensure the operational range of the UV is within the validated limits.

REC-RW-2021-008 Review the scheme specific monitoring and sampling programs to ensure they include all operational parameters or develop a separate comprehensive operational monitoring program.

- Element 4

REC-RW-2021-009 Review the Minimising the Risk of Cross-Connection Checks Policy and Procedure to ensure that it clearly identifies the number of connections to be audited, audit procedure and the record keeping requirements. Ensure that the ongoing cross-connection audit program is adequate to control the risk of on-lot cross connections noting that the AGWR suggests a rolling 6-monthly audits with all properties audited at least every 5 years as an example of appropriate cross connection monitoring.

- Element 5

REC-RW-2021-010 For surface water and other environmental monitoring processes, identify appropriate limits to trigger further investigation and reporting to determine the source of human sewage indicators and to implement actions to reduce environmental harm.

- Element 6

REC-RW-2021-011 Review and update the Water Operations Incident Management, Reporting and Investigation Procedure and Incident Notification Protocol with NSW Health to ensure that the definition of a recycled water event refers to the documented water quality criteria for recycled water in the Water Quality Plan rather than referring to the Australian Guidelines for Water Recycling.

REC-RW-2021-012 Establish a program to regularly audit the recycled water network to ensure there are no connections to unapproved uses.

- Element 9
 - Refer to REC-RW-2021-007
- Element 10

REC-RW-2021-013 Establish review processes to ensure all documents are reviewed on time and do not have typographical and hyperlink errors.

- Element 11

REC-RW-2021-014 Develop a process to capture and track the progress in implementing recommendations from internal audits on an action register or improvement program, as required by the procedure.

Element 12

REC-RW-2021-015 Ensure all items on the Improvement Plan have been allocated to a responsible party, communicated, and due dates for completion have been applied.

Drinking Water Quality Plan

Element 1

REC-DW-2021-001 Implement a process to ensure the Stakeholders Emergency Contact List is reviewed by the due date to ensure it remains current.

REC-DW-2021-002 Where the water quality plans or legislation identify information to be included on the website, ensure that information is made available.

Element 2

REC-DW-2021-003 Review the risk assessments or risk assessment methodology to ensure that consequence values align with the risk being assessed, for example, where the consequence descriptor is limited to aesthetic or undetectable, these cannot be attributed to a risk that has an acute health impact. Frequencies should also be applied taking into consideration historical performance and the occurrence of incidents. Any reduction in consequence should be justified.

Element 4

REC-DW-2021-004 Establish a policy and procedure for hygienic work practices for Altogether staff and contractors undertaking works on Altogether's drinking water networks and develop a process for ensuring all network operators and contractors have been made aware of the requirements and establish an ongoing audit process to ensure the practices are implemented.

Element 5

REC-DW-2021-005 The Monitoring and Sampling Programs for drinking water schemes identify that a minimum target of 0.2mg/L of free chlorine should be maintained through reticulation networks, this is consistent with ADWG advice. Identify areas in reticulation where this cannot be met and raise an improvement item to improve the chlorine residual in these areas within an appropriate timeframe

REC-DW-2021-006 Include recording the operational monitoring of the drinking water system on the weekly control points checklist or equivalent.

Element 10

REC-DW-2021-007 Establish review processes to ensure all documents are reviewed on time and do not have typographical and hyperlink errors.

Element 11

REC-DW-2021-008 Develop a process to capture and track the progress in implementing recommendations from internal audits on an action register or improvement program, as required by the procedure.

Element 12

REC-DW-2021-009 Ensure all items on the Improvement Plan have been allocated to a responsible party, communicated, and due dates have been applied.

Sewage Management Plan

REC-Sewage-2021-001 Review the risk assessments or risk assessment methodology to ensure that consequence values align with the risk being assessed, for example, where the consequence descriptor is limited to aesthetic or undetectable, these cannot be attributed to a risk that has an acute health impact. Frequencies should also be applied taking into consideration historical performance and the occurrence of incidents. Any reduction in consequence should be justified.

Additional opportunities for improvement have been identified where the licensee demonstrated compliance with the licence clause, but processes may benefit from improvement.

1. INTRODUCTION

1.1. The Scheme

The Altogether Group of Companies [Altogether Group Pty Ltd] (Altogether) is the authorised person under the network operators' licences for Altogether Central Park Pty Ltd (CPW), Altogether Discovery Point Pty Ltd (DPW), Altogether Green Square Pty Ltd (GSW), Altogether Operations - Shepherds Bay (FSSB), Altogether Operations Pty Ltd - Box Hill (FSBH), Altogether Huntlee Pty Ltd (HW), Altogether Cooranbong Pty Ltd (CW), and Altogether Pitt Town Pty Ltd (PTW), collectively referred to in this report as *the licensee*.

Under the *Water Industry Competition Act 2006* (WICA) a corporation that is not a public water utility must obtain a licence to construct, maintain or operate any water industry infrastructure, to supply potable or non-potable water or provide sewerage services by way of any water industry infrastructure. The licence details of the eight schemes are:

- CPW (ACN 151 072 838) network operator's licence no. 12_022 Authorised Person Altogether Group Pty Ltd (ACN 136 272 298).
- DPW (ACN 142 392 541) network operator's licence no.13_025 Authorised Person Altogether Group Pty Ltd (ACN 136 272 298) and Permeate Partners Pty Ltd (ACN 130 112 257).
- GSW (ACN 163 432 906) network operator's licence no. 15_031 Authorised Person Altogether Group Pty Ltd (ACN 136 272 298) and City of Sydney Council (ACN 636 550 790).
- FSSB (ACN 603 106 305) network operator's licence no. 17_042 Authorised Person Altogether Group Pty Ltd (ACN 136 272 298).
- FSBH (ACN 603 106 305) network operator's licence no.16_037 Authorised Person Altogether Group Pty Ltd (ACN 136 272 298).
- CW (ACN 169 450 453) network operator's licence no. 15_033 Authorised Person Altogether Group Pty Ltd (ACN 136 272 298).
- HW (ACN 167 418 608) network operator's licence no. 15_030 Authorised Person Altogether Group Pty Ltd (ACN 136 272 298).
- PTW (ACN 141 705 660) network operator's licence no. 10_014 Authorised Person Altogether Group Pty Ltd (ACN 136 272 298) and Permeate Partners Pty Ltd (ACN 130 112 257).

1.2. Objectives

The objective of this audit is to provide an independent assessment of the licensee's compliance with the relevant licence clauses that form the scope of this audit. This audit focuses on compliance with obligations that are relevant once the licensee has started commercial operations.

1.3. Audit Client

The Independent Pricing and Regulatory Tribunal (IPART), by means of a letter dated 16 April 2021, has requested that CPW, DPW, GSW, FSSB, FSBH, CW, HW, and PTW undertake an operational audit to check for licensee compliance with its licence and legislative requirements. Audit details are as follows:

- Audit period for FSBH, PTW, CW, HW: 1 March 2020 to 30 April 2021
- Audit period for DPW, GSW, FSSB: 17 June 2020 to 30 April 2021
- Audit period for CPW: 26 June 2020 to 30 April 2021
- Auditors required: A Lead Auditor from the licence and regulatory category on the Panel.
- Audit scope: detailed in Appendix A of IPART's letter dated 16 April 2021.

Viridis Consultants P/L (Viridis) has been contracted by the licensee to undertake an operational audit, as specified above.

1.4. Audit Method

1.4.1. Audit Scope

The scope of this operational audit is to determine compliance with the licensee's network operators' licences. Only the clauses listed in Appendix A of IPART's letter dated 16 April 2021 are auditable as shown in Section 3.

The current versions of the relevant documents are as follows:

- plans
 - Infrastructure Operating Plan – Version 13 - dated 18/03/2021
 - Drinking Water Quality Plan – Version 13 - - dated 16/03/2021.
 - Recycled Water Quality Plan – Version 17- dated 26/04/2021 (version updated outside audit period).
 - Sewage Management Plan – Version 9 - dated 16/03/2021.
 - Central Park Scheme Management Plan – Version 7 – dated 16/4/2021 (version updated outside audit period).
 - Discovery Point Scheme Management Plan – Version 9 - dated 19/04/2021 (version updated outside audit period).
 - Green Square Scheme Management Plan – Version 9 – dated 19/04/2021 (version updated outside audit period).
 - Shepherds Bay Scheme Management Plan – Version 6 – dated 28/4/2021 (version updated outside audit period).
 - Huntlee Water Scheme Management Plan – Version 14 - dated 19/3/2021.
 - Cooranbong Water Scheme Management Plan – Version 10 - dated 16/4/2021 (version updated outside audit period).
 - Pitt Town Scheme Management Plan – Version 10 - dated 12/04/2021 (version updated outside audit period).
 - Box Hill North – Scheme Management Plan – Version 14 – 17/03/2021
- guidelines:
 - *Australian Drinking Water Guidelines*
 - *Australian Guidelines for Water Recycling: Managing Health and Environmental Risks (Phase 1) 2006*
 - *Audit Guideline Water Industry Competition Act 2006 July 2020*
- legislation
 - *Water Industry Competition Act 2006*
 - *Water Industry Competition (General) Regulation 2008.*

It is noted that during the audit period, there were multiple versions of the management plans, programmes and procedures. The audit scope includes confirmation of the implementation of all documentation that applied during the audit period. Auditor judgement has been used to identify the requirements of the relevant plans that applied in the audit period taking into consideration the nature of the amendments made.

1.4.2. Audit Standard

The Audit Guideline and *ISO 19011:2018 Guidelines for auditing management systems* were relied upon to ensure good auditing practice.

1.4.3. Audit Criteria

The criteria for assessing compliance are the Network Operator's Licences and the *Water Industry Competition (General) Regulation 2008* (WIC Reg), as stated in the audit scope.

The WIC Reg requires water quality plans for recycled and drinking water to be consistent with the AGWR and ADWG, respectively. IPART's audit initiation letter provided specific advice on auditing each of the 12 elements for this audit and limiting the audit scope to the implementation of the 12 Elements as the adequacy of the 12 licence plans was recently audited in a licence plan audit.

Implementation of the licence plans and consistency between the installed infrastructure were also assessed during the site inspection and interviews.

1.4.4. Audit Process

The audit was undertaken in accordance with the methodology outlined in the Audit Guideline. The audit steps and responsible parties are outlined in Table 1.

Table 1 Audit Steps

Step Description	Responsibility
Initiate audit	IPART
Engage auditor	Licensee
Submit audit proposal	Viridis
Audit proposal approval	IPART
Opening meeting	Viridis
Arrange and undertake interviews and site inspection	Viridis
Attend interviews and site inspection	Licensee / (option to attend provided to IPART)
Draft audit report preparation	Viridis
Review and provide comments on draft report	Licensee /IPART
Final audit report	Viridis

1.4.5. Auditor





The audit was undertaken by Karen Pither. Karen's qualification to undertake this audit are detailed below:

- Education:
 - Bachelor of Science Ecology and Conservation Biology
- IPART panel status:
 - Licence and Regulatory Compliance – Lead Auditor
 - Drinking Water Quality – Lead Auditor
 - Environmental Management – Area Specialist
 - Recycled Water Quality – Lead Auditor
- Auditor certification held with Exemplar Global:
 - Lead Water Quality Management Systems Auditor:
 - Recycled Water
 - Drinking Water

1.4.6. Audit Grades

The audit grades were adopted from Table 2.2 of the Audit Guideline and are shown in Table 2.

Table 2 Audit Grades

Audit Grade	Details	
	Compliant	Sufficient evidence is available to confirm that the requirements have been met.
	Non-compliant (non-material)	Sufficient evidence is not available to confirm that the requirements have been met and the deficiency does not adversely impact the ability of the licensee to achieve defined objectives or assure controlled processes, products or outcomes.
	Non-compliant (material)	Sufficient evidence is not available to confirm the requirements have been met and the deficiency does adversely impact the ability of the licensee to achieve defined objectives or assure controlled processes, products or outcomes.
	No requirement	There is no requirement for the licensee to meet this criterion within the audit period.

The auditor may also provide opportunities for improvement (OFI) where a requirement has been met, but the process may be improved.

1.5. Regulatory Regime

Under the *Water Industry Competition Act 2006* (WIC Act), a corporation that is not a public water utility must obtain a licence to construct, maintain or operate any water industry infrastructure, to supply potable or non-potable water or provide sewerage services by way of any water industry infrastructure. The licensee must be compliant with the WIC Act, WIC Reg and the conditions of the licence.

1.6. Quality Assurance Process

This audit was carried out in accordance with the Viridis Quality Manual, which is third-party certified to standard *ISO 9001:2015 Quality Management Systems*. Quality assurance activities undertaken during the audit comprised of:

- compliance with the Viridis Quality Manual
- internal peer review of the audit findings and report
- document control and approval processes
- quality review of the report.

1.7. Sampling

Audits by nature are a sampling exercise, and as such there is a risk that the audit evidence examined is not representative. The audit sample was based on IPART's initial letter and desktop assessment of all 8 schemes, with auditor judgement used to determine the evidence to be audited. Auditor judgement used a risk-based approach, taking into account the number and nature of incidents and non-compliances in the audit period.

In addition, the audit included onsite inspections of selected supply schemes (two high rise and two land and housing), interviews with relevant staff (remote and onsite) and review/observation of documentation and records (remote and onsite).

2. SITE INSPECTION AND INTERVIEWS

2.1. Site Inspection

The inspections were undertaken in June 2021 and included:

- Green Square
- Discovery Point
- Box Hill
- Pitt Town

The onsite staff escorted the audit attendees through the treatment processes from the inlet of the Local Water Centre (LWC), through the treatment processes and selected components of the network. The walk-through included confirmation of the process flow diagram and scheme descriptions. The onsite team demonstrated the main treatment processes, dosing points, connections and monitoring points. Monitoring instruments and the results displayed were also observed.

In general points from the site inspections were as follows:

- the LWC and treatment process reflected the process low diagrams and scheme description on the relevant documents.
- Monitoring process and out of specification bypasses were implemented
- Recycled water was being irrigated in areas whilst members of the public were accessing a park in Green Square and there was no signage to indicate that recycled water was being used.
- The car washing bay at Discovery Point did not have adequate signage or plumbing controls to information the public that recycled water was being supplied.
- The locations of the sewage spills were observed at Box Hill
- The designated irrigation zone at Pitt Town was observed and has signage to indicate recycled water was in use.

Findings from the site inspection were taken into consideration in the detailed assessment in Appendix A.

In addition to the site inspection component, the licensee demonstrated the SCADA system to the audit attendees and discussed how the SCADA system relates to the treatment system.

2.2. Interviews

Interviews were held via teleconference with the following audit attendees:

Name	Role
Darren Wharton	Executive Manager – Sustainable Utility Services
Audrey Killeen	Water Operations Manager
Kirsten Evans	Executive Manager – Risk & Compliance
Sanjay Kumarasingham	Operations Manager
Sarah Schroeder	Water Quality Systems Manager
Garth Hugo	Technical Operations Lead
Andrew Horton	Water Scheme Operations Specialist
Scott Mutimer	Water Scheme Operator
Shane Dohnt	Water Scheme Operator
Chris Horne	Scheme Operator – Hunter
Andrew Crowley	Scheme Operator - Sydney
Kim Staples	Risk & Compliance Officer - Water
Fiona Mackay	Asset Manager
Mackenzie Davis	Intern Engineer
Mark Spilger	Process Engineer
Sachin Singh	IPART

Shweta Shrestha	IPART
Robert Aposhian	IPART
Maria Morahan	IPART

In the interviews, the audit scope was covered systematically and evidence was gathered through the review of documents, procedures and records, as well as from questioning.





During the interviews the following systems were viewed:

- Supervisory control and data acquisition (SCADA)
- RAM Computerised Maintenance Management System (CMMS)
- Zendesk

3. SUMMARY OF FINDINGS COMBINED

This section provides a summary of the findings, detailed findings and discussions are in Appendix A. Table 3 below provides an overview of the level of compliance. Individual summary reports are provided as Appendices C-J. Detailed findings are presented in Appendix A, and a compliance summary for each recommendation presented in Appendix B.

Table 3 Level of Compliance

Compliance Grades		Number of Findings							
		Discovery Point	Green Square	Central Park	Shepherds Bay	Box Hill	Pitt Town	Huntlee	Cooranbong
	Compliant	9	9	9	9	9	9	9	9
	Non-compliant (non-material)	2	-	2	2	1	1	2	2
	Non-compliant (material)	1	1	1	1	1	1	1	1
	No requirement	0	2	0	0	1	1	0	0

Audit findings are summarised by obligation in the sections below.

3.1. Water Quality Plans - Recycled Water

WIC Reg Sch 1 cl. 7(4) The network operator must ensure that its recycled water quality plan is fully implemented and kept under regular review and the network operator's activities are carried out in accordance with that plan.

3.1.1. Summary of Findings

The audit has identified a number of gaps in the implementation of the RWQP and its supporting programs due to inconsistent implementation the documented risk assessment methodology leading to an underestimation of health risks, inadequacy of the current cross-connection audit program, and failure to implement the current program for cross-connection auditing. In addition, a number of minor inconsistencies in the implementation of the recycled water quality plan and the supporting documentation were identified.

Altogether did not provide sufficient verifiable evidence that it's RWQP is fully implemented, and it is the auditor's finding that the deficiency adversely affects Altogether's ability to assure controlled processes, products and outcomes and protect public health.

A grading of **non-compliant material** is awarded to WIC Reg Sch 1 cl. 7(4).

Recommendations and opportunities for improvement have been identified below.

3.1.2. Recommendations

The following recommendations have been identified to address the areas of non-compliance for all schemes combined. Refer to the scheme specific attachments in Appendices C-J.

Element 1

- REC-RW-2021-001 Implement a process to ensure the Stakeholders Emergency Contact List is reviewed by the due date to ensure it remains current.
- REC-RW-2021-002 Where the water quality plans or legislation identify information to be included on the website, ensure that information is made available.
- REC-RW-2021-003 Review and update stakeholder lists or equivalent to reflect all potential stakeholders and the methods for engagement, including engaging with the public.
- REC-RW-2021-004 Undertake an internal audit of interpretive signage at all Altogether sites and remove any references to 'purified' water and ensure all relevant signage refers to recycled water.
- REC-RW-2021-005 Implement a program to increase staff awareness of recycled water risks, improve ownership for managing risk and allocation of adequate resources to implement licence plans and meet regulatory requirements.

Element 2

- REC-RW-2021-006 Review the risk assessments or risk assessment methodology to ensure that consequence values align with the risk being assessed, for example, where the consequence descriptor is limited to aesthetic or undetectable, these cannot be attributed to a risk that has an acute health impact. Frequencies should also be applied taking into consideration historical performance and the occurrence of incidents. Any reduction in consequence should be justified.

Element 3

- REC-RW-2021-007 Clearly document the UV dose calculations documenting the evidence used. This is required to validate that the UV Systems are able to achieve the LRV required for the site-specific operational conditions (flow and UVT), documented in the log reduction tables and CCP Tables. Critical limits must be set to ensure the operational range of the UV is within the validated limits.
- REC-RW-2021-008 Review the scheme specific monitoring and sampling programs to ensure they include all operational parameters or develop a separate comprehensive operational monitoring program.

Element 4

- REC-RW-2021-009 Review the Minimising the Risk of Cross-Connection Checks Policy and Procedure to ensure that it clearly identifies the number of connections to be audited, audit procedure and the record keeping requirements. Ensure that the ongoing cross-connection audit program is adequate to control the risk of on-lot cross connections noting that the AGWR suggests a rolling 6-monthly audits with all properties audited at least every 5 years as an example of appropriate cross connection monitoring.

Element 5

- REC-RW-2021-010 For surface water and other environmental monitoring processes, identify appropriate limits to trigger further investigation and reporting to determine the source of human sewage indicators and to implement actions to reduce environmental harm.

Element 6

REC-RW-2021-011 Review and update the Water Operations Incident Management, Reporting and Investigation Procedure and Incident Notification Protocol with NSW Health to ensure that the definition of a recycled water event refers to the documented water quality criteria for recycled water in the Water Quality Plan rather than referring to the Australian Guidelines for Water Recycling.

- REC-RW-2021-012 Establish a program to regularly audit the recycled water network to ensure there are no connections to unapproved uses.

Element 9

- Refer to REC-RW-2021-007

Element 10

- REC-RW-2021-013 Establish review processes to ensure all documents are reviewed on time and do not have typographical and hyperlink errors.

Element 11

- REC-RW-2021-014 Develop a process to capture and track the progress in implementing recommendations from internal audits on an action register or improvement program, as required by the procedure.

Element 12

- REC-RW-2021-015 Ensure all items on the Improvement Plan have been allocated to a responsible party, communicated, and due dates for completion have been applied.

3.1.3. Opportunities for Improvement

The following opportunities for improvement have been identified in relation to the RWQP.

Element 1

- OFI-RW-2021-001 Work with third parties, such as City of Sydney and building managers to establish signage and end use controls to educate the public on the safe use of recycled water, reduce the risk of exposure and ensure compliance with the relevant plumbing standards.

Element 2

- OFI-RW-2021-002 Prepare and implement a consistent procedure for undertaking data analysis for risk assessments that includes a minimum appropriate data set/time range, assessment and trending of treatment plant operational performance, analysis of environmental and other hazards to inform the risk assessment and ensure data reliability and to contextualise certainty/uncertainty in the risk assessment.

Element 5

- OFI-RW-2021-003 Develop a program to investigate and improve low chlorine residuals in the network.
- OFI-RW-2021-004 Consider including information on the website providing advice on the health risk of exposure or consuming recycled water and options for next actions following exposure or consumption.

OFI-RW-2021-005 Review the nutrients verification monitoring results for recycled water and investigate the potential for environmental harm, and implement controls were required.

Element 6

- OFI-RW-2021-006 Consider establishing an ongoing process to include learnings from incidents that have occurred in Australia and overseas, to inform incident management in relevant forums, such as meetings, training and toolbox meetings.

Element 9

- OFI-RW-2021-007 Review the baffle factors applied to the chlorine contactors and where there is no baffling adopt the most conservative baffle factor until site-specific data can be collected to inform the calculation of the theoretical detention time.

3.2. Water Quality Plans - Drinking Water

WIC Reg Sch 1 cl. 7(4) The network operator must ensure that its drinking water quality plan is fully implemented and kept under regular review and the network operator's activities are carried out in accordance with that plan.

3.2.1. Summary of Findings

The audit has identified a number of gaps in the implementation of the DWQP and its supporting programs due to inconsistent implementation of the documented risk assessment methodology leading to an underestimation of health risks. In addition, a number of minor inconsistencies in the implementation of the drinking water quality plan and the supporting documentation were identified.

Altogether did not provide sufficient verifiable evidence that its DWQP is fully implemented.

A grading of **non-compliant non-material** is awarded to WIC Reg Sch 1 cl. 7(4). The **non-compliance** is considered **non-material** as the deficiency does not impact on the Altogether's ability to assure controlled processes, public health or the environment.

Recommendations and opportunities for improvement have been identified below.

3.2.1. Recommendations

The following recommendations have been identified to address the areas of non-compliance:

Element 1

- REC-DW-2021-001 Implement a process to ensure the Stakeholders Emergency Contact List is reviewed by the due date to ensure it remains current.
- REC-DW-2021-002 Where the water quality plans or legislation identify information to be included on the website, ensure that information is made available.

Element 2

- REC-DW-2021-003 Review the risk assessments or risk assessment methodology to ensure that consequence values align with the risk being assessed, for example, where the consequence descriptor is limited to aesthetic or undetectable, these cannot be attributed to a risk that has an acute health impact. Frequencies should also be applied taking into consideration historical performance and the occurrence of incidents. Any reduction in consequence should be justified.

Element 4

- REC-DW-2021-004 Establish a policy and procedure for hygienic work practices for Altogether staff and contractors undertaking works on Altogether's drinking water networks and develop a process for ensuring all network operators and contractors have been made aware of the requirements and establish an ongoing audit process to ensure the practices are implemented.

Element 5

- REC-DW-2021-005 The Monitoring and Sampling Programs for drinking water schemes identify that a minimum target of 0.2mg/L of free chlorine should be maintained through reticulation networks, this is consistent with ADWG advice. Identify areas in reticulation where this cannot be met and raise an improvement item to improve the chlorine residual in these areas within an appropriate timeframe
- REC-DW-2021-006 Include recording the operational monitoring of the drinking water system on the weekly control points checklist or equivalent.

Element 10

- REC-DW-2021-007 Establish review processes to ensure all documents are reviewed on time and do not have typographical and hyperlink errors.

Element 11

- REC-DW-2021-008 Develop a process to capture and track the progress in implementing recommendations from internal audits on an action register or improvement program, as required by the procedure.

Element 12

- REC-DW-2021-009 Ensure all items on the Improvement Plan have been allocated to a responsible party, communicated, and due dates have been applied.

3.2.2. Opportunities for Improvement

The following opportunities for improvement have been identified in relation to the DWQP.

Element 2

- OFI-DW-2021-001 Prepare and implement a consistent procedure for undertaking data analysis for risk assessments that includes a minimum appropriate dataset/time range, assessment and trending of treatment plant operational performance, analysis of environmental and other hazards to inform the risk assessment and ensure data reliability and to contextualise certainty/uncertainty in the risk assessment.

Element 6

- OFI-DW-2021-002 Consider establishing an ongoing process to include learnings from incidents that have occurred in Australia and overseas, to inform incident management in relevant forums, such as meetings, training and toolbox meetings

3.3. Water Quality Plans - Sewage

WIC Reg Sch 1 cl. 14(3) A network operator must ensure its sewage management plan is fully implemented and kept under regular review and all its activities are carried out in accordance with the plan.

3.3.1. Summary of Findings

The audit has found that Altogether has generally implemented its Sewage Management Plan, however, the risk assessment methodology, which forms the basis of the Sewage Management Plan has not been implemented consistently, resulting in an under estimation of human health risk. Preventive measures for managing risk from the sewage services are identified, implemented and considered adequate.

The **non-compliance** is considered **non-material** as the deficiency does not impact on the Altogether's ability to assure controlled processes, public health or the environment.

3.3.2. Recommendations

The following recommendation has been identified to address the areas of non-compliance:

- REC-Sewage-2021-001 Review the risk assessments or risk assessment methodology to ensure that consequence values align with the risk being assessed, for example, where the consequence descriptor is limited to aesthetic or undetectable, these cannot be attributed to a risk that has an acute health impact. Frequencies should also be applied taking into consideration historical performance and the occurrence of incidents. Any reduction in consequence should be justified.

3.3.3. Opportunities for Improvement

The following opportunity for improvement (OFIs) been identified in relation to the Sewage Management Plan.

- **OFI -Sewage-2021-001** Consider amending the Sewage MP to reflect the contractor's record keeping, or request that the contractor records the time on the docket.

3.4. Water Quality Plans - Operational Procedures

NOL Sch A cl 2.2 The Licensee must: a) fully implement the Operational Procedures (as noted in NOL Sch A, cl 2.1); b) ensure that all of its activities are carried out in accordance with the Operational Procedures; and c) keep records to demonstrate the extent to which the Operational Procedures have been implemented and complied with.

3.4.1. Summary of Findings

Altogether provided evidence that the Operational Procedures required under the relevant clause of the NOL for each scheme have been implemented for the following activities:

- monitoring protocols
- corrective actions
- rapid communication
- inspection and maintenance.

Altogether was found to have implemented the procedures required under the relevant licence clauses and was found to be compliant with this requirement.

3.4.2. Recommendations

No recommendations have been identified for this clause of the licence.

3.4.3. Opportunities for Improvement

No opportunities for improvement (OFIs) have been identified for this clause of the licence.

3.5. Water Quality Plans – Monitoring and Analysis

- NOL Sch B cl.7.1 The Licensee must undertake any monitoring that is required for the purposes of this Licence, any Plan, the Act or the Regulation in accordance with this clause 7.
- NOL Sch B cl.7.2 The Licensee must keep the following records of any samples taken for monitoring purposes specified in the Water Quality Plan: a) the date on which the sample was taken; b) the time at which the sample was collected; c) the point or location at which the sample was taken; and d) the chain of custody of the sample (if applicable).
- NOL Sch B cl.7.3 The Licensee must ensure that analyses of all samples taken for the purposes of Verification Monitoring are carried out by a laboratory accredited for the specified tests by an independent body that is acceptable to NSW Health, such as the National Association of Testing Authorities or an equivalent body.

3.5.1. Summary of Findings

Altogether was found to have implemented the monitoring required under the relevant licence clauses and was found to be compliant with NOL Sch B cl.7.1

Altogether was found to have kept the records of the monitoring required under the relevant licence clauses and was found to be compliant with NOL Sch B cl.7.2.

Altogether was found to have water quality analysis undertaken by a NATA accredited laboratory required under the relevant licence clauses and was found to be compliant with NOL Sch B cl.7.3.

3.5.2. Recommendations

No recommendations have been identified for this clause of the licence.

3.5.1. Opportunities for Improvement

No opportunities for improvement (OFIs) have been identified for this clause of the licence.

3.6. Infrastructure Operating Plan

WIC Reg Sch 1 cl. 6(1) – Water: Before commencing to operate water infrastructure commercially, the licensed network operator for the infrastructure must prepare, and forward to IPART, an infrastructure

operating plan that indicates the arrangements that the licensee has made, or proposes to make, in relation to:

- a) the design, construction, operation and maintenance of the infrastructure, including particulars as to the lifespan of the infrastructure, the system redundancy built into the infrastructure and the arrangements for the renewal of the infrastructure, and
- b) the continued safe and reliable performance of the infrastructure, and
- c) the continuity of water supply, and
- d) alternative water supplies when the infrastructure is inoperable, and
- e) the maintenance, monitoring and reporting of standards of service.

WIC Reg Sch 1 cl. 6(2) – Water: The network operator must ensure that the infrastructure operating plan is fully implemented and kept under regular review and all of the network operator’s activities are carried out in accordance with that plan.

WIC Reg Sch 1 cl. 13(1) – Sewerage: Before commencing to operate sewerage infrastructure commercially, the licensed network operator for the infrastructure must prepare, and forward to IPART, an infrastructure operating plan that indicates the arrangements that the licensee has made, or proposes to make, in relation to:

- a) the design, construction, operation and maintenance of the infrastructure, including particulars as to the lifespan of the infrastructure, the system redundancy built into the infrastructure and the arrangements for the renewal of the infrastructure, and
- b) the continued safe and reliable performance of the infrastructure, and
- c) the continuity of sewerage services, and
- d) alternative sewerage services when the infrastructure is inoperable, and
- e) the maintenance, monitoring and reporting of standards of service.

WIC Reg Sch 1 cl. 13(2) – Sewerage: The infrastructure operating plan is fully implemented and kept under regular review and all of the network operator’s activities are carried out in accordance with that plan.

3.6.1. Summary of Findings

Altogether was found to have prepared an IOP that meets the requirements of the licence clause and was found to be compliant with WIC Reg Sch 1 cl. 6(1).

Altogether was found to have implemented the IOP and was found to be compliant with WIC Reg Sch 1 cl. 6(2).

Altogether was found to have prepared an IOP that meets the requirements of the licence clause and was found to be compliant with WIC Reg Sch 1 cl. 13(1).

Altogether was found to have implemented the IOP and was found to be compliant with WIC Reg Sch 1 cl. 13(2).

3.6.2. Recommendations

No recommendations have been identified for this clause of the licence.

3.6.3. Opportunities for Improvement

No opportunities for improvement (OFIs) have been identified for this clause of the licence.

3.7. Incident Notification

WIC Reg Sch 1 cl. 1(2)(a) A network operator must immediately notify

- a) IPART, and
- b) The Minister administering the Public Health Act 2010, and
- c) the Minister administering Part 2 of the Water Industry Competition Act 2006 (NSW), and
- d) NA, and
- e) any licensed network operator or public water utility whose infrastructure is connected to the licensed network operator's infrastructure, of any incident in the conduct of its activities that threatens, or could threaten, water quality, public health or safety.

3.7.1. Summary of findings

Based on the records identified in Table 10 it was found that Altogether complied with its requirements to notify the identified stakeholders in accordance with the requirements of WIC Reg Sch 1 cl. 1(2)(a).

3.7.2. Recommendations

No recommendations have been identified for this clause of the licence.

3.7.1. Opportunities for Improvement

There were no opportunities for improvement (OFIs) provided for this section of the licence.

3.8. Compliance findings to be checked

Altogether has largely closed out the previous compliance findings, the details of each non-compliance are included in Table 11.

4. AUDIT CONCLUSIONS

Altogether has implemented new processes for implementing the recycled water and drinking water verification monition program and monitoring compliance, as well as reviewing and updating the water quality plans, scheme management plans and incident procedures during the audit period. Whilst these are seen a significant improvement, Altogether was not able to demonstrate that the water quality plans and supporting framework were fully implemented in the audit period. The absence of an adequate and implemented ongoing cross-connection program is considered a significant gap in risk management, particularly as the risk assessment assessed the risk of on-lot cross-connection as negligible. Altogether provides recycled water to over 8000 homes via a dual reticulation network and has only undertaken 3 cross-connection checks in the audit period. The risk to customers is largely unknown.

The risk assessment was not consistently implemented, and the risk of a number of health impacts was underestimated. Whilst the Altogether recycled water and drinking water policies confirm a commitment to implementing best practice, there is still further work required to implement best practice and to staff increase awareness and manage risk to public health and the environment.

DOCUMENT HISTORY AND TRACKING

Document History

Version	Section/s Modified	Brief Description of Amendment	Author	Reviewed by	Approver	Issue Date
0.1-0.4	All	Working drafts	Karen Pither	James Howey David Manning	N/A	N/A
0.5	All	Draft provided to Altogether	Karen Pither	James Howey David Manning	Karen Pither	19/7/2021
0.6	All	Revised Draft incorporating Altogether comments	Karen Pither	N/A	N/A	N/A
0.7	All	Draft provided to IPART	Karen Pither	Altogether	Karen Pither	28/7/2021
1.0	All	Scheme Specific Attachment Appendix C-J and Scheme summary Appendix B	Karen Pither	IPART	Karen Pither	15/8/2021

Document Tracking

Document Name	Operational Audit Report
Prepared by	Karen Pither
Reviewed by	James Howey
Approved by	Karen Pither
Date Approved	15/8/2021
Status	Final
Document Number	REC-21--98
Version Number	1.0

Viridis Consultants Pty Ltd
 PO Box 131
 Bulimba Qld 4171
 Australia

1300 799 310

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

© Viridis Consultants Pty Ltd 2021

Viridis Consultants Pty Ltd has produced this document in accordance with instructions from Altogether Group for their use only. The concepts and information contained in this document are the copyright of Viridis Consultants Pty Ltd. Use or copying of this document in whole or in part without written permission of Viridis Consultants Pty Ltd constitutes an infringement of copyright.

Viridis Consultants Pty Ltd does not warrant this document is definitive nor free from error and does not accept liability for any loss caused, or arising from, reliance upon the information provided herein.

This document is and shall remain the property of Viridis Consultants Pty Ltd. The document may only be used for the purpose for which it was commissioned and in accordance with the Terms of Engagement for the commission. Unauthorised use of this document in any form whatsoever is prohibited.

APPENDIX A DETAILED FINDINGS

Table 4 Water Quality Plan – Recycled Water

Licence Clause	Findings
WIC Reg Sch 1 cl. 7(4)	<p>The network operator must ensure that its recycled water quality plan is fully implemented and kept under regular review and the network operator's activities are carried out in accordance with that plan.</p> <p>Note: no direction received from Minister to amend plans</p>
	<p>Summary of Findings</p> <p>The audit has identified a number of gaps in the implementation of the RWQP and its supporting programs resulting in a compliance grading of Non-compliant Material due to inconsistent implementation the documented risk assessment methodology leading to an underestimation of health risks, inadequacy of the current cross-connection audit program, and failure to implement the current program for cross-connection auditing. In addition, a number of minor inconsistencies in the implementation of the recycled water quality plan and the supporting documentation were identified contributing to the compliance grading.</p> <p>Detailed assessment of each of the AGWR 12 Elements is provided below, including an overarching assessment, as well as schemes specific findings as relevant.</p>
AGWR Element 1	<p>Overall</p> <p>IPART's audit initiation letter identified the following requirements for Element 1 (Stakeholders):</p> <ul style="list-style-type: none"> • Stakeholder register evidence of engagement with external stakeholders (agencies) • Identify all agencies with responsibilities for water resources and use of recycled water; regularly update the list of relevant agencies. • The list is up to date and is under regular review in accordance with documented processes. • Establish partnerships with agencies or organisations as necessary or where this will support the effective management of recycled water schemes. • Relevant partnerships are established • Develop appropriate mechanisms and documentation for stakeholder commitment and involvement • Mechanisms are effectively employed. <p>The Recycled Water Quality Plan¹ (RWQP) states under Component A1.3 that Altogether will identify all agencies with responsibilities for water resources and use of recycled water and regularly update the list of relevant agencies. Under RWQP Component A1.3.1 Altogether uses the scheme specific Stakeholder & Emergency Contact Lists as its means of documenting stakeholders. The lists contain water utilities, NSW and Local government regulators, client interface (property managers) and preferred suppliers for emergencies. These lists are to be reviewed at 6 monthly intervals, however during the audit period, some of the stakeholder registers had not been reviewed 6 monthly (see findings on the review for the individual schemes below). A recommendation has been identified to ensure that the Stakeholder and Emergency Contact list is up to date and is under regular review in accordance with documented processes.</p> <p>•REC-RW-2021-001 Implement a process to ensure the Stakeholders Emergency Contact List is reviewed by the due date to ensure it remains current.</p>

¹ Recycled Water Quality Plan AG-WAT-AUS-PL-OPS-1311 Revision: 17 27 April 2021

Licence Clause	Findings
	<p>Under the RWQP Component A1.3.2 Altogether has established ongoing communications with NSW Health and has formal reporting requirements to IPART. A live register of consultation with NSW Health exists and contains details of consultation with NSW Health and feedback received from NSW Health². Monthly meetings with IPART are occurring and the minutes of some of these meetings in the audit period (16/06/20³, 18/08/20⁴, 20/10/20⁵, 18/02/21⁶ have been provided as evidence.</p> <p>Section A1.3.2 of the RWQP states that Licence Plan audits are provided on the Altogether website as another form of engagement. When reviewing the website, it was found that some of the hyperlinks to audit reports linked to a different document. It was noted that these links were affected when Altogether rebranded its website in January 2021. A recommendation has been made to ensure there is a process for checking that the website contains the information required by the RWQP and is available to recycled water stakeholders.</p> <p>REC-RW-2021-002 Where the water quality plans or legislation identify information to be included on the website, ensure that information is made available.</p> <p>IPART's audit initiation letter identified the following requirements for Element 1 (Engaging with users):</p> <ul style="list-style-type: none"> • Engage users of recycled water; ensure responsibilities are identified and understood. • Users of recycled water are regularly engaged and understand their responsibilities. • Develop appropriate mechanisms and documentation for stakeholder commitment and involvement • Mechanisms are effectively employed. <p>Altogether states under RWQP Component A1.3.4 that it has a range of methods for engaging with users, developers, customers, and tenants, including scheme specific community websites⁷, bills, customer contracts⁸, SMS and email messages, Project Delivery Agreements, a Project Control Group, and a Homeowners Guide⁹, this last document also being available on the website¹⁰. There are also guides on the website for other people that interact with the recycled water system, such as Builders¹¹, Landscapers¹², Electricians¹³ and Plumbers¹⁴. A builder's checklist¹⁵ also exists and a Developer Guide -</p>

² LIVE_Register_Consultation with NSW Health

³ Flow IPART Meeting Agenda & Minutes 16Jun20_FINAL (1)

⁴ Flow IPART Meeting Agenda Minutes 18Aug20_FINAL (1)

⁵ Flow IPART Meeting Agenda Minutes 20Oct20_FINAL (1)

⁶ Flow IPART Meeting Agenda Minutes 18Feb21_FINAL (1)

⁷ <https://altogethergroup.com.au/about/communities/> accessed 28 May 2021

⁸ Small retail Customer Contract - Altogether Group Pty Ltd – Water REF ID 3534 12 January 2021

⁹ Homeowner's Guide (Water) AG-WAT-AUS-UG-RET-1569 Revision: 3 09 March 2021

¹⁰ <https://askus.altogethergroup.com.au/hc/en-us/articles/900003911306-Builders-plumbers-electrician-home-owners-and-landscaping-guides-> accessed 31 May 2021

¹¹ Builders Guide (Water) AG-WAT-NSW-UG-RET-1570 Revision: 3 16 April 2021

¹² Landscapers Guide (Water) AG-WAT-NSW-UG-RET-1964 Revision: 2 21 December 2020

¹³ Electricians Guide (Water) AG-WAT-NSW-UG-PRD-1572 Revision: 2 22 December 2020

¹⁴ Plumbers Guide AG-WAT-NSW-UG-RET-1571 Revision: 2 23 December 2020

¹⁵ Builders Checklist (Controlled COPY).pdf AG-WAT-NSW-TE-RET-2002 Revision:2 18 December 2020

Licence Clause	Findings
	<p>Infrastructure (Water)¹⁶. Reticulation maps for each scheme are also available through the general website¹⁷. The website also identifies and explains responsibilities for customers and Altogether, and lists the permitted uses of recycled water as per Altogether WICA Licences - authorised purposes matrix¹⁸. The customer contract, which is available on the website¹⁹, also has a section on responsibilities for maintenance and repair. There is also an Operating and Communications Protocol for High Rise Communities²⁰ that describes the responsibilities of the various parties (Altogether, the Owners Corporation and Facilities/Building Manager) with respect to the provision of recycled water, sewage services and drinking water to high rise schemes.</p> <p>Section 2.1.2 of the AGWR indicates that recycled water suppliers to <i>'ensure that responsibilities are understood and communicated to designers, installers, maintainers, operations employees, contractors and end users.'</i></p> <p>Section A1.3.3 of the RWQP states that the Stakeholder and Emergency contact list includes the public, however when reviewing the scheme specific lists²¹ ²², the public is not listed for Box Hill, Huntlee and Cooranbong. There are a number of recycled water uses across all schemes that include the irrigation of public open spaces or areas (car washes) where non-residents may be considered a user of recycled water. It was noted during the site inspection to Green Square open space irrigation area and a car wash bay at the Discovery Point scheme that appropriate signage, notifying the public (recycled water users) that recycled water was in use, was not visible. Whilst a high quality of water is supplied to these recycled water uses, the potential impact on vulnerable members of the community must be considered, and the public should be made aware of their responsibilities to reduce the risk of exposure to recycled water and make an informed decision about how they manage exposure.</p> <p>A recommendation has been made to establish a process to identify all potential recycled water users and ensure there is a process for communicating responsibilities to all identified recycled water users. It is considered that appropriate mechanisms have not been developed and effectively employed for members of the public (end users) accessing areas where they may be exposed to recycled water. It is noted that the Stakeholder and Emergency Contact list may not be the most appropriate mechanism for identifying and engaging with the public.</p> <p>REC-RW-2021-003 Review and update stakeholder lists or equivalent to reflect all potential stakeholders and the methods for engagement, including engaging with the public.</p> <p>It was discussed that City of Sydney (at Green Square) and the building manager (at Discovery Point) are responsible for signage and end use plumbing controls, however it is considered that more work needs to be done to communicate responsibilities to the public in areas where recycled water is used and where there is a risk of exposure. An Opportunity for Improvement has been identified to improve signage in areas where the public may be exposed to recycled water.</p> <p>OFI-RW-2021-001 Work with third parties, such as City of Sydney and building managers to establish signage and end use controls to educate the public on the safe use of recycled water, reduce the risk of exposure and ensure compliance with the relevant plumbing standards.</p>

¹⁶ Developer Guide - Infrastructure (Water) (Controlled COPY).pdf AG-WAT-AUS-UG- PRD-1888 Revision 7: 08 March 2021

¹⁷ <https://altogethergroup.com.au/home-business/> accessed 28 May 2021

¹⁸ Altogether WICA Licences - authorised purposes matrix (Controlled COPY).pdf AG-WAT-NSW-RG-OPS-2918 Version: 3.0 08 March 2021

¹⁹ <https://information.altogethergroup.com.au/governance/Water%20Customer%20Contract.pdf> accessed 27 May 2021

²⁰ Operating and Communications Protocol High Rise Communities (Controlled COPY).pdf AG-WAT-AUS-UG-OPS-1289 Revision: 3 23 December 2020

²¹ 3364 Green Square - Stakeholders Emergency Contact List (Controlled COPY).pdf GS-WAT-NSW-RG-INC-3363

²² 3353 Box Hill - Stakeholders Emergency Contact List (Controlled COPY).pdf BH-WAT-NSW-RG-INC-3352c

Licence Clause	Findings
	<p>When visiting the Pitt Town LWC, interpretive signage on the treated recycled water tanks referred to recycled water as ‘purified water’, which has the potential to confuse visitors to the LWC, including the public, about the type of water, the risks and responsibilities for reduce exposure.</p> <p>REC-RW-2021-004 Undertake an internal audit of interpretive signage at all Altogether sites and remove any references to ‘purified’ water and ensure all relevant signage refers to recycled water.</p> <p>IPART’s audit initiation letter identified the following requirements for Element 1 (Recycled water policy):</p> <ul style="list-style-type: none"> • The recycled water policy is implemented within the organisation • Key employees and contractors are aware of the policy as it relates to the implementation of their particular function. (Overlap with implementation of WQP-RW element 7) <p>Under RWQP Component A1.4.1 the recycled water policy²³ exists and is current (reviewed during the audit period). The BMS Induction²⁴ PowerPoint training covers the importance of following the Business Management System so that ISO 9001 for quality management, ISO 14001 for environmental management, and ISO 45001 and AS 4801 for safety management accreditations are maintained and that Altogether’s vision is achieved. There is a dedicated section for operations staff.</p> <p>Altogether has a WICA Responsibilities and Authorities Matrix²⁵ that states the responsibilities of staff positions, including awareness of and promotion of water quality policies.</p> <p>All staff are instructed during induction to go to the onsite control rooms where the policies are to be displayed and to read and ensure that they understand them. During the site inspections, current policies were displayed in prominent locations at the Local Water Centres (LWC).</p> <p>There is evidence for site inductions being undertaken, and the sighted Induction Questionnaire²⁶ checklist (Induction Part C Induction Acknowledgement dot point 1) includes the text <i>‘Have you been advised about safety, environmental or community issues, who to contact in the event of an issue on the site (including project policies and procedures)?’</i>.</p> <p>Water Operations Team meetings^{27 28 29} are undertaken fortnightly to discuss operations and implementation the licence plans.</p> <p>The AGWR (Section 2.1.4) recommends that the recycled water policy should provide a basis for developing more detailed guiding principles and implementation strategies. AGWR includes the broad issues that the recycled water policy should address including for example, intention to adopt best-practice management and a multiple-barrier approach.</p>

²³ Recycled Water Policy AG-WAT-AUS-PO-OPS-1310 Revision: 3 21 July 2020

²⁴ BMS Induction.pptx FS-ALL-AUS-TP-HSEQ-3022 15 July 2020

²⁵ WICA Responsibilities and Authorities Matrix (Controlled COPY).pdf AG-WAT-AUS-PL-OPS-1316

²⁶ Induction Questionnaire FS-ALL-AUS-FM-WHS-1361 Revision: 3 09 April 2020

²⁷ 20210120 WO Team meeting minutes and attendance

²⁸ 20210415 WO Team meeting minutes and attendees

²⁹ 20200916 WO Team meeting minutes and attendance

Licence Clause	Findings
	<p>The Recycled Water Policy states that Altogether will implement and maintain recycled water management system consistent with the AGWR and all managers and personnel are responsible for implementing, maintain and continuously improving the recycled water management system.</p> <p>During the audit, Altogether team members (Water Operations Manager 31 May 2021)(responsible for implementing the preventive measures in the risk assessment indicated that there have been insufficient resources to implement some processes (for example when discussing the implementation of the <i>Minimising the Risk of Cross-Connection Checks Policy</i> and Procedure³⁰), and the agreed compliance program (Executive Manager – Risk & Compliance 15 June 221) with IPART has affected Altogether’s ability to allocate sufficient resources to RWQP implementation.</p> <p>Additionally, when gaps in implementation (for example the implementation of the risk assessment methodology) were identified during the audit, Altogether representatives (Water Quality Systems Manager 31 May 2021) indicated in some instances that external consultants had undertaken the works and could not explain how the process was implemented.</p> <p>Additionally, it was indicated that in cases where recycled water is used in public spaces, that the public should have the ‘common sense’ to know that recycled water is in use, without signage being installed (Technical Operations Lead 9 June 2021). This approach does not appear to adequately cover protecting the most vulnerable members of the community. It is the auditor’s finding that Altogether has not fully implemented its recycled water policy due to gaps in risk management, failure to implement procedures in relation to cross-connection auditing, failure to take ownership for managing risk and by not allocating adequate resources for the implementation of the RWQP and supporting programs</p> <p>A recommendation has been made to improve implementation of the recycled water policy and to ensure recycled water risk is well understood.</p> <p>REC-RW-2021-005 Implement a program to increase staff awareness of recycled water risks, improve ownership for managing risk and allocation of adequate resources to implement licence plans and meet regulatory requirements.</p>
	<p>Pitt Town</p> <p>Pitt Town - Stakeholders Emergency Contact List³¹ exists and was last updated 18/01/2021.</p> <p>The Pitt Town Water Licence Plan Audit Report for 2020³², was available on the website. Prior audits, such as the Pitt Town Water Licence Plan Audit Report (Reduced scope) 2020³³ and the 2016 Licence Plan Audit³⁴ were also available on the website.</p> <p>The recycled water policy was displayed the Pitt Town Local Water Centre (LWC).</p> <p>It was noted that the interpretive signage at the Pitt Town LWC centre refers to recycled water as ‘purified water’. It is understood that Altogether was previously advised by IPART that this terminology is not acceptable as it does not indicate that the water is non-potable and may communicate a confusing message to people visiting the LWC. A recommendation has been made to ensure that engagement with recycled water users and other stakeholders clearly identifies that water produced by the LWC is recycled (REC-RW-2021-004).</p>

³⁰ Minimising the risk of cross-connection checks policy and procedure (Controlled COPY).pdf FS-ALL-AUS-PO-OPS-2544

³¹ Pitt Town - Stakeholders Emergency Contact List PT-WAT-NSW-RG-INC-3354 Revision 1.1 18 January 2021

³² https://information.altogethergroup.com.au/governance/Pitt_Town/136_20201106103428864955_REC%2020%20251%201.0_Pitt_Town_LPA.pdf accessed 27 May 2021

³³ https://information.altogethergroup.com.au/governance/Pitt_Town/Pitt%20Town%20Licence_Plan_Audit%20Report.pdf accessed 28 May 2021

³⁴ https://information.altogethergroup.com.au/governance/Pitt_Town/Pitt_Town_Licence_Plan_Audit_2016.pdf accessed 28 May 2021

Licence Clause	Findings
	<p>Central Park</p> <p>Central Park - Stakeholders Emergency Contact List³⁵ exists and was last updated 19/01/2021.</p> <p>The Central Park Water Licence Plan Audit Report for 2021 is listed as being available on the website³⁶, but the site initially linked to the scheme's Residential Price Fact Sheet. A subsequent search on 14/6/2021 found that the links had been corrected during the audit, after the audit period had ended. It is considered that during the audit period, Altogether did not make its audit reports publicly available, as required by the RWQP. A recommendation has been made to ensure that the information identified in the RWQP is available on the website (REC-RW-2021-002).</p>
	<p>Huntlee</p> <p>Huntlee - Stakeholders Emergency Contact List³⁷ exists, and was last updated 08/10/2020. The list should have been reviewed in April 2021. A recommendation has been made to ensure the stakeholder list is kept up to date and remains current (REC-RW-2021-001).</p> <p>The 'Huntlee Water Licence Plan Audit – Sludge Dewaterer 2020' Report was listed as being available on the website³⁸, but the site instead listed a prior, 2017 audit. A subsequent search on 14/6/2021 indicated that the links had been corrected during the audit and the 2021 audit report prepared by Atom Consulting was available.</p> <p>Prior audits, such as the Huntlee Water Licence Plan Audit Report 2018³⁹ and the Huntlee Licence Plan Audit – Drinking Water 2017⁴⁰ were also available on the website, however these were replaced by the Licence Plan Audit reports undertaken in 2021 whilst this audit was underway. A recommendation has been made to ensure that the information identified in the RWQP is available on the website (REC-RW-2021-002).</p>
	<p>Cooranbong</p> <p>Cooranbong - Stakeholders Emergency Contact List⁴¹ exists, and was last updated 25/09/2020. The list was due for review in March 2021. A recommendation has been made to ensure the stakeholder list is kept up to date and remains current (REC-RW-2021-001).</p>

³⁵ Central Park - Stakeholders Emergency Contact List CP-WAT-NSW-RG-INC-3359 Revision 1.2 19 January 2021

³⁶ <https://askus.altogethergroup.com.au/hc/en-us/articles/900004983283-Community-audits-management-plans> accessed 28 May 2021

³⁷ Huntlee - Stakeholders Emergency Contact List HU-WAT-NSW-RG-INC-3350 Revision 1 08 October 2020

³⁸ <https://askus.altogethergroup.com.au/hc/en-us/articles/900004983283-Community-audits-management-plans> accessed 28 May 2021

³⁹ https://information.altogethergroup.com.au/governance/Huntlee/Huntlee_Licence_Plan_Audit_Recycled_Water_2018.pdf accessed 28 May 2021

⁴⁰ https://information.altogethergroup.com.au/governance/Huntlee/Huntlee_Follow_Up_Licence_Plan_Audit_Drinking_Water_2017.pdf accessed 28 May 2021

⁴¹ Cooranbong - Stakeholders Emergency Contact List CO-WAT-NSW-RG-INC-3293 Revision 1 25 September 2020

Licence Clause	Findings
	<p>The Cooranbong Water Licence Plan Audit Report for 2020 is available on the website⁴². Some prior audits, such as the Follow-up Licence Plan Audit 2016⁴³ were also available on the website.</p> <p>Box Hill</p> <p>Box Hill - Stakeholders Emergency Contact List⁴⁴ exists and was last updated 08/10/2020. The list should have been reviewed in April 2021. A recommendation has been made to ensure the stakeholder list is kept up to date and remains current (REC-RW-2021-001).</p> <p>The Box Hill Water Licence Plan Audit Report for 2019⁴⁵ is available on the website.</p> <p>Green Square</p> <p>Green Square - Stakeholders Emergency Contact List⁴⁶ exists, and was last updated 30/12/2020</p> <p>The Green Square Water Licence Plan Audit Report for 2021⁴⁷ is available on the website.</p> <p>During the site inspection, the public open space adjoining the LWC was currently under irrigation with recycled water and a number of sprinklers were spraying water on the grass. There were a number of dog walkers and people utilising the park area, and there were no visible signs that indicate to the public that recycled water was in use. Whilst a very high quality of water produced by the scheme, it is considered that the public should be made aware of the potential risks of exposure to non-potable water and signage should be included as a standard preventive measure in areas where the public may be exposed to recycled water. The City of Sydney operates the irrigation system, and would ultimately be responsible for educating the public, however it is considered that Altogether should also put in place processes to ensure the public are made aware of the use of non-potable water. Altogether provided evidence of a meeting^{48 49} with City of Sydney undertaken in February 2020 (outside the audit period) that included '<i>Signage Appropriate warning signage should be in place where using recycled water which can come into contact with persons.</i>' However, no signage was visible at the irrigation area observed during the inspection. An opportunity for improvement has been identified to improve engagement with the public in areas of recycled water use (OFI-RW-2021-001).</p> <p>Discovery Point</p> <p>Discovery Point - Stakeholders Emergency Contact List⁵⁰ exists and was last updated 30/12/2020.</p> <p>Discovery Point Water Licence Plan Audit Report for 2021 is listed as being available on the website⁵¹, but the site instead lists the scheme's Residential Price Fact Sheet. A subsequent search on 14/6/2021 indicated that the links had been corrected during the audit. It is considered that during the audit period, Altogether did not make its audit reports publicly available, as required by the RWQP. A recommendation has been made to ensure that the</p>

⁴² https://information.altogethergroup.com.au/governance/Cooranbong/Cooranbong_Licence_Plan_Audit_Report_2020.pdf accessed 28 May 2021

⁴³ https://information.altogethergroup.com.au/governance/Cooranbong/Cooranbong_Follow-up_Licence_Plan_Audit_Drinking_Water_2016.pdf accessed 28 May 2021

⁴⁴ Box Hill - Stakeholders Emergency Contact List BH-WAT-NSW-RG-INC-3352 Revision 1 08 October 2020

⁴⁵ https://information.altogethergroup.com.au/governance/Box_Hill/Box_Hill_North_Licence_Plan_Audit_Recycled_Water_Treatment_2019.pdf accessed 28 May 2021

⁴⁶ Green Square - Stakeholders Emergency Contact List GS-WAT-NSW-RG-INC-3363 Revision 1.1 30 December 2020

⁴⁷ https://information.altogethergroup.com.au/governance/Green_Square/Licence%20Plan%20Audit%20report_Green%20Square_Feb2021.pdf accessed 28 May 2021

⁴⁸ Standpipe Training Material - Prepared by Flow Systems

⁴⁹ Standpipe Training by Flow Systems dated 26 Feb 2020

⁵⁰ Discovery Point - Stakeholders Emergency Contact List DP-WAT-NSW-RG-INC-3361 Revision 1.1 30 December 2020

⁵¹ <https://askus.altogethergroup.com.au/hc/en-us/articles/900004983283-Community-audits-management-plans-> accessed 28 May 2021

Licence Clause	Findings
	<p>information identified in the RWQP is available on the website. A recommendation has been made to ensure that the information identified in the RWQP is available on the website (REC-RW-2021-002).</p> <p>During the site inspection, the car washing bay was inspected. This is a car washing bay in the basement of a high-rise building. There was one very small sign under each of two taps, which stated 'Not for drinking'. The tap, high pressure hose and piping to the tap were not lilac coloured and it was not made clear that the water supplied for car washing was recycled water. Altogether staff (Technical Operations Lead and Water Operational Manager 9 June 2021). stated during the site inspection that it is the responsibility of the building manager to provide signage, and that people using the car wash should have 'common sense' to know that recycled water is in use. Whilst the recycled water produced by the scheme is of a high quality, it is considered a gap in risk management to supply recycled water to uses where there are inadequate preventive measures to reduce exposure. An opportunity for improvement has been identified to improve engagement with the public in areas of recycled water use (OFI-RW-2021-001).</p> <p>Shepherds Bay Shepherds Bay - Stakeholders Emergency Contact List⁵² exists and was last updated 30/12/2020. The Shepherds Bay Licence Plan Audit Report for 2021⁵³ is available on the website.</p>
AGWR Element 2	<p>IPART's Audit Initiation Letter identifies the following requirement for Element 2:</p> <p>The recycled water system assessment has been prepared and reviewed in accordance with the requirements of element 2 and remains current.</p> <p>Overall</p> <p>The Recycled Water Quality Plan⁵⁴ document control table indicates that on 19/1/2021 Section 11.1.1 was updated to include that a risk review briefing pack is to be included in records kept for the RWQP.</p> <p>Section 2.4 of the RWQP identifies the Risk Assessment Protocol for Water Products and Services⁵⁵ (the RAP) as the documented process for undertaking risk assessments. The RAP was updated several times in the audit period to include IPART and NSW Health comments, identification of critical control points (CCPs) and state the frequency of the providing the risk improvement plan to NSW Health (6 monthly). The RAP states that internal risk reviews will be undertaken annually, and external risk reviews will be undertaken biennially.</p> <p>Section A 2.4.2 of the RWQP refers to the Critical Document Review Calendar⁵⁶ and the Scheme Risk Register⁵⁷ when discussing risk assessment reviews, which requires annual review of the risk assessment.</p> <p>The risk register for each scheme indicates that in July 2020, an internal risk review workshop was undertaken, and a risk review workshop was undertaken with NSW Health in August 2020. The document control properties identify the new risks that were added to the risk register, and the risks that were deleted are shown as a strike through in the register.</p> <p>Based on the document control properties of the risk registers, it was found that the risk assessments were reviewed in accordance with the documented frequency.</p>

⁵² Shepherds Bay - Stakeholders Emergency Contact List SB-WAT-NSW-RG-INC-3357 Revision 1.1 30 December 2020

⁵³ https://information.altogethergroup.com.au/governance/Shepherds_Bay/Licence%20Plan%20Audit%20report_Shepherds%20Bay_Feb2021.pdf accessed 28 May 2021

⁵⁴ Recycled Water Quality Plan AG-WAT-AUS-PL-OPS-1311 Revision: 17 27 April 2021

⁵⁵ Risk Assessment Protocol for Water Products and Services FS-WAT-NSW-PR-OPS-2466 Revision: 3 16 August 2020

⁵⁶ Critical Document Review Calendar 20-21

⁵⁷ Scheme Risk Register AG-WAT-NSW-RG-OPS-2457 when discussing risk assessment

Licence Clause	Findings
	<p>The AGWR (section 2.2.3) provide advice on water quality data analysis for risk assessment including:</p> <ul style="list-style-type: none"> • Assemble historical data about sewage, greywater or stormwater quality, as well as data from treatment plants and of recycled water supplied to users; identify gaps and assess reliability of data. • Assess data (using tools such as control charts and trends analysis), to identify trends and potential problems. <p>Information Packages^{58 59 60} have been provided that detail the water quality analysis and identification of incidents as well as the risk assessment methodology. The information packages show the data analysis undertaken for each scheme, which was from September 2019 – July 2020 and include the following datasets:</p> <ul style="list-style-type: none"> • Central Park number of samples analysed – 57 <i>E. coli</i>, 47 Coliphage, 53 Clostridia and 12 Adenovirus • Discovery Point number of samples analysed – 57 <i>E. coli</i>, 19 Coliphage, 25 Clostridia and 12 Adenovirus • Green Square number of samples analysed – 52 <i>E. coli</i>, 21 Coliphage, 25 Clostridia and 11 Adenovirus • Box Hill - number of samples analysed – 134 <i>E. coli</i>, 40 Coliphage, 117 Clostridia and 9 Adenovirus • Huntlee number of samples analysed – 55 <i>E. coli</i>, 45 Coliphage, 50 Clostridia and 12 Adenovirus • Pitt town number of samples analysed – 95 <i>E. coli</i>, 48 Coliphage, 95 Clostridia and 12 Adenovirus. <p>The data analysis did not appear to include environmental indicators such as nutrients to inform the environmental risk assessment, treatment plant operational data or CCP performance. The AGWR (Section 2.2.3) recommends analysing historical performance. It is considered by the auditor, that analysing less than 12 months of data may limit the risk assessment, particularly when assessing data reliability and certainty. It is noted that all incidents dating back to 2012 were included in the briefing paper. Altogether advised in the audit that the 'older data' was in a different format and it would have been too time consuming to extract and analyse it.</p> <p>After the recycled water audit interviews, Altogether provided a briefing pack⁶¹, dated July 2020 that included assessment of CCP performance, but a very much reduced data set for analysis. This briefing pack did include some trending of pH, free and total chlorine performance. Microbial data set included the following sample sizes, however the date range was not specified.:</p> <ul style="list-style-type: none"> • Central Park number of samples analysed – 27 <i>E. coli</i>, 28 Coliphage, 28 Clostridia and 6 Adenovirus • Discovery Point number of samples analysed – 27 <i>E. coli</i>, 7 Coliphage, 7 Clostridia and 7 Adenovirus • Green Square number of samples analysed – 20 <i>E. coli</i>, 6 Coliphage, 6 Clostridia and 6 Adenovirus • Box Hill number of samples analysed - 22 <i>E. coli</i>, 23 Coliphage, 37 Clostridia and 5 Adenovirus • Huntlee number of samples analysed – 25 <i>E. coli</i>, 27 Coliphage, 27 Clostridia and 7 Adenovirus • Pitt town number of samples analysed – <i>E. coli</i>, 27 Coliphage, 31 Clostridia and 7 Adenovirus.

⁵⁸ Flow High Rise Risk Workshop Briefing Pack August 2020

⁵⁹ Flow Land Housing Risk Workshop Briefing Pack August 2020

⁶⁰ Water Services and Products Risk Workshop Briefing Pack July 2020

⁶¹ With data analysis Water Services and Products Risk Workshop Briefing Pack July 2020

Licence Clause	Findings
	<p>In April 2021, a recycled water and sewage risk assessment covering the eight schemes was undertaken to address new risks and audit findings. Evidence includes the briefing pack⁶², recycled water risk register⁶³ and updated sewage risk register⁶⁴. The Briefing pack included an assessment of microbial compliance from the verification monitoring for a timeframe of '2020' and trending of free and total chlorine from January to December 2020, however the location of sampling was not specified.</p> <p>Altogether advised that the reason that a small data set was analysed was due to the way data was received from a previous lab, making it onerous to analyse a longer data period. An Opportunity for Improvement has been identified to standardise the data analysis process, to ensure the risk assessment outcomes reflect operational and historical performance and uncertainty in the risk assessment is reduced.</p> <p>OFI-RW-2021-002 Prepare and implement a consistent procedure for undertaking data analysis for risk assessments that includes a minimum appropriate data set/time range, assessment and trending of treatment plant operational performance, analysis of environmental and other hazards to inform the risk assessment and ensure data reliability and to contextualise certainty/uncertainty in the risk assessment.</p> <p>The RAP includes consequence and likelihood descriptors that should be applied when assessing risk. The RAP states in Table 2 that 'Health risks on the sewage and recycled water risk registers are assessed using the AGWR matrix'. When reviewing the matrix, in the RAP, it was found that it was not consistent with the AGWR as the minor and negligible consequence descriptors in the RAP appear to exclude health impacts as detailed below:</p> <ul style="list-style-type: none"> • Minor ranking – Health impact minor - possible aesthetic or amenity impact, population impact small, isolated part of the scheme (zone or street) • Insignificant ranking – Health impact negligible - undetectable impact (normal operations) population impact small, isolated part of the scheme (zone or street) <p>Altogether has advised verbally and in emails that these consequence categories do not exclude health impacts, however this is not clear from reading the documents. Furthermore, there are a number of health impacts identified in the risk assessment that have been assigned 'insignificant' grading, which describes a health impact as 'negligible', and 'undetectable' and 'normal operations'. It is difficult to justify how a health impact from exposure to recycled water is part of 'normal operations'.</p> <p>There are a number of instances in the risk assessment where health risks have been assessed as insignificant for example:</p> <ul style="list-style-type: none"> • RL1.5 (reference Huntlee Risk Register⁶⁵) Human health impacts 'Pathogens present in recycled water supplied to customers, causing health impacts for customers' 'Exceedance of AGWR health guideline value' • RD1.4 (reference Huntlee Risk Register) Human health impacts from on lot and network cross connections' 'Recycled water entering potable water plumbing in home' 'Pathogens present in water supplied to consumers, causing health impacts for consumers' 'Exceedance of ADWG health guideline value' <p>It is noted that in the live consultation register⁶⁶, NSW Health provided comments on the risk assessment that do not appear to have been taken into consideration. NSW Health indicated '<i>Generally it is not appropriate to change the consequence in assessing risk. Controls address the likelihood; i.e. the likelihood is reduced but the consequence remains the same</i>' however there are many instances in the risk register where this advice has not been followed</p>

⁶² Recycled Water & Sewage Risk Workshop Briefing Pack Apr2021

⁶³ Updated risks_Recycled water risk register

⁶⁴ Updated risks_Sewage risk register

⁶⁵ 2657 Huntlee Risk Register (Controlled COPY) HU-WAT-NSW-RG-OPS-2657.pdf HU-WAT-NSW-RG-OPS-2657

⁶⁶ LIVE_Register_Consultation with NSW Health

Licence Clause	Findings
	<p>and the control measures do not appear to reduce the consequence but the residual consequence has been reduced (refer to findings of the risk assessment below).</p> <p>In reviewing the risk assessments for all schemes, the auditor identified the following inconsistencies in the application of the RAP when assessing risk:</p> <ul style="list-style-type: none"> • Risk SC1.4a and SC1.4b relating to sewage overflows, leading to 'Human contact with wastewater causing public health impact'. The maximum likelihood is almost certain and moderate consequence. Moderate is described as 'Potential for some increase in disease burden'. The control measures include processes such as use of contractors, isolation of spills, complaints handling and communication. Whilst these control measures may reduce the frequency of a public health impact it is unclear how these reduce the consequence of a public health impact to minor, which is 'Possible aesthetic or amenity impact'. • EU1.15 Risk of inadvertent connections between recycled water and potable water (e.g. public bubblers?) leading to 'Illness from ingestion of recycled water'. Preventive measures are education, communication protocols and the emergency procedures resulting in a residual risk rated minor, which is 'Minor, Possible aesthetic or amenity impact'. • RD1.4 On-lot cross-connections residual risk is assessed as 'insignificant' which is described as an 'undetectable impact (normal operations). It is unclear how an on-lot cross-connection is part of normal operation. This risk certainty is 1 which means 'certain' however Altogether have only undertaken 3 cross-connection audits across 8 schemes with approximately 8146 recycled water customer connections in the audit period, therefore the risk level is unknown and uncertain. During the audit interviews numerous Altogether team members (Water Operations Manager 31 May 2021, Executive Manager – Sustainable Utility Services 15 June 2021) stated that cross-connections do not occur in the Altogether schemes because the houses and development are 'new'. This is contrary to industry knowledge and experience as documented in literature^{67 68 69 70}. This is considered a significant gap in understanding risk and taking responsibility for managing risk. <p>Based on the review of the scheme specific risk registers against the requirements of the RAP, it was found that the RAP was not consistently implemented in the audit period, resulting in an underestimation of health risk and there was ambiguity about the health impacts captured in the consequence descriptors. A recommendation has been made to ensure the risk assessment consistently assesses risks.</p> <p>REC-RW-2021-006 Review the risk assessments or risk assessment methodology to ensure that consequence values align with the risk being assessed, for example, where the consequence descriptor of insignificant, aesthetic or negligible cannot be attributed to a risk that has an acute health impact. Frequencies should also be applied taking into consideration historical performance and the occurrence of incidents. Any reduction in consequence should be justified.</p> <p>Pitt Town</p> <p>Pitt Town Risk Register⁷¹ was finalised on 26/4/2021. Pitt Town experienced 4 uncontained sewage overflows (grouped as one incident in the briefing pack) in 2019 and a contained overflow in 2014. Altogether, as a whole, has experienced 7 uncontained sewage overflows and 2 contained sewage overflows since 2014. The risk assessment assessed the frequency as 'likely', consistent with the number of overflows for this scheme.</p>

⁶⁷ A. C. Hambly , R. K. Henderson , A. Baker , R. M. Stuetz & S. J. Khan (2012) Cross-connection detection in Australian dual reticulation systems by monitoring inherent fluorescent organic matter, Environmental Technology Reviews, 1:1, 67-80, DOI: 10.1080/09593330.2012.696724

⁶⁸ Water Source <https://watersource.awa.asn.au/publications/technical-papers/third-pipe-water-recycling/>

⁶⁹ Risks to the long-term viability of residential non-potable water schemes: a review https://watersensitivecities.org.au/wp-content/uploads/2016/05/TMR_C3-1_RisksViabilityNonPotableWater.pdf

⁷⁰ Muston, M. H. (2012). *Changing of the water recycling paradigm in Australia. Water Science and Technology: Water Supply*, 12(5), 611–618. doi:10.2166/ws.2012.034

⁷¹ Pitt Town Risk Register PT-WAT-NSW-RG-OPS-2664 V7.5 26/4/21

Licence Clause	Findings
	Central Park Central Park Scheme Risk Register ⁷² indicates that July 2020 an internal risk review workshop was undertaken, and a risk review workshop was undertaken with NSW Health in August 2020. The risk register is dated 27/8/2020. The document control properties identify the new risks that were added to the risk register, and the risks that were deleted are shown as a strike through.
	Huntlee The Huntlee Scheme Risk Register ⁷³ is dated 27/8/2020, no additional findings have been noted for the Huntlee risk assessment.
	Cooranbong Cooranbong Scheme Risk Register ⁷⁴ , was provided and overdosing chlorine has been added to the risk register (RL 1.34) as required by the non-compliance finding from the last audit.
	Box Hill Box Hill Scheme Risk Register ⁷⁵ was provided. Box Hill has had 4 uncontained sewer overflows that have occurred within the immediate local environment. SC1.1 Infiltration/inflow in private on-lot plumbing leading to overflow leading to contamination of immediate local environment and contamination of downstream water. SC1.2 and 1.3 also relate to overflows to the local environment. The frequency for the residual risk is assessed as unlikely (could occur within 20 year or in unusual circumstances). This is not consistent with the number of overflows that have occurred and have affected the immediate local environment (Potentially harmful to local ecosystem with local impacts contained to site). A recommendation has been made to review the risk assessments to ensure the frequencies reflect the historical performance of the schemes and the documented risk assessment methodology is being implemented consistently (REC-RW-2021-006).
	Green Square Green Square Scheme Risk ⁷⁶ is dated 27/8/2020. Risk Reference U1.12 Relates to failure of end users to implement their required controls (e.g. home owners guide/ operations protocol) resulting in potential illness from pathogens was given a residual consequence of minor, which is aesthetic and not consistent with a health risk. A recommendation has been made to review the risk assessments to ensure that consequence descriptors reflect the impact being assessed and the documented risk assessment methodology is being implemented consistently. A recommendation has been made to review the risk assessments to ensure the frequencies reflect the historical performance of the schemes and the documented risk assessment methodology is being implemented consistently (REC-RW-2021-006).
	Discovery Point Discovery Point Scheme Risk Register ⁷⁷ was provided and there are no additional findings for this scheme.

⁷² Central Park Scheme Risk Register CP-WAT-NSW-PL-OPS-2480 V9.2 27/8/2020

⁷³ Huntlee Scheme Risk Register HU-WAT-NSW-RG-OPS-2657 V9.2 27/8/2020

⁷⁴ Cooranbong Scheme Risk Register CO-WAT-NSW-RG-OPS-2472 V7.3 27 August 2020

⁷⁵ Box Hill Scheme Risk Register BH-WAT-NSW-RG-OPS-2486 V3.3 20 October 2020

⁷⁶ Green Square Scheme Risk Register GP-WAT-NSW-RG-OPS-2649 V8.2 27 August 2020

⁷⁷ Discovery Point Scheme Risk Register P-NSW-WAT-RG-OPS-2451 V4.2 27 August 2020

Licence Clause	Findings
	Shepherds Bay Shepherds Bay Scheme Risk Register ^{78 79} was provided and there are no additional findings for this scheme.
AGWR Element 3	<p>IPART's Audit Initiation letter identifies the following requirements for Element 3:</p> <ul style="list-style-type: none"> • Documented preventative measures and strategies are implemented • Preventive measures remain effective, and barriers are operational. • SCADA (or other controls system for the treatment plant) set points are consistent with the documented critical limits and target criteria. • Critical control points are monitored, and critical limit exceedances actioned in accordance with procedures. • Critical control points are reassessed where preventive measures are not effective <p>Overall</p> <p>The Recycled Water Quality Plan⁸⁰ states that a control library has been developed and general controls are included as Attachment B to the RWQP Altogether's Recycled Water 'Schemes in a Nutshell'. The RWQP states that '<i>all controls listed on the Scheme Risk Registers are controls that are currently implemented.</i>'</p> <p>Preventive Measures</p> <p>The risk assessments for each scheme identify the current controls that are implemented to reduce, remove or manage risk. The primary method of reducing risk is through the implementation of multiple barrier treatment process, determined by the pathogen log reduction required to remove the necessary percentage of pathogens to make the recycled water fit for the use.</p> <p>This is practically undertaken through the initial design of the LWC to include the barriers required for the pathogen log reduction, validation of each barrier and then when operational, ongoing testing to confirm the system is operating within the required range to achieve the log reduction values (LRV). Critical control points (CCPs) are established with critical limits that identify the acceptable range. For each CCP, Altogether' systems initiate a system off-specification bypass and cease supplying recycled water when a critical limit is triggered.</p> <p>CCPs are monitored online using SCADA and the implementation of the off-specification bypass is automatically triggered. Operators also undertake a weekly CCP check, via a work order, which operators demonstrated during the site inspections at Box Hill and Pitt Town.</p> <p>Implementation of control measures and CCPs are discussed below in the scheme specific findings. CCPs have been reassessed in the audit period, and Altogether has lodged change notices with NSW Health for a range of changes to CCPs and LRV claims, and to remove QCPs from the CCP Tables.</p> <p>At present critical limits are not protected in SCADA and operators have the ability to change limits. The LWC Control System Change Management policy⁸¹ outlines the process or requesting change and includes a flow diagram for the process when the change relates to a CCP or QCP. Altogether advised in the audit interviews that it is currently investigating making changes to the SCADA permissions to restrict access to changing critical limits, following an unauthorised change to the SCADA setpoint on the UF at Green Square in June 2020.</p>

⁷⁸ Shepherds Bay Scheme Risk Register SB-WAT-NSW-RG-OPS-2656 V4.2 27 August 2020

⁷⁹ Discovery Point Scheme Risk Register P-NSW-WAT-RG-OPS-2451 V4.2 27 August 2020

⁸⁰ Recycled Water Quality Plan AG-WAT-AUS-PL-OPS-1311 Revision: 17 27 April 2021

⁸¹ LWC Control System Management of Change Policy (CONTROLLED COPY) Revision 3 27 April 20120

Licence Clause	Findings
	<p>Virus LRV claims and critical limits</p> <p>When reviewing all of the 8 schemes CCPs and LRV claims collectively, it was noted that there are a number of differences, and some schemes, for example, Discovery Point and Central Park are claiming much higher LRVs for the UV disinfection step than others, additionally UV Transmissivity (UVT) varies between schemes:</p> <ul style="list-style-type: none"> • Discovery Point -1 LRV claimed at a dose of 39 mJ/cm² at a UVT of 50% UVT • Central Park 1.5 LRV claimed at a dose of 39 mJ/cm² at a UVT of 55% UVT • Huntlee, Pitt Town, Box Hill, and Cooranbong 0.5 LRV claimed at a dose of 39 mJ/cm² at a UVT of 55% UVT. <p>The LRVs for Central Park and Discovery Point are well above those recommended for the CCPs dose critical limit in the US EPA UV Disinfection Manual (noting that the Central Park LRV Table identifies the UASEPA as the reference for the LRV claim), which recommends a 0.5 LRV claim at 39 mJ/cm². Change notice 3 relates to the UV CCP changes and new validation information. The change notice⁸² and email⁸³ detail the rationale for reducing the UVT to 47% and subsequently changing the LRV claim. There is very little detail, other than pdf screenshots of a design tool provided by Xylem and attached to the email. There is a lack of evidence that the UV system has been validated to achieve the proposed LRV at the dose and UVT proposed. It is noted that the design tool does not allow for the calculations of reduction equivalent dose (RED) to be reviewed and does not include evidence that the UV System has been validated to achieve the claimed LRV at the proposed doses and UVT values. It is noted that change notice 5⁸⁴ requests a change of the Central Park and Discovery Point LRV claim to 1.0 for virus and a higher dose set point for the UV CCP. As the critical limits have been revised, it has been found that there is insufficient evidence provided to demonstrate that the UV system has been validated to achieve the LRV at the proposed operational conditions and critical limits. A recommendation has been made to document the evidence that demonstrated the system has been validated to the site-specific operational conditions.</p> <p>REC-RW-2021-007 Clearly document the UV dose calculations documenting the evidence used. This is required to validate that the UV Systems are able to achieve the LRV required for the site-specific operational conditions (flow and UVT), documented in the log reduction tables and CCP Tables. Critical limits must be set to ensure the operational range of the UV is within the validated limits.</p> <p>Change Notice 5 also includes updating the MBR LRV claim based on the new evidence and the CT values for Discovery Point and Central Park.</p> <p>Quality Control Points</p> <p>When reviewing the Quality Control Points (QCPs), some of the limits in SCADA were not consistent with the CCP tables, however it was discussed in the audit and specifically at the Box Hill site inspection that the QCPs are more of an operational limit and operator needs to be able to adjust them to optimise operation, for example at Box Hill, the QCP could not be implemented without affecting treatment due to the low flows coming into the plant. The rationale is detailed in the change notice 7 documents⁸⁵</p> <p>Pitt Town</p> <p>The following scheme specific documents were reviewed:</p>

⁸² 210413 Change Notice - Control Point and Log Reduction Review for BH, CB, HL, PT

⁸³ 210413 Change Notice - Control Point and Log Reduction Review for BH, CB, HL, PT

⁸⁴ 210406 Change Notice - Control Point and Log Reduction Review for CP and DP

⁸⁵ CCP review workshop summary outcomes March2021

Licence Clause	Findings
	<ul style="list-style-type: none"> • Pitt Town Scheme Management Plan⁸⁶ • Pitt Town - Control Points⁸⁷ • Pitt Town - Log Reduction Values⁸⁸ • Pitt Town Monitoring and Sampling Program⁸⁹ (MS Prog) <p>The following findings were observed:</p> <ul style="list-style-type: none"> • The site inspection confirmed the location of the operational monitoring instruments • The SCADA alarms matched the CCP table • Time delays for UF turbidity and UVT were tested during the audit site inspection and matched the CCP Table. The SCADA system also showed the bypass valves activating when the time delay was triggered. • The CCP Table generally matched the MS Prog however some of the operational monitoring parameters were not in the MS Prog, for example Contact time, which is a critical limit. <p>A recommendation has been made to ensure that the operational monitoring program is correctly documented on the MS Prog, or relevant alternative.</p> <p>REC-RW-2021-008 Review the scheme specific monitoring and sampling programs to ensure they include all operational parameters or develop a separate comprehensive operational monitoring program.</p> <p>Central Park</p> <p>The following scheme specific documents were reviewed and the level of implementation was assessed during the audit interviews where Altogether demonstrated the SCADA system:</p> <ul style="list-style-type: none"> • Central Park Scheme Management Plan⁹⁰ • Central Park - Control Points⁹¹ • Central Park - Log Reduction Values⁹² • Central Park Monitoring and Sampling Program⁹³ (MS Prog) <p>The following findings were observed:</p> <ul style="list-style-type: none"> • The SCADA alarms matched the CCP table • The CCP Table generally matched the MS Prog however some of the operational monitoring parameters were not in the MS Prog, for example Contact time, which is a critical limit. <p>A recommendation has been made to ensure that the operational monitoring program is correctly documented on the MS Prog, or relevant alternative (REC-RW-2021-008).</p>

⁸⁶ Pitt Town Scheme Management Plan (Controlled COPY) PT-WAT-NSW-PL-OPS-1410 V11 19 March 2021

⁸⁷ Pitt Town - Control Points (CONTROLLED COPY) PT-WAT-NSW-PL-OPS-1291 V3 19 March 2021

⁸⁸ Pitt Town - Log Reduction Values (CONTROLLED COPY) PT-WAT-NSW-RE-OPS-2774

⁸⁹ Pitt Town Monitoring and Sampling Program (Controlled COPY) PT-WAT-NSW-PL-OPS-2849 19 March 2021

⁹⁰ Central Park Scheme Management Plan (Scheme MP) (Controlled COPY) CP-WAT-NSW-PL-OPS-1344 V7 16 April 2020

⁹¹ Central Park - Control Points (Controlled COPY) CP-WAT-NSW-PL-OPS-1208 Version 3 4 November 2019

⁹² Central Park - Log Reduction Values (Controlled COPY) CP-WAT-NSW-PL-OPS-2822 Version 2 19 November 2020

⁹³ Central Park Monitoring and Sampling Program (Controlled COPY) CP-WAT-AUS-PL-OPS-2859 19 March 2021

Licence Clause	Findings
	<p>Huntlee</p> <p>The following scheme specific documents were reviewed and the level of implementation was assessed during the audit interviews where Altogether demonstrated the SCADA system:</p> <ul style="list-style-type: none"> • Huntlee - Control Points⁹⁴ • Huntlee - Log Reduction Values⁹⁵ • Huntlee Water Scheme Management Plan⁹⁶ • Huntlee Monitoring and Sampling Program⁹⁷ (MS Prog) <p>The following findings were observed:</p> <ul style="list-style-type: none"> • The SCADA alarms matched the CCP table. • The CCP Table generally matched the MS Prog however some of the operational monitoring parameters were not in the MS Prog, for example Contact time, which is a critical limit for flow in the UV inlet. <p>A recommendation has been made to ensure that the operational monitoring program is correctly documented on the MS Prog, or relevant alternative (REC-RW-2021-008).</p>
	<p>Cooranbong</p> <p>The following scheme specific documents were reviewed and the level of implementation was assessed during the audit interviews where Altogether demonstrated the SCADA system:</p> <ul style="list-style-type: none"> • Cooranbong Water Scheme Management Plan⁹⁸ • Cooranbong - Control Points⁹⁹ • Cooranbong Log Reduction Values Table¹⁰⁰ • Cooranbong Monitoring and Sampling Program¹⁰¹ <p>The following findings were observed:</p> <ul style="list-style-type: none"> • The SCADA alarms matched the CCP table • The CCP Table generally matched the MS Prog however some of the operational monitoring parameters were not in the MS Prog, for example Contact time, which is a critical limit.

⁹⁴ Huntlee - Control Points (Controlled COPY) HU-WAT-NSW-PL-OPS-2581 Version 2 18 March 2021

⁹⁵ Huntlee - Log Reduction Values (Controlled COPY) HU-WAT-NSW-PL-OPS-2795 Revision 3 16 March 2021

⁹⁶ Huntlee Water Scheme Management Plan (Controlled COPY) HU-WAT-NSW-PL-OPS-1275 Version 14 19 March 2021

⁹⁷ Huntlee Monitoring and Sampling Program (Controlled COPY) HU-WAT-NSW-PL-OPS-3094 Version 2 19 March 2021

⁹⁸ Cooranbong Water Scheme Management Plan (Scheme MP)(Controlled COPY) CO-WAT-NSW-PL-OPS-1720 Version 10 16 April 2021

⁹⁹ Cooranbong - Control Points (Controlled COPY) CO-WAT-NSW-PL-OPS-2832 Version 1 14 August 2020

¹⁰⁰ Cooranbong Log Reduction Values Table (Controlled COPY) CO-WAT-NSW-PL-OPS-2749 Version 1 17 September 2020

¹⁰¹ Cooranbong Monitoring and Sampling Program (Controlled COPY) CO-WAT-NSW-PL-OPS-3093 19 March 2021

Licence Clause	Findings
	<p>A recommendation has been made to ensure that the operational monitoring program is correctly documented on the MS Prog, or relevant alternative (REC-RW-2021-008).</p> <p>Box Hill</p> <p>The following scheme specific documents were reviewed and the level of implementation was assessed during the site inspection where Altogether demonstrated the SCADA system:</p> <ul style="list-style-type: none"> • Box Hill Scheme Management Plan¹⁰² • Box Hill - Log Reduction Values¹⁰³ • Box Hill - Control Points¹⁰⁴ • Box Hill Monitoring and Sampling Program¹⁰⁵ (MS Prog) <p>The following findings were observed:</p> <ul style="list-style-type: none"> • The site inspection confirmed the location of the operational monitoring instruments • The SCADA alarms matched the CCP table • Time delays for turbidity and UVT were tested during the site inspection and matched the CCP table. The SCADA system also showed the bypass valves activating when the time delay was triggered. • The CCP Table generally matched the MS Prog however some of the operational monitoring parameters were not in the MS Prog, for example Contact time and UV Dose, which are critical limits. <p>A recommendation has been made to ensure that the operational monitoring program is correctly documented on the MS Prog, or relevant alternative (REC-RW-2021-008).</p> <p>Green Square</p> <p>The following scheme specific documents were reviewed and the level of implementation was assessed during the site inspection where Altogether demonstrated the SCADA system:</p> <ul style="list-style-type: none"> • Green Square Scheme Management Plan¹⁰⁶ • Green Square - Log Reduction Values¹⁰⁷ • Green Square - Control Points¹⁰⁸ • Green Square Monitoring and Sampling Program¹⁰⁹

¹⁰² Box Hill Scheme Management Plan (Scheme MP) (Controlled COPY) BH-WAT-NSW-PL-OPS-1345 Version 14 17 March 2021

¹⁰³ Box Hill - Log Reduction Values (Controlled COPY) BH-WAT-NSW-PL-OPS-2683 3.0 17 March 2021

¹⁰⁴ Box Hill - Control Points (Controlled COPY) BH-WAT-NSW-PL-OPS-2671 Version 2.1 4 November 2019

¹⁰⁵ Box Hill Monitoring and Sampling Program (Controlled COPY) BH-WAT-NSW-PL-OPS-1713 19 March 2021

¹⁰⁶ Green Square Scheme Management Plan (Scheme MP) (Controlled COPY) GS-WAT-NSW-PL-OPS-1791 Version 9 19 April 2021

¹⁰⁷ Green Square - Log Reduction Values (Controlled COPY) GS-WAT-NSW-PL-OPS-2826 Version 3 27 April 2021

¹⁰⁸ Green Square - Control Points (Controlled COPY) GS-WAT-NSW-PL-OPS-2577 Version 3.1 20 November 2021

¹⁰⁹ Green Square Monitoring and Sampling Program (Controlled COPY GS-WAT-NSW-PL-OPS-2421 Version 2 19 March 2021

Licence Clause	Findings
	<p>The following findings were observed:</p> <ul style="list-style-type: none"> • The site inspection confirmed the location of the operational monitoring instruments • The SCADA alarms matched the CCP table • The CCP Table generally matched the MS Prog however some of the operational monitoring parameters were not in the MS Prog, for example Contact time and RO QCP of Conductivity on the permeate line. <p>A recommendation has been made to ensure that the operational monitoring program is correctly documented on the MS Prog, or relevant alternative (REC-RW-2021-008).</p>
	<p>Discovery Point</p> <p>The following scheme specific documents were reviewed:</p> <ul style="list-style-type: none"> • Discovery Point Scheme Management Plan¹¹⁰ • Discovery Point - Control Points¹¹¹ • Discovery Point - Log Reduction Values¹¹² • Discovery Point Monitoring and Sampling Program¹¹³ <p>The following findings were observed:</p> <ul style="list-style-type: none"> • The site inspection confirmed the location of the operational monitoring instruments • The SCADA alarms matched the CCP table • The CCP Table generally matched the MS Prog however some of the operational monitoring parameters were not in the MS Prog, for example Contact time and RO QCP of Conductivity on the permeate line. <p>A recommendation has been made to ensure that the operational monitoring program is correctly documented on the MS Prog, or relevant alternative (REC-RW-2021-008).</p> <p>The Discovery Point Risk Register identifies preventive measures for the unauthorised use of recycled water including:</p> <ul style="list-style-type: none"> • Colour coded, different materials, labelled pipes and marker tape • Signage on recycled water taps • Different fittings for recycled water tap <p>During the site inspection, the car washing bay was inspected and the controls identified in the risk assessment were not implemented. There was one very small sign under each of two taps, which stated 'Not for drinking'. The tap, high pressure hose and piping to the tap were not lilac coloured and it was</p>

¹¹⁰ Discovery Point Scheme Management Plan (Scheme MP) (Controlled COPY) DP-WAT-NSW-PL-OPS-1242 Revision 9 19 April 2021

¹¹¹ Discovery Point - Control Points (Controlled COPY) DP-WAT-NSW-PL-OPS-1228 Version 3 4 November 2019

¹¹² Discovery Point - Log Reduction Values (Controlled COPY) DP-WAT-NSW-PL-OPS-2824 Version 1.2 5 November 2020

¹¹³ Discovery Point Monitoring and Sampling Program (Controlled COPY) DP-WAT-NSW-PL-OPS-2860 18/09/2020

Licence Clause	Findings
	<p>not made clear that the water supplied for car washing was recycled water. An opportunity for improvement has been made to improve engagement with recycled water users (OFI-RW-2021-001).</p> <p>Shepherds Bay Shepherds Bay Scheme Management Plan¹¹⁴ was provided, however as this scheme has not commenced operation of the LWC it does not have any CCPs.</p>
AGWR Element 4	<p>IPART's Audit Initiation letter identifies the following requirements for Element 4:</p> <ul style="list-style-type: none"> • Control of processes is achieved through implementation of operational procedures, monitoring protocols and operational corrections in accordance with the WQP-RW. • Records are maintained to demonstrate implementation of operational procedures, monitoring protocols and operational corrections identified in the WQP-RW. • Rapid communications systems responding to unexpected events were followed. • Monitoring and measuring equipment is fit for purpose and calibrated at specified intervals. • Regular inspection and maintenance of all equipment, from source to point of use, ensures continuing process capability. • Materials used in the recycled water system are appropriate and meet specifications. • Chemicals used in the recycled water system are appropriate and meet specifications. <p>Overall</p> <p>The Recycled Water Quality Plan¹¹⁵ provides an overview on the operational procedures that have been developed and to be implemented under the recycled water framework.</p> <p>The RQMP states that Operations and Maintenance Manual (O&MM) for each scheme has been developed and each scheme will be operated in accordance with the O&MM. The O&MMs describe the infrastructure, its operation and monitoring and includes how to navigate through the SCADA system and find a number of operational parameters. O&MMs^{116 117 118 119 120 121 122} were provided as evidence and included the relevant information on the LWC.</p> <p>The Register of Operational Procedures¹²³ documents the procedures relevant to each scheme.</p>

¹¹⁴ Shepherds Bay Scheme Management Plan (Scheme MP) (Controlled COPY) SB-WAT-NSW-PL-OPS-1787 Version 6 28 April 2021

¹¹⁵ Recycled Water Quality Plan AG-WAT-AUS-PL-OPS-1311 Revision: 17 27 April 2021

¹¹⁶ 3450 Cooranbong Potable Water Operation and Maintenance Manual (Controlled COPY).pdf CO-WAT-NSW-MN-OPS-2763

¹¹⁷ 2714 Box Hill LWC O&M Manual BH-WAT-NSW-PR-OPS-2714

¹¹⁸ 2508 Huntlee Operation & Maintenance Manual (Controlled COPY).pdf HU-WAT-NSW-MN-OPS-2507

¹¹⁹ 3003 Central Park Operation and Maintenance Manual (CONTROLLED COPY).pdf CP-WAT-NSW-MN-OPS-1467

¹²⁰ 3004 Green Square LWC Operation and Maintenance Manual (CONTROLLED COPY).pdf GS-WAT-NSW-MN-OPS-2853

¹²¹ 3002 Discovery Point LWC Operation and Maintenance Manual (CONTROLLED COPY).pdf DP-WAT-NSW-MN-OPS-2995

¹²² 2493 Pitt Town LWC Operation and Maintenance Manual (CONTROLLED COPY).pdf PT-WAT-NSW-MN-OPS-2492

¹²³ Register of Operational Procedures (Controlled COPY) AG-WAT-NSW-RG-OPS-2725

Licence Clause	Findings
	<p>Altogether has developed Recycled Water out of Specification Work Instructions for each scheme during the audit period. These work instructions detail the processes for rapidly notifying external stakeholders when there is contamination detected after the point of supply.</p> <p>The procedure for minimising cross-connections was chosen as a sample procedure for a more detailed audit. The Minimising the Risk of Cross-Connection Checks Policy and Procedure¹²⁴ was provided and discussed at the audit. The document control properties indicate that the procedure was established in December 2018 and updated in June 2019. The procedure in Section 8.4.2 states that 'The risk of cross-connections and unauthorised tap-ins increases with time as plumbing and network changes are made and the number of connections increases.' Section 8.4.3 of the policy states that:</p> <p><i>'Flow has received advice that the water industry has determined that conducting cross-connection checks of 20% of all connections annually is not effective and is moving towards a risk-based approach. Flow is committed to implementing a risk-based, prioritised, statistically significant ongoing inspection program.'</i></p> <p><i>'Flow will conduct a statistically significant set of one of the following types of tests on three streets in a scheme or three units in a high rise building annually, to confirm that there are no cross-connections between potable and recycled water systems or tap-ins of potable to recycled water fittings:</i></p> <ol style="list-style-type: none"> <i>1. flow tests</i> <i>2. electrical conductivity (EC) tests and/or</i> <i>3. chlorine/chloramine tests, or similar.'</i> <p>When reviewing the requirements of the procedure, it was noted that the water industry advice that Altogether has received was not documented and it was not possible to verify if the advice was documented or from where in the industry it was sourced from, for example an accepted industry standard or peer reviewed document. Altogether provided a range of emails¹²⁵ ¹²⁶written by Altogether staff, summarising what appears to be verbal advice from a consultant, however there does not appear to be verifiable evidence of the advice. It is noted that an email states <i>'[Consultant Name] has advised us that based on his conversations with Health the "magic number is 3 – i.e. 3 streets in a scheme, 3 units in a building)" and not 20% of all connections annually as we previously targeted.'</i> NSW Health acceptance of this advice could not be verified.</p> <p>When reviewing the implementation of the Minimising the Risk of Cross-Connection Checks Policy and Procedure it was unclear what a 'statistically significant' number of tests would equate to and how this will relate to three streets or three units in a high rise. The AGWR in Table 2.8 provides examples of potential operational criteria and monitoring, suggesting an ongoing cross-connection program, rolling 6-monthly audits with all properties audited at least every 5 years. Whilst the AGWR provides an example of an acceptable cross connection program, this audit has found that the existing Minimising the Risk of Cross-Connection Checks Policy and Procedure is not clear on the number of audits that need to be taken for each scheme and how the properties to be audited are to be chosen to ensure they are representative.</p> <p>When discussing the implementation of the procedure, it was noted that Altogether produced records of only three cross-connection audits¹²⁷ undertaken in the audit period across all schemes, with a total of 8146 recycled water connections (as of April 2021). One cross-connection audit was undertaken each at Cooranbong, Huntlee and Box Hill. The Minimising the Risk of Cross-Connection Checks Policy and Procedure has not been implemented as</p>

¹²⁴ Minimising the risk of cross-connection checks policy and procedure (Controlled COPY).pdf FS-ALL-AUS-PO-OPS-2544

¹²⁵ Cross connection workshop with [Consultants Name] 28/11/2018

¹²⁶ Proposed "Minimising the risk of cross-connection and tap-ins policy and procedure" 11/12/2018

¹²⁷ Flow Systems Customer Field Communications (Responses) 20210601

Licence Clause	Findings
	<p>documented. Additionally, during the audit interviews Altogether staff advised (Water Operations Manager 31 May 2021) that there are insufficient staff resources to undertake a planned cross-connection program.</p> <p>A recommendation has been made to implement an ongoing cross-connection audit program that is adequate to control the risk of on-lot cross connections.</p> <p>REC-RW-2021-009 Review the Minimising the Risk of Cross-Connection Checks Policy and Procedure to ensure that it clearly identifies the number of connections to be audited, audit procedure and the record keeping requirements. Ensure that the ongoing cross-connection audit program is adequate to control the risk of on-lot cross connections noting that the AGWR suggests a rolling 6-monthly audits with all properties audited at least every 5 years as an example of appropriate cross connection monitoring.</p> <p>Operational Monitoring</p> <p>Monitoring and Sampling Plan¹²⁸ (MSP) was updated 3 times in the audit period, with the most recent version provided as evidence. The MSP was last updated in April 2021, and the document control table shows the changes that were made over the audit period and the date of the changes which have been considered in this audit. The MSP outlines the general approach to the operational monitoring of all schemes, and this is translated into the scheme specific Monitoring and Sampling Programs (MS Progs).</p> <p>When reviewing the operational monitoring of the LWC treatment processes, it was found that the MS Progs do not include typical¹²⁹ operational parameters for the membrane bioreactors, for example:</p> <ul style="list-style-type: none"> • Mixed Liquor Suspended Solids (MLSS) • Hydraulic Retention Time (HRT) • Membrane Flux <p>Whilst the adequacy of the plans is not in the scope of the audit, the absence of critical operating parameters for the MBR is considered a gap in the operational monitoring programme.</p> <p>A recommendation has been made to ensure that the operational monitoring program is correctly documented on the MS Prog, or relevant alternative (REC-RW-2021-008).</p> <p>Inspection and Maintenance</p> <p>The Infrastructure Operating Plan¹³⁰ (IOP) was first developed in 2014, the Document Issue Record indicates that the IOP was last updated on 18/3/21. The IOP describes a range of processes for ensuring continuity of supply of drinking, recycled and sewage services. Including planned and reactive inspections and maintenance.</p>

¹²⁸ Monitoring and Sampling Plan (MSP)(Controlled COPY) AG-WAT-AUS-PL-OPS-1288 Revision 15 13 April 2021

¹²⁹ WaterSecure 2017, *Membrane bio-reactor*, WaterVal validation protocol, Australian WaterSecure Innovations Ltd, Brisbane.

¹³⁰ Operating Plan (IOP) (Controlled COPY) AG-WAT-NSW-PL-OPS-1279 18/3/21.

Licence Clause	Findings
	<p>During the audit, the Computerised Maintenance Management System (CMMS) was shown in the audit, which included all assets and the work orders for inspections and maintenance.</p> <p>Records of inspection and maintenance were provided for each scheme and detailed below.</p> <p>Materials</p> <p>The RWQP Component 4.5.2 states that there is a formal process in place for evaluating materials and chemical and procuring products and services. This includes following the Procurement Policy and Procedure¹³¹, which considers qualifications and experience, suitability of product, ability to supply in accordance with requirements, does not adversely affect Altogether's ability to deliver to customers, safety and risk to environment, absence of conflicts of interest and corruption, lifecycle of materials (reused, sold, recycled) and social conscience. The Evaluating Products Materials and Chemicals procedure¹³² also needs to be followed, and Section 7 states that evidence be kept of the evaluation of potential suppliers against the criteria outlined in this document [not sighted]. This includes a requirement for materials that come into contact with recycled water or drinking water to be AS/NZS 3500:2018 and AS/NZS 4020:2015 compliant. It also addresses the requirements of ISO 9001 Clause .5, AS/NZS 4801 Clause 4.4.6, ISO 14001 Clause 8.1, ISO 45001 Clause 8.1.1, the AGWR Framework Element 4, and the ADWG Framework Element 4.</p> <p>Chemicals</p> <p>The RWQP Component 4.5.1 states that chemicals are sourced from reputable suppliers and deliveries are managed through a formal Chemical Delivery Procedure¹³³. This instructs staff to complete the chemical checklist¹³⁴ record the batch numbers of bulk chemical transfers on the delivery docket/note (or supplier form) and staple all delivery information together for storage on site. There is also a requirement to check the SDS which accompanies the chemical.</p> <p>The Evaluating Products Materials and Chemicals procedure¹³⁵ includes a requirement for materials that come into contact with recycled water or drinking water to be AS/NZS 3500:2018 and AS/NZS 4020:2015 compliant. It also states that the Scheme Operator is responsible for procuring goods and other supplies that meet the requirements of schemes and that all chemicals for use in the treatment process in both drinking water and recycled water should be evaluated for potential contamination, chemical and physical properties, maximum dosages, behaviour in water, migration, and concentration build-up. The supplier must supply a current SDS (within 5 years) and will possess a Quality management System that facilitates the tracking of product from raw material to delivery. The supplier may be required to provide Altogether with NATA certified results for specified batch numbers. The representative from Altogether may refuse to accept the delivery if the product does not meet requirements. Visual inspections are a vital tool in determining non-conformance and are listed in the Chemical Delivery Procedure and as a checkbox in the chemical delivery form.</p> <p>The Evaluating Products Materials and Chemicals procedure lists the details of the chemicals used by Altogether. Appendix 1 of the Chemical Delivery Procedure lists the chemicals used within each scheme.</p>

¹³¹ Procurement Policy and Procedure FS-ALL-AUS-PO-PRO-1465 Revision: 4.1 01 November 2019

¹³² Evaluating Products Materials and Chemicals (Controlled COPY).pdf AG-WAT-NSW-PR-OPS-2715 Revision: 3 20 April 2021

¹³³ Chemical Delivery Procedure (Controlled COPY).pdf AG-WAT-NSW-PR-OPS-2591 Revision: 2 15 April 2021

¹³⁴ Chemical Delivery Form FS-WAT-FM-OPS-2628 Version 1.0 01 April 2019

¹³⁵ Evaluating Products Materials and Chemicals (Controlled COPY).pdf AG-WAT-NSW-PR-OPS-2715 Revision: 3 20 April 2021

Licence Clause	Findings
	<p>A Chemical Spill Response procedure¹³⁶ describes the responses required in the event of a chemical spill, and includes replenishing the spill kit and recording details in the Plant Diary.</p> <p>Examples of chemical delivery procedure implementation have been provided for each individual scheme (listed below in individual schemes). In summary, the Chemical Delivery Procedure was generally followed with the Chemical Delivery Form filled out and signed.</p> <p>Pitt Town</p> <p>During the Pitt Town inspection the operator demonstrated the Business Management System (BMS) which had access to all of the overarching licence plans and supporting documents, forms and procedures. Documents observed included (for example):</p> <ul style="list-style-type: none"> • Pitt Town Operation and Maintenance Manual • Pitt town Recycled water Out of Specification Work Instruction • CCP Tables • Process Flow diagrams <p>Operational Monitoring</p> <p>Pitt Town Monitoring and Sampling Program¹³⁷ was updated in March 2021, and includes operational monitoring for the scheme. The online monitoring was demonstrated during the audit and was consistent with the MS Prog and the process flow diagram. Evidence of weekly CCP checks^{138 139} were provided, which include grab sampling and checking online instrument readings.</p> <p>Chemicals</p> <p>Records of chemical deliveries were filed on site and shown in the audit, including Citric Acid delivery from 23/4/2021^{140 141 142}.</p> <p>Inspection and Maintenance</p> <p>The following work orders demonstrating the implementation of the inspection and maintenance processes were provided:</p> <ul style="list-style-type: none"> • Work_Order 034362¹⁴³ Weekly Operations and Maintenance Checks • Work_Order 035910¹⁴⁴ Poly Chemical Storage Tanks • Work_Order 033160¹⁴⁵ Monthly Volute Dehydrator Sept 2020 Pitt Town

¹³⁶ Chemical Spill Response AG-WAT-NSW-PR-OPS-2669 Revision: 2.0 15 April 2021

¹³⁷ Pitt Town Monitoring and Sampling Program (Controlled COPY) PT-WAT-NSW-PL-OPS-2849 19 March 2021

¹³⁸ Work_Order 034238 Weekly Control Points Check PT

¹³⁹ Work_Order 036607 Weekly Control Points Check PT

¹⁴⁰ Chemical Delivery Form 23/4/2021

¹⁴¹ Integra Delivery Docket

¹⁴² Certificate of conformance 23/4/2021

¹⁴³ Work_Order 034362 Weekly Operations and Maintenance Checks PT.pdf

¹⁴⁴ Work_Order 035910 Poly Chemical Storage Tanks PT.pdf

¹⁴⁵ Work_Order 033160 Monthly Volute Dehydrator Sept 2020 Pitt Town.pdf

Licence Clause	Findings
	<ul style="list-style-type: none"> Work_Order 034317¹⁴⁶ Pump Condition Assessment <p>Central Park The procedure for Central Park LWC Restart after Extended Shutdown¹⁴⁷ was discussed during the site inspection. This is a procedure for restarting the plant when the Chlorine Contract Time may be too low to get the plant started and includes manually running the dosing pump to raise the CT factor to within target. The operator explained the process during the inspection of the plant.</p> <p>Operational Monitoring Central Park Monitoring and Sampling Program¹⁴⁸ was updated in March 2021, and includes operational monitoring for the scheme. The online monitoring was demonstrated during the audit and was consistent with the MS Prog and the process flow diagram. Evidence of weekly CCP checks^{149 150} were provided, which include grab sampling and checking online instrument readings.</p> <p>Chemicals Evidence of the delivery of two separate monthly shipments of chemicals delivered on 31/08/2020 and 25/09/2020, each with a delivery note^{151 152} that included batch numbers for bulk transfers, and a Chemical Delivery Form checklist completed and signed^{153 154} as per the Chemical Delivery Procedure.</p> <p>Inspection and Maintenance The following work orders demonstrating the implementation of the inspection and maintenance processes were provided:</p> <ul style="list-style-type: none"> Work_Order 031835¹⁵⁵ Blower 6 Monthly Planned Maintenance required '6 Monthly Control Points to do on Rotary Blower in accordance with the LWC O&M Manual and OEM Manuals' was completed by the due date. Work_Order 037263¹⁵⁶ Membrane Condition Assessment Monthly Control Points to do on Membrane Operating System, completed 16/4/2021. Work_Order 037302¹⁵⁷ Weekly Primary Screen Condition Assessment CP.pdf Work_Order 037402¹⁵⁸ Weekly Operations and Maintenance Assessment CP.pdf

¹⁴⁶ Work_Order 034317 Pump Condition Assessment PT.pdf

¹⁴⁷ Central Park LWC Restart after Extended Shutdown CP-WAT-NSW-PR-OPS-2580

¹⁴⁸ Central Park Monitoring and Sampling Program (Controlled COPY) CP-WAT-AUS-PL-OPS-2859 19 March 2021

¹⁴⁹ Work_Order 033786 Weekly Control Points Check CP

¹⁵⁰ Work_Order 037315 Weekly Control Points Check CP

¹⁵¹ 20210517_112941.jpg

¹⁵² 20210517_112929.jpg

¹⁵³ 20210517_112936.jpg

¹⁵⁴ 20210517_112921.jpg

¹⁵⁵ Work_Order 031835 Blower 6 Monthly Planned Maintenance CP.pdf

¹⁵⁶ Work_Order 037263 Membrane Condition Assessment CP.pdf

¹⁵⁷ Work_Order 037302 Weekly Primary Screen Condition Assessment CP.pdf

¹⁵⁸ Work_Order 037402 Weekly Operations and Maintenance Assessment CP.pdf

Licence Clause	Findings
	<ul style="list-style-type: none"> Work Order 031835¹⁵⁹ Attachment Jobcard was a job undertaken by an external contractor or a 6 month minor service and safety check to a blower unit
	<p>Huntlee</p> <p>Operational Monitoring</p> <p>Huntlee Monitoring and Sampling Program¹⁶⁰ was updated in March 2021 and includes operational monitoring for the scheme. The online monitoring was demonstrated during the audit and was consistent with the MS Prog and the process flow diagram. Evidence of weekly CCP checks^{161 162} were provided, which include grab sampling and checking online instrument readings.</p> <p>Chemicals</p> <p>Evidence of the delivery of two separate shipments of chemicals delivered on 22/01/2021 and 04/03/2021, each with a delivery note that included batch numbers for bulk transfers, and a Chemical Delivery Form checklist completed and signed¹⁶³ as per the Chemical Delivery Procedure.</p> <p>Inspection and Maintenance</p> <p>The following work orders demonstrating the implementation of the inspection and maintenance processes were provided:</p> <ul style="list-style-type: none"> Work_Order 033026¹⁶⁴ Odour Control Weekly Condition and Maintenance HU.pdf Work_Order 033360¹⁶⁵ Monthly Volute Dehydrator Sept 2020 Huntlee.pdf Work_Order 034007¹⁶⁶ Weekly Operations and Maintenance Checks HU.pdf Work_Order 034007¹⁶⁷ Weekly Operations and Maintenance Checks HU Work_Order 031923¹⁶⁸ Quarterly Polymer Makeup System Huntlee
	<p>Cooranbong</p> <p>Operational Monitoring</p>

¹⁵⁹ Work Order 031835 Attachment Jobcard_For_Job_No_21533_06-07-2020_0916 Central Park.pdf

¹⁶⁰ Huntlee Monitoring and Sampling Program (Controlled COPY) HU-WAT-NSW-PL-OPS-3094 Version 2 19 March 2021

¹⁶¹ Work_Order 031896 Weekly Control Points Check HT

¹⁶² Work_Order 037065 Weekly Control Points Check HT

¹⁶³ Email from Scott Mutimer to Kim Staples on 14 May 2021 2:07pm containing images from relevant documents

¹⁶⁴ Work_Order 033026 Odour Control Weekly Condition and Maintenance HU.pdf

¹⁶⁵ Work_Order 033360 Monthly Volute Dehydrator Sept 2020 Huntlee.pdf

¹⁶⁶ Work_Order 034007 Weekly Operations and Maintenance Checks HU.pdf

¹⁶⁷ Work_Order 034007 Weekly Operations and Maintenance Checks HU

¹⁶⁸ Work_Order 031923 Quarterly Polymer Makeup System Huntlee.pdf

Licence Clause	Findings
	<p>Cooranbong Monitoring and Sampling Program¹⁶⁹ was updated in March 2021 and includes operational monitoring for the scheme. The online monitoring was demonstrated during the audit and was consistent with the MS Prog and the process flow diagram. Evidence of weekly CCP checks^{170 171} were provided, which include grab sampling and checking online instrument readings.</p> <p>Chemicals</p> <p>Evidence of the delivery of three separate monthly shipments of chemicals delivered on 22/01/2021, 04/03/2021 and 16/04/2021, each with a delivery note with batch numbers provided for bulk transfers, and a Chemical Delivery Form checklist completed and signed¹⁷², as per the Chemical Delivery Procedure.</p> <p>Inspection and Maintenance</p> <p>The following work orders demonstrating the implementation of the inspection and maintenance processes were provided:</p> <ul style="list-style-type: none"> • Work_Order 033492¹⁷³ Weekly Operations and Maintenance Checklist 9 Sept 2020.pdf • Work_Order 033641¹⁷⁴ Weekly Diesel Generator 14 Sept 2020.pdf • Work_Order 034904¹⁷⁵ Monthly Primary Screen CB.pdf • Invoice_9047881_00501¹⁷⁶ (002) Chubb Fire Extinguisher and Annual Shower Cooranbong.pdf • Work_Order 031501¹⁷⁷ Fire Extinguisher and Safety shower eye wash inspection CB.pdf
	<p>Box Hill</p> <p>Operational Monitoring</p> <p>Box Hill Monitoring and Sampling Program¹⁷⁸ was updated in March 2021 and includes operational monitoring for the scheme. The online monitoring was demonstrated during the audit and was consistent with the MS Prog and the process flow diagram. Evidence of weekly CCP checks^{179 180} were provided, which include grab sampling and checking online instrument readings.</p>

¹⁶⁹ Cooranbong Monitoring and Sampling Program (Controlled COPY)CO-WAT-NSW-PL-OPS-3093 19 March 2021

¹⁷⁰ Work_Order 034475 Weekly Control Points Check CB

¹⁷¹ Work_Order 037708 Weekly Control Points Check CB

¹⁷² Email attachment from Scott Mutimer to Kim Staples on 14 May 2021 4:15pm

¹⁷³ Work_Order 033492 Weekly Operations and Maintenance Checklist 9 Sept 2020.pdf

¹⁷⁴ Work_Order 033641 Weekly Diesel Generator 14 Sept 2020.pdf

¹⁷⁵ Work_Order 034904 Monthly Primary Screen CB.pdf

¹⁷⁶ Invoice_9047881_00501 (002) Chubb Fire Extinguisher and Annual Shower Cooranbong.pdf

¹⁷⁷ Work_Order 031501 Fire Extinguisher and Safety shower eye wash inspection CB.pdf

¹⁷⁸ Box Hill Monitoring and Sampling Program (Controlled COPY) BH-WAT-NSW-PL-OPS-1713 19 March 2021

¹⁷⁹ Work_Order 032837 Weekly Control Points Check BH

¹⁸⁰ Work_Order 035319 Weekly Control Points Check BH

Licence Clause	Findings
	<p>Chemicals</p> <p>Evidence of the delivery of two separate monthly shipments of chemicals delivered on 26/03/2021 and 23/04/2021, each with a delivery note^{181 182}, a signed Certificate of Conformance from the supplier with batch numbers recorded^{183 184}, and a Chemical Delivery Form¹⁸⁵ checklist completed and signed^{186 187} as per the Chemical Delivery Procedure¹⁸⁸.</p> <p>Inspection and Maintenance</p> <p>The following work orders demonstrating the implementation of the inspection and maintenance processes were provided:</p> <ul style="list-style-type: none"> • Work_Order 033166¹⁸⁹ Monthly Primary Screen Condition and Maintenance • Work_Order 035935¹⁹⁰ Weekly Operations and Maintenance Check included the task '<i>Maintenance and operational monitoring checklist in accordance with the LWC O&M Manual and relevant OEM Manuals</i>' and was completed by the due date (1/2/2021). • Work_Order 032070¹⁹¹ UV Condition Assessment included the task '<i>Monthly Control Points to do on UV Reactor & Equipment in accordance with the LWC O&M Manual and OEM Manuals</i>'. This was due to be completed by 28/07/2020 and was closed out by 21/07/2020. • Work_Order 033034¹⁹² Weekly Diesel Generator Test Run and check <p>Green Square Operational Monitoring</p> <p>Green Square Monitoring and Sampling Program¹⁹³ was updated in March 2021 and includes operational monitoring for the scheme. The online monitoring was demonstrated during the audit and was consistent with the MS Prog and the process flow diagram. Evidence of weekly CCP checks^{194 195} were provided, which include grab sampling and checking online instrument readings.</p> <p>Chemicals</p> <p>Evidence of the delivery of two separate monthly shipments of chemicals delivered on 03/08/2020 and 17/12/2020, each with a delivery note and a Chemical Delivery Form checklist completed and signed.</p>

¹⁸¹ CDDeliveryNote-BH210326.jpg

¹⁸² CDDeliveryNote-BH210423.jpg

¹⁸³ CertConf210326-BH.jpg

¹⁸⁴ CertConf210423-BH.jpg

¹⁸⁵ Chemical Delivery Form FS-WAT-FM-OPS-2628 Version 1.0 01 April 2019

¹⁸⁶ ChemDeliveryForm 210326- BH.jpg

¹⁸⁷ ChemDeliveryForm 210423-BH.jpg

¹⁸⁸ Chemical Delivery Procedure (Controlled COPY).pdf AG-WAT-NSW-PR-OPS-2591 Revision: 2 15 April 2021

¹⁸⁹ Work_Order 033166 Monthly Primary Screen Condition and Maintenance BH.pdf"

¹⁹⁰ Work_Order 035935 Weekly Operations and Maintenance Check BH.pdf

¹⁹¹ Work_Order 032070 UV Condition Assessment BH.pdf"

¹⁹² Work_Order 033034 Weekly Diesel Generator Test Run and check BH.pd

¹⁹³ Green Square Monitoring and Sampling Program (Controlled COPY GS-WAT-NSW-PL-OPS-2421 Version 2 19 March 2021

¹⁹⁴ Work_Order 035765 Weekly Control Points Check GS

¹⁹⁵ Work_Order 036702 Weekly Control Points Check GS

Licence Clause	Findings
	<p>Inspection and Maintenance</p> <p>The following work orders demonstrating the implementation of the inspection and maintenance processes were provided:</p> <ul style="list-style-type: none"> • Work_Order 037344¹⁹⁶ Passive Condition Ladder Assessment Green Square.pdf • Work_Order 032150¹⁹⁷ Passive Maintenance Inlet Penstock Green Square.pdf • Work_Order 037102¹⁹⁸ Weekly Compressor Condition and Maintenance Green Sqaure.pdf • Work_Order 037207¹⁹⁹ Site Weekly Maintenance Checklist Green Square.pdf
	<p>Discovery Point</p> <p>Operational Monitoring</p> <p>Discovery Point Monitoring and Sampling Program²⁰⁰ was updated in March 2021 and includes operational monitoring for the scheme. The online monitoring was demonstrated during the audit and was consistent with the MS Prog and the process flow diagram. Evidence of weekly CCP checks^{201 202} were provided, which include grab sampling and checking online instrument readings.</p> <p>Chemicals</p> <p>Evidence of the delivery of two separate shipments of chemicals delivered on 03/03/2021 and 17/03/2021, each with a delivery note^{203 204}, a signed Certificate of Conformance from the supplier with batch numbers recorded^{205 206}, and a Chemical Delivery Form checklist completed and signed^{207 208} as per the Chemical Delivery Procedure²⁰⁹.</p> <p>Inspection and Maintenance</p> <p>The following work orders demonstrating the implementation of the inspection and maintenance processes were provided:</p> <ul style="list-style-type: none"> • Work_Order 034479²¹⁰ Weekly Site Operations and Maintenance checklist DP.pdf • Work_Order 036482²¹¹ Primary Screen Active Condition and Maintenance DP.pdf • Work_Order 033749²¹² Poly Chemical Storage Tank Condition and Maintenance DP.pdf

¹⁹⁶ Work_Order 037344 Passive Condition Ladder Assessment Green Square.pdf

¹⁹⁷ Work_Order 032150 Passive Maintenance Inlet Penstock Green Square.pdf

¹⁹⁸ Work_Order 037102 Weekly Compressor Condition and Maintenance Green Sqaure.pdf

¹⁹⁹ Work_Order 037207 Site Weekly Maintenance Checklist Green Square.pdf

²⁰⁰ Discovery Point Monitoring and Sampling Program (Controlled COPY) DP-WAT-NSW-PL-OPS-2860 18/09/2020

²⁰¹ Work_Order 032963 Weekly Control Points Check DP

²⁰² Work_Order 034994 Weekly Control Points Check DP

²⁰³ 20210517_092755.jpg

²⁰⁴ 20210517_092823.jpg

²⁰⁵ 20210517_092803.jpg

²⁰⁶ 20210517_092830.jpg

²⁰⁷ 20210517_092748.jpg

²⁰⁸ 20210517_092815.jpg

²⁰⁹ Chemical Delivery Procedure (Controlled COPY).pdf AG-WAT-NSW-PR-OPS-2591 Revision: 2 15 April 2021

²¹⁰ Work_Order 034479 Weekly Site Operations and Maintenance checklist DP.pdf

²¹¹ Work_Order 036482 Primary Screen Active Condition and Maintenance DP.pdf

²¹² Work_Order 033749 Poly Chemical Storage Tank Condition and Maintenance DP.pdf

Licence Clause	Findings
	<ul style="list-style-type: none"> Work_Order 034472²¹³ UV Active Condition and Maintenance External Contractor DP
	<p>Shepherds Bay</p> <p>The Shepherd's Bay LWC is not yet operational and there are not CCPs, operational monitoring, chemical deliveries or maintenance inspections.</p>
AGWR Element 5	<p>IPART's Audit Initiation letter identifies the following requirements for Element 5:</p> <ul style="list-style-type: none"> The consolidated sampling plan is followed, and monitoring data is verified to be representative and reliable. Procedures for sampling and testing are followed. Adequate resources are provided to ensure valid and reliable results of recycled water quality monitoring. Results of recycled water verification monitoring are used to evaluate conformity to criteria set in the WQP-RW. Complaints and comments from users are evaluated, whether received from the scheme retail supplier or direct to network operator. Short-term evaluation of monitoring results and user feedback is used to verify that the quality of the recycled water conforms to established targets and meets user expectations. Corrective responses to non-conformances are implemented in accordance with documented procedures; or where network operator has deviated from documented procedure, reasons are documented and the response has provided an equal or improved management of risk. Planned changes are controlled and consequences of unintended changes reviewed, action taken to mitigate any adverse effects, as necessary. <p>Overall</p> <p>The Recycled Water Quality Plan²¹⁴ and the Monitoring and Sampling Plan²¹⁵ (MSP) were provided along with an extract²¹⁶ of Altogether's monitoring results database which includes the results of the verification monitoring for all schemes during the audit period.</p> <p>Overall, the audit found that Altogether is implementing the verification monitoring program, procedures for testing and sampling are being followed, and adequate resources are being allocated to ensure valid and reliable results.</p> <p>During the audit period, a new monitoring location was implemented, identified as Point of Use Main (PoUM), to take a sample of the water supplied in the network. This is included in the weekly monitoring with rotating Point of Use (PoU) points sampled. During the audit period, the analysis of Clostridial spores was replaced with <i>Clostridium perfringens</i> to reduce the instance of exceedances, previously noted.</p> <p>During the audit interviews, Altogether demonstrated a new process for reviewing data and checking compliance with the monitoring program using a Power BI database that included checking the number of samples taken, the frequency of sampling, and that the results are compliant. The database extract was reviewed and the auditor confirmed that the MS Progs are being implemented and the required samples are being taken at the correct frequencies.</p>

²¹³ Work_Order 034472 UV Active Condition and Maintenance External Contractor DP

²¹⁴ Recycled Water Quality Plan AG-WAT-AUS-PL-OPS-1311 Revision: 17 27 April 2021

²¹⁵ Monitoring and Sampling Plan (MSP)(Controlled COPY) AG-WAT-AUS-PL-OPS-1288 Revision 15 13 April 2021

²¹⁶ Extract Altogether Group Eurofins Data

Licence Clause	Findings
	<p>The results are reviewed in a fortnightly team meeting, with a pdf document prepared for each scheme. The April 2021 pdf for Box Hill was shown in the audit. A separate report is prepared for management review, which includes a summary for all schemes microbiological analysis results, network chlorine performance, exceedances and environmental monitoring. The April 2021 report was shown in the audit.</p> <p>Altogether has developed Recycled Water Out of Specification Work Instructions for each scheme during the audit period for corrective response to non-conformances. These work instructions detail the processes for rapidly notifying external stakeholders when there is contamination detected after the point of supply. Based on the incident records (discussed in the Element 6 findings) Altogether implemented its Recycled Water Out of Specification Work Instructions.</p> <p>The Complaints and Disputes Resolution Policy²¹⁷ (the Complaints policy) was provided for the audit, along with the details of all complaints, and the records of communication and handling of the complaints. Records for complaints include the Zendesk entry, emails and other relevant forms. Details to the scheme specific records are provided below. Altogether implemented its procedures for Complaints Handling.</p> <p>Changes to the monitoring plan are captured on the document control tables on the MSP and MS Progs. Significant changes to the monitoring plan are managed under the Change Notice process with NSW Health. Evidence of the process was shown on Change Notice 1²¹⁸.</p> <p>Pitt Town Pitt Town Monitoring and Sampling Program²¹⁹ details the verification monitoring program, and the review of the data extract indicated that for the PoS sampling location that the following sampling had been completed as scheduled:</p> <ul style="list-style-type: none"> • Annual physical and chemical • Six Monthly physical and chemical • Monthly Adenovirus, physical and chemical • Weekly physical and chemical (TN and TP) Weekly microbiological <p>Point of Use samples and total and free chlorine regularly failed to meet the minimum value with 5 samples failing to reach the minimum total chlorine value and 7/14 samples failing to reach the minimum free chlorine value. Complaints records for the audit period included 16/12/2020 - Rate Increase Complaint^{220 221}. Records of the complaint, communication and the Zendesk records were provided.</p> <p>OFI-RW-2021-003 Develop a program to investigate and improve low chlorine residuals in the network.</p> <p>Central Park Central Park Monitoring and Sampling Program²²² details the verification monitoring program, and the review of the data extract indicated that or the PoS sampling location that the following sampling had been completed as scheduled:</p> <ul style="list-style-type: none"> • Annual physical and chemical

²¹⁷ Complaints and Disputes Resolution Policy AG-ALL-AUS-PO-RET-1249 Revision 6 – 21 December 2021

²¹⁸ Change Notice 1 - Monitoring and Sampling Programmes_ All schemes_ APPROVED

²¹⁹ Pitt Town Monitoring and Sampling Program (Controlled COPY) PT-WAT-NSW-PL-OPS-2849 19 March 2021

²²⁰ #418843 - Pitt Town - Account Notes 201216

²²¹ #418843 - Pitt Town – Zendesk Tisket

²²² Central Park Monitoring and Sampling Program (Controlled COPY) CP-WAT-AUS-PL-OPS-2859 19 March 2021

Licence Clause	Findings
	<ul style="list-style-type: none"> Monthly physical and chemical Weekly physical and chemical (TN and TP) Weekly microbiological <p>Point of Use samples for total and free chlorine regularly failed to meet the minimum value with 10/11 samples failing to reach the minimum total chlorine value and 9/11 samples failing to reach the minimum free chlorine value. An opportunity for improvement has been identified to investigate and improve</p> <p>OFI-RW-2021-003 Develop a program to investigate and improve low chlorine residuals in the network.</p> <p>Complaints records for the audit period included:</p> <ul style="list-style-type: none"> 23/6/2020 – High Water Bill²²³ ²²⁴ 21/10/2020 – High water bill²²⁵ ²²⁶ 28/10/2020 – Amount owing complaint²²⁷ ²²⁸ <p>Records of the complaint, communication and the Zendesk records were provided.</p> <p>Huntlee</p> <p>Huntlee Monitoring and Sampling Program²²⁹ details the verification monitoring program, and the review of the data extract indicated that for the PoS sampling location that the following sampling had been completed as scheduled:</p> <ul style="list-style-type: none"> Six monthly physical and chemical Monthly microbiological, physical and chemical Weekly microbiological <p>Point of Use (PoU) Annual sampling was completed as scheduled. PoU samples for total and free chlorine regularly failed to meet the minimum value with 15 samples failing to reach the minimum total chlorine value and all samples failing to reach the minimum free chlorine value. An opportunity for improvement has been identified to investigate and improve chlorine residual in the network to ensure water quality does not deteriorate after the point of supply (OFI-RW-2021-003).</p> <p>The Huntlee Environmental monitoring program (at the Creek Downstream location) returned high microbiological values including <i>E. coli</i> recorded values of 360 cfu/100mL and 2200 cfu/100mL, <i>Clostridium perfringens</i> recorded values of 700 cfu/100mL and 100 cfu/100mL, and Somatic Coliphage recorded values of 100 cfu/100mL and <1 cfu/100mL respectively for July 2020 and March 2021 sampling. It was discussed that the results are reviewed upon receipt and the high concentrations of human sewage indicators may be due to the septic tanks on properties. When discussing the results, it was</p>

²²³ #325440 - Central Park - Account notes and follow up tickets 200909

²²⁴ #325440 - Central Park - Zendesk ticket 200909

²²⁵ #390299 - Central Park 8 Park Lane - Account Notes & Transaction History 201021

²²⁶ #390299 - Central Park 8 Park Lane- Zendesk Ticket 201021

²²⁷ #393695 - Central Park West - Zendesk Ticket 201028

²²⁸ #393695 - Central Park West - Account Notes 201028

²²⁹ Huntlee Monitoring and Sampling Program (Controlled COPY) HU-WAT-NSW-PL-OPS-3094 Version 2 19 March 2021

Licence Clause	Findings
	<p>uncertain if there was an action limit or a value for the parameters that would trigger an investigation or reporting to an environmental regulator. A recommendation has been made to establish criteria for action when environment monitoring results indicate potential environmental harm.</p> <p>REC-RW-2021-010 For surface water and other environmental monitoring processes, identify appropriate limits to trigger further investigation and reporting to determine the source of human sewage indicators and to implement actions to reduce environmental harm.</p> <p>Complaints records for the audit period included:</p> <ul style="list-style-type: none"> • 23/7/2020 – unacceptable number of mistakes on water bills^{230 231} • 30/10/2020 – High water bill^{232 233} <p>Records of the complaint, communication and the Zendesk records were provided.</p> <p>Cooranbong</p> <p>Cooranbong Monitoring and Sampling Program²³⁴ details the monitoring programs for the Stage 2 monitoring program for the Commencement of Commercial Operations and the LWC. A checklist²³⁵ was provided indicating that the cut over occurred on 15/12/2021. Monthly physical and chemical sampling (including TN, TP) and Monthly microbiological (Adenovirus) commenced in December 2020. Weekly <i>E. coli</i> sampling commenced on 25/11/2020.</p> <p>One complaint was recorded on 19/7/2020 – Child drinking from Recycled water tap^{236 237}. Records of the complaint, communication and the Zendesk records were provided. It was noted that the customer had accessed Altogether’s website to identify the next steps after noticing the child had consumed water from the recycled water tap. The customer stated that they could not find advice on what action should be taken following consumption the recycled water. It should be noted that the network was charged with drinking water at the time of the incident.</p> <p>An opportunity for improvement has been identified to improve the information provided to customers on actions to take when exposed to recycled water.</p> <p>OFI RW-2021-004 Consider including information on the website providing advice on the health risk of exposure or consuming recycled water and options for next actions following exposure or consumption.</p> <p>Box Hill</p> <p>Box Hill Monitoring and Sampling Program²³⁸ details the verification monitoring program. The review found that the:</p> <p>Annual Physical and Chemical sampling water completed as scheduled.</p> <p>In May 2020, there were no monthly physical and chemical samples taken, and there was a 6-week gap in sampling, however a sample was take on 1 June 2020 and another prior the end of June, resulting in no gaps in the number of samples taken for the audit period. It was discussed that the sampling was scheduled for the end of the month, and in this instance the sample was not taken until 1 June 2021.</p>

²³⁰ #340756 - Huntlee - Zendesk Ticket 200723

²³¹ #340756 - Huntlee - Account notes and bill copies 200723

²³² #395036 - Huntlee - Zendesk Ticket201030

²³³ #395036 - Huntlee - Account Notes201030

²³⁴ Cooranbong Monitoring and Sampling Program (Controlled COPY)CO-WAT-NSW-PL-OPS-3093 19 March 2021

²³⁵ 201216 Checklist - Commencement of Commercial Operations Cooranbong LWC rev 1

²³⁶ Audit 2021 - Zendesk Ticket 338166 (Water consumption - (6 Cossentine Street)210720

²³⁷ Incident Written Notification - 6 Cossentine 200720

²³⁸ Box Hill Monitoring and Sampling Program (Controlled COPY) BH-WAT-NSW-PL-OPS-1713 19 March 2021

Licence Clause	Findings
	<p>The Total Chlorine results failed for 97% of samples from customer properties., with only 2 samples out of 77 from customer properties recording a Total Chlorine reading above the target limit of >0.6 mg/L.</p> <p>Free Chlorine – failed for 95% of samples from customer properties. Only 4 samples out of 77 from customer properties had Free Chlorine above the target limit of >0.2 mg/L.</p> <p>An opportunity for improvement has been identified to investigate and improve chlorine residual in the network to ensure water quality does not deteriorate after the point of supply (OFI-RW-2021-003).</p> <p>The MS Prog details the monitoring of Total Nitrogen and Phosphorus with target limits of 5 mg/L and 2 mg/L respectively and operational limits of 15 mg/L and 5 mg/L respectively. The results indicate:</p> <ul style="list-style-type: none"> • Total Nitrogen – 29 of the 36 samples (80%) were above the target limit of ≤5 mg/L, with the maximum being 14.5 mg/L. • Total Phosphorus – 3 samples (9%) were above the target limit of ≤2 mg/L, with the maximum being 8.0 mg/L. <p>Whilst there limits in the MS Prog are ‘target’ and ‘operational’ it is unclear how the high nutrients in the treated recycled water may affect the local environmental over the long term. An opportunity or improvement has been identified to investigate the long-term impacts of the high levels of nutrients in the recycled water produced by the scheme.</p> <p>OFI-RW-2021-005 Review the nutrients verification monitoring results for recycled water and investigate the potential for environmental harm, and implement controls were required.</p> <p>Customer complaints records include:</p> <ul style="list-style-type: none"> • 31/07/2020 – overdue amount enquiry^{239 240} • 23/6/2020 – Cloudy and dirty water in toilet²⁴¹ • 5/7/2020 -Odour^{242 243} <p>Green Square</p> <p>Green Square Monitoring and Sampling Program²⁴⁴ details the verification monitoring program, and the review of the data extract indicated that or the PoS sampling location that the following sampling had been completed as scheduled:</p> <ul style="list-style-type: none"> • Annual physical and chemical • Monthly microbiological, physical and chemical • Weekly microbiological

²³⁹ #345052 - Box Hill - Zendesk Ticket 200731

²⁴⁰ #345052 - Box Hill - Account Notes 200731

²⁴¹ Water Complaint Triage Checklist - Several Addresses 200623

²⁴² Water Complaint Triage Checklist - 30 Triumph Box Hill (Odour) 200705

²⁴³ Audit 2021 - Water Quality RW Odor - 30 Triumph Rd 200709

²⁴⁴ Green Square Monitoring and Sampling Program (Controlled COPY GS-WAT-NSW-PL-OPS-2421 Version 2 19 March 2021

Licence Clause	Findings
	<p>Point of Use (PoU) Annual sampling and six monthly sampling completed as scheduled</p> <p>PoU samples for total and free chlorine regularly failed to meet the minimum value with 7/10 samples failing to reach the minimum total chlorine value and 8/10 samples failing to reach the minimum free chlorine value.</p> <p>OFI-RW-2021-003 Develop a program to investigate and improve low chlorine residuals in the network.</p> <p>Discovery Point Discovery Point Monitoring and Sampling Program²⁴⁵ details the verification monitoring program, and the review of the data extract indicated that or the PoS sampling location that the following sampling had been completed as scheduled:</p> <ul style="list-style-type: none"> • Annual physical and chemical • Monthly physical and chemical • Weekly physical and chemical (TN and TP) • Weekly microbiological <p>Point of Use samples for total and free chlorine regularly failed to meet the minimum value with 9/10 samples failing to reach the minimum total chlorine value and 8/10 samples failing to reach the minimum free chlorine value.</p> <p>OFI-RW-2021-003 Develop a program to investigate and improve low chlorine residuals in the network.</p> <p>No complaints were recorded.</p> <p>Shepherds Bay Weekly monitoring of <i>E. coli</i> was completed as scheduled under the MS Prog. No complaints were recorded.</p>
AGWR Element 6	<p>IPART's Audit Initiation letter identifies the following requirements for Element 6:</p> <ul style="list-style-type: none"> • Incident and emergency communications protocols are implemented as described in the WQP-RW, and follow the requirements of IPART's Network Operator's Reporting Manual and notification requirements as set out in the WIC Regulations sch 1, cl.1(2). • Employees are trained in incident and emergency response protocols and the plans are tested as appropriate. • Following any incident and emergency situation, an investigation is undertaken, and all appropriate staff debriefed. Protocols have been revised as necessary. <p>Overall Network Operator's Reporting Manual²⁴⁶ states:</p> <p><i>Licensees must immediately notify IPART of any incident in the conduct of their activities that threatens, or could threaten, water quality, public health or safety.</i></p> <ul style="list-style-type: none"> • Immediate notification must also be given to:

²⁴⁵ Discovery Point Monitoring and Sampling Program (Controlled COPY) DP-WAT-NSW-PL-OPS-2860 18/09/2020

²⁴⁶ IPART Reporting manual - Network Operator Reporting Manual - July 2020

Licence Clause	Findings
	<ul style="list-style-type: none"> • <i>The Minister administering the Public Health Act</i> • <i>The Minister administering the WIC Act (the Minister)</i> • <i>Any licensed retail supplier that supplies water or provides sewerage services by means of the licensee's infrastructure</i> • <i>Any other licensed network operator or public water utility whose infrastructure is connected to the licensee's infrastructure.</i> <p>The Recycled Water Quality Plan²⁴⁷ provides a diagram in Section 6 which depicts the framework for managing recycled water incidents and emergencies. The Incident Management Plan²⁴⁸ (IMP) provides the overarching framework for Altogether's incident management. The IMP in Section 5.1.3 identifies the requirements of the reporting manual and includes immediate notification to IPART, NSW Health, Department of Planning and Environment and other licenses and public water utilities.</p> <p>The Water Operations Incident Management, Reporting and Investigation Procedure²⁴⁹ provides flow diagrams that give an overview of incident management. This includes the requirement for the incident manager to assess, declare and classify the incident, make notifications, investigate, debrief and close out the incident. The flow diagram also includes responsibilities for notifying regulators.</p> <p>The Incident Notification Protocol with NSW Health²⁵⁰ was updated in February 2021 and includes the contact details of the relevant Public Health Units to be notified for each scheme.</p> <p>It was noted that both documents above include definition of recycled water events that are to be reported as per the licence. In both documents, a recycled water event identified as '<i>recycled water delivered to customers below the AGWR values measured at the point of supply or point of use</i>'. This appears to be an error and the event should be defined as recycled water delivered to customers that does not comply with the documented water quality criteria. Additionally, the AGWR does not identify specific water quality criteria for recycled water and the water quality criteria are documented on the MS Progs for each scheme. A recommendation has been made to review the Water Operations Incident Management, Reporting and Investigation Procedure and Incident Notification Protocol with NSW Health to clearly define the recycled water event with reference to the documented water quality criteria.</p> <p>REC-RW-2021-011 Review and update the Water Operations Incident Management, Reporting and Investigation Procedure and Incident Notification Protocol with NSW Health to ensure that the definition of a recycled water event refers to the documented water quality criteria for recycled water in the Water Quality Plan rather than referring to the Australian Guidelines for Water Recycling.</p> <p>Altogether provided the Incident Register²⁵¹ that showed the incidents that occurred in relation to Water Operations which was consistent with the notifications made to IPART during the audit period.</p> <p>The Internal Incident Contact Register²⁵² was last updated on 15 April and the document contains track changes showing that it was last updated on 26 February 2021, providing an indication that the register has been reviewed. The register includes internal contact for emergencies at each scheme and for different types of emergencies.</p> <p>Other procedures that sit under the incident management framework include:</p>

²⁴⁷ Recycled Water Quality Plan AG-WAT-AUS-PL-OPS-1311 Revision: 17 27 April 2021

²⁴⁸ Incident Management Plan (IMP) (Controlled COPY) AG-ALL-AUS-PL-INC-1266 Revision 9 25 January 2021

²⁴⁹ Water Operations Incident Management, Reporting and Investigation Procedure (Controlled COPY) AG-WAT-NSW-PR-OPS-2561 Version 3 22 March 2021

²⁵⁰ Incident Notification Protocol with NSW Health (Controlled COPY) AG-ALL-NSW-PR-INC-1277 Revision 9 26 February 2021

²⁵¹ Water Ops Incident Register (exported from SharePoint on 15Jun21 for audit period)

²⁵² Internal Incident Contact Register AG-ALL-AUS-RG-INC-2563 Version 5.1 15 April 2021

Licence Clause	Findings
	<ul style="list-style-type: none"> • Out of specification procedures for each scheme • Responding to sewage overflows • Unplanned outages <p>The out-of-specification procedures (for example Pitt Town²⁵³) includes the process for investigation when an out-of-specification parameter is detected. The process includes notifying stakeholders, retesting the out-of-specification parameter, and checking treatment processes.</p> <p>Altogether provided its Incident Registers^{254 255} that details all incidents that occurred in the audit period details of each water quality incident are included below in the scheme specific assessment.</p> <p>During the audit the number of incidents attributed to laboratory errors was discussed. Altogether provided evidence²⁵⁶ of communication for the issues experienced during the audit period. Changes that Altogether has implemented to improve the accuracy and reliability of the data received from Eurofins includes:</p> <ul style="list-style-type: none"> • Regular meeting to discuss the issues • The communication Register recording the issue, internal investigation and report back on the issues • training and staff turnover • The lab has developed SOPS for new staff to come on board and induction • Collection duplicate samples on each sample event • If there is insufficient volume, Eurofins are required to do a retest. If there is a duplicate this will be retested or confirm if there was a need to collect another sample. • parallel testing for fluoride but the lab could not confirm if there was an error or issue with the method. <p>The Eurofins sampling management plan²⁵⁷ was also shown in the audit. Altogether also undertook an audit²⁵⁸ of the Eurofins Lab and noted no issues.</p> <p>Altogether provided the presentation²⁵⁹ for incident training Altogether provided evidence of an incident training package²⁶⁰ which included:</p> <ol style="list-style-type: none"> 1. Incident management compliance obligations 2. Incident roles and responsibilities 3. Incident management procedures 4. Water Quality Incident Reporting and Investigation Procedure <p>An opportunity or improvement was identified to include learnings from incidents that have occurred in the water industry to improve awareness of water supply risks.</p>

²⁵³ Pitt Town Recycled Water Out of Specification Work Instruction (Controlled COPY).pdf PT-WAT-NSW-WI-OPS-3558

²⁵⁴ Water Ops Incident Register (exported from SharePoint on 15Jun21 for audit period)

²⁵⁵ Corrected Water Ops Incident Register (exported from SharePoint on 17Jun21 for audit period)

²⁵⁶ Flow Systems – Communication Register – V1.1

²⁵⁷ QS-INS-4205_RO - EUROFINS SAMPLING MANAGEMENT PLAN - FLOW SYSTEMS

²⁵⁸ 4.3 2nd party Eurofins Lane Cove ISO17025 Audit 2021

²⁵⁹ Water Operations Incident Reporting and Investigation Training Package FS-ALL-AUS-TP-HSEQ-3020

²⁶⁰ 3020 Water Operations Incident Reporting and Investigation Training Package.pptx FS-ALL-AUS-TP-HSEQ-3020

Licence Clause	Findings
	<p>OFI-RW-2021-006 Consider establishing an ongoing process to include learnings from incidents that have occurred in Australia and overseas, to inform incident management in relevant forums, such as meetings, training and toolbox meetings.</p>
	<p>Pitt Town Incident PT_134 (20 March 2020)</p> <ul style="list-style-type: none"> Form A²⁶¹ and Email²⁶² Form B²⁶³ and email²⁶⁴ <p>Form A provided the initial notification that was sent to the required stakeholders. The Form B email included the investigation relating to the sampling of Clostridia and <i>Clostridium perfringens</i>. The result of the investigation indicates that the non-compliance may have been due to the sampling parameters and the monitoring program has been revised to include <i>Clostridium perfringens</i> rather than Clostridia.</p> <p>Incident PT_159 (6/7/2020)</p> <ul style="list-style-type: none"> Email - Form A Incident Notification²⁶⁵ Email - Form B Incident Notification²⁶⁶ Form A Incident Notification²⁶⁷ Form B Incident Notification²⁶⁸ <p>A sample taken on 06/07/2020 at Pitt Town Point of Supply tested positive for somatic coliphage. The lab result was reported on 09/07/20 ~1pfu/100ml. This sample point is located at the Recycled Water distribution pumps.</p> <p>Form A was sent on 10/7/2020, with follow up information sent on 15/7/2020. Form B was sent on 27/7/2020. Form B indicates a 'False positive'. Debrief is documented in HSEQ (SUS) Meeting Aug 2020²⁶⁹.</p>
	<p>Central Park No incidents were reported in relation to Central Park.</p>
	<p>Huntlee</p>

²⁶¹ Form A Incident Notification WICA_Pitt Town_PoS Clostridia detection_20Mar20.pdf

²⁶² RE Form A Incident Notification WICA_Pitt Town_PoS Clostridia detection_20Mar20.msg

²⁶³ Form B Incident Notification WICA_Pitt Town_PoS Clostridia detection_20Mar20_Form.pdf

²⁶⁴ Form A Incident Notification WICA_Pitt Town_PoS Clostridia detection_20Mar20 date 11Jun20

²⁶⁵ FW_Form A Incident Notification WICA_Pitt Town_Somatic Coliphage Exceedance_09_07_2020.msg

²⁶⁶ RE_Form B Incident Notification WICA_Pitt Town_Somatic Coliphage Exceedance_09_07_2020.msg

²⁶⁷ Form A Incident Notification WICA_Pitt Town_PT1_RW_POS_Somatic Coliphage_09July2020_Update No.1 14July20.pdf

²⁶⁸ Form B Incident Notification WICA_Pitt Town_PT1_RW_POS_Somatic Coliphage_09July2020_Report date 24Jul20.pdf

²⁶⁹ HSEQ (SUS) Meeting Aug 2020 (Controlled COPY)

Licence Clause	Findings
	<p>Incident HU_169 (6 August 2020)</p> <ul style="list-style-type: none"> Form A²⁷⁰ and Email²⁷¹ Form B²⁷² and Email²⁷³ <p>This incident related to a number of metal parameters returning high values and the investigation indicated that it was likely a sampling error. Evidence of debrief is documented in HSEQ (SUS) Meeting Aug 2020²⁷⁴.</p> <p>Cooranbong</p> <p>Incident CO_184 (14 October 2020)</p> <ul style="list-style-type: none"> Form A Incident Notification²⁷⁵ and updated Form A²⁷⁶ Email - Form A Incident Notification²⁷⁷ Form B²⁷⁸ Email - Form B Incident Notification²⁷⁹ <p>Form A was sent on 15/10.2020 and the investigation report (Form B) was sent on 26/11/2020. This incident relates to a fluoride exceedance in the recycled water network that was supplied with drinking water. The investigation indicated that the incident was due to a lab error. Evidence of the debrief is provided in HSEQ Meeting Dec 2020²⁸⁰</p> <p>Incident CO_160 (19 July 2020)</p> <ul style="list-style-type: none"> 160CO200720FormAB.pdf²⁸¹ Forms A and B²⁸² Email Forms A and B²⁸³ <p>Both forms were sent on the same day, 21 July 2020. This incident related to a child drinking from a recycled water tap, however the network was still charged with drinking water. The outcome was to review the risks with NSW Health.</p>

²⁷⁰ Form A Incident WICA Notification_Huntlee_RW PoS Metals_6Aug20.pdf

²⁷¹ Form A Incident Notification WICA Huntlee Recycled Water - Copy.msg

²⁷² Form A B Incident WICA Notification Huntlee RW PoS Metals 6Aug20 Incident 169

²⁷³ RE_ Form A Incident Notification WICA Huntlee Recycled Water

²⁷⁴ HSEQ (SUS) Meeting Aug 2020 (Controlled COPY)

²⁷⁵ Form A Incident Notification WICA_Cooranbong 184 CO 14Oct20 Fluoride Exc.pdf

²⁷⁶ Form A Incident Notification WICA_Cooranbong UPDATE 184 CO 21Oct20 Fluoride Exc

²⁷⁷ Form A Incident Notification WICA Cooranbong - Recycled Water Fluoride Exceedance

²⁷⁸ Form B 184 CO 26Nov2020 Fluoride Exc.pdf

²⁷⁹ Form B Incident Notification WICA Cooranbong - Recycled Water Fluoride Exceedance - Laboratory Method

²⁸⁰ HSEQ (SUS) Meeting Dec 2020

²⁸¹ 160CO200720FormAB.pdf

²⁸² Forms A and B Incident WICA Notification_Cooranbong.pdf

²⁸³ FW_ Forms A and B Incident Notification WICA Cooranbong.msg

Licence Clause	Findings
	<p>Box Hill</p> <p>Incident BH_214 (8 December 2020)</p> <ul style="list-style-type: none"> Email - Form A²⁸⁴ 201209 Form A²⁸⁵ Form B²⁸⁶ Email - Form B & Closeout of Incident 24_12_2020²⁸⁷ <p>Form A was sent to stakeholders on 9/12/2020 and Form B sent on 24/12/2020. The investigation indicated a lab error for the non compliant <i>E. coli</i> value.</p> <p>Incident BH_158 (9 July 2020)</p> <ul style="list-style-type: none"> Email Form A²⁸⁸ Form A²⁸⁹ Form B²⁹⁰ Email - Form B <p>This incident included a Clostridia detection of 31 cfu/100 ml and a <i>Clostridium perfringens</i> detection of ~1 cu/100mL. Initial notification was made on 10/7/2020, additional information was provided on 15/7/2020. Form B was sent on 27/7/2020. The debrief is documented in HSEQ (SUS) Meeting Aug 2020²⁹¹.</p> <p>Incident BH_148 (22 June 2020)</p> <p>Form A²⁹²</p> <p>Email - Form A²⁹³</p> <p>Form B²⁹⁴</p> <p>Email - Form B²⁹⁵</p> <p>This incident related to a 600 L sewage overflow across a road and into a stormwater drain and basin. Form A was sent on 22/6/2020, Form B was sent on 16/7/2020.</p> <p>Incident BH_135 (27 April 2020)</p>

²⁸⁴ Form A __UPDATE__ Incident Notification WICA E_ coli Exceedance in Recycled Water 08_12_2020 .msg

²⁸⁵ 201209 Form A Incident Notification WICA_Box Hill.pdf

²⁸⁶ Form B Incident Notification WICA_Box Hill.pdf

²⁸⁷ ### Form B & Closeout of Incident 24_12_2020 ### RE_

²⁸⁸ RE_Form A Incident Notification WICA_BoxHill_Clostridia Exceedance 09_07_2020.msg

²⁸⁹ Form A Incident Notification WICA_Box Hill_BH3_RW_POU_Clostridia_06Jul20_Update No. 1 14Jul20.pdf

²⁹⁰ Form B Incident Notification WICA_Box Hill_BH3_RW_POU_Clostridia_06Jul20_Report date 24Jul20.pdf

²⁹¹ HSEQ (SUS) Meeting Aug 2020 (Controlled COPY)

²⁹² Form A_Incident Notification WICA_Box Hill_Sewage overflow 54 Moonstone Rd_22Jun20.pdf

²⁹³ Form A_Incident Notification WICA_Box Hill_Sewage overflow 54 Moonstone Rd_22Jun20.msg

²⁹⁴ Form B_Incident Notification WICA_Box Hill_Sewage overflow 54 Moonstone Rd_22Jun20_Report date 14Jul20.pdf

²⁹⁵ Form B_Incident Notification WICA_Box Hill_Sewage overflow 54 Moonstone Rd_22Jun20_Report date 14Jul20.msg

Licence Clause	Findings
	<ul style="list-style-type: none"> Email Forms A²⁹⁶ Forms A²⁹⁷ and Forms A_ Update²⁹⁸ Forms B²⁹⁹ Email Form B³⁰⁰ <p>Form A was sent on 27/4/20 and Form B was sent on 22/5/2020. The incident related to a sewage leak from damaged pipe on outlet of on-lot sewage tank leading to sewage leak into stormwater system and ponding in stormwater detention basin. A tanker was used to pump out in the basin and subsequent testing did not identify <i>E. coli</i> in the basin.</p> <p>Green Square</p> <p>Incident GS_152 (29 June 2020)</p> <ul style="list-style-type: none"> Email - Forms A and B³⁰¹ Forms A and B³⁰² <p>This incident related to an operational change of a CCP by an operator for the UF system. Both Forms A and B were submitted on 29/6/2020. The incident occurred on 21 June 2020 and on the 24/06/20 the UF stopped operating above the critical limit'. It is unclear when the incident was detected. The incident debrief is documented in HSEQ (SUS) Meeting Aug 2020³⁰³.</p> <p>Incident GS_151 (27 June 2020)</p> <ul style="list-style-type: none"> Form A³⁰⁴ and email Email - Form A³⁰⁵ Form B³⁰⁶ Email Form B³⁰⁷ <p>The incident related to a Clostridia detection of ~1. The date of the incident on Form A is 27 June 2020 Form A was submitted on 27 June 2020 and Form B was submitted on 21/7/2020. The investigation indicated that this was a lab error and a low-level detection. The incident debrief is documented in HSEQ (SUS) Meeting Aug 2020³⁰⁸.</p> <p>Discovery Point</p>

²⁹⁶ Forms A_Incident Notification WICA_Box Hill_Sewage overflow 16 Kingsburgh Pkwy Maraylya_27Apr20 EPA Ref_ C06587-2020.msg

²⁹⁷ Forms A_Incident Notification WICA_Box Hill_Sewage overflow 16 Kingsburgh Pkwy Maraylya_27Apr20.pdf

²⁹⁸ Forms A_Incident Notification WICA_Box Hill_Sewage overflow 16 Kingsburgh Pkwy Maraylya_27Apr20_Update No.1 28Apr20.pdf

²⁹⁹ Forms B_Incident Notification WICA_Box Hill_Sewage overflow 16 Kingsburgh Pkwy Maraylya_Incident date 27Apr20_Form date 22May20.pdf

³⁰⁰ RE_Forms A_Incident Notification WICA_Box Hill_Sewage overflow 16 Kingsburgh Pkwy Maraylya_27Apr20 EPA Ref_ C06587-2020.msg

³⁰¹ Forms A and B Incident Notification WICA_Green Square_UF CCP exceedance_21Jun20_Report date 27Jun20.msg

³⁰² Forms A and B Incident Notification WICA_Green Square_UF CCP exceedance_21Jun20_Report date 27Jun20.pdf

³⁰³ HSEQ (SUS) Meeting Aug 2020 (Controlled COPY)

³⁰⁴ Forms A Incident Notification WICA_Green Square_RW Clostridia detection SSRC_27Jun20.pdf

³⁰⁵ Form A Incident Notification WICA_Green Square_RW Clostridia detection SSRC_27Jun20.msg

³⁰⁶ Form B Incident Notification WICA_Green Square_RW Clostridia detection SSRC_27Jun20_Report date 29Jun20.pdf

³⁰⁷ Form B Incident Notification WICA_Green Square_RW Clostridia detection SSRC_27Jun20.msg

³⁰⁸ HSEQ (SUS) Meeting Aug 2020 (Controlled COPY)

Licence Clause	Findings
	<p>No recycled water incidents were reported in relation to Discovery Point in the audit period however, an incident that happened throughout the audit period and reported on where the incorrect details of the Chlorine Contact tank were entered into SCADA, affecting the C.t. calculation CCP. This was reported³⁰⁹ on 19/5/2021. The investigation and final Form B have not yet been finalised.</p> <p>Shepherds Bay</p> <p>No recycled water incidents were reported in relation to Shepherds Bay in the audit period, however there was an incident that occurred during the audit period, that was identified and reported³¹⁰ outside the audit period, where recycled water was connected to a rainwater tank, that ultimately fed an interactive water play park. The recycled water network was charged with drinking water at the time.</p> <p>A recommendation has been made to ensure there is a process to regularly confirm that there are no unapproved connections to recycled water.</p> <p>REC-RW-2021-012 Establish a program to regularly audit the recycled water network to ensure there are no connections to unapproved uses.</p>
AGWR Element 7	<p>IPART's Audit Initiation letter identifies the following requirements for Element 7:</p> <ul style="list-style-type: none"> • Operators have a general understanding of the regulatory requirements of licensed network operators under the WIC Act. – protection of public health • Operators and relevant contractors are aware of the recycled water policy and objectives of the WQP-RW (overlap with element 1). • Operators and relevant contractors understand water quality and environmental risk management principles set out in the WQP-RW, characteristics of the recycled water supply system and preventive strategies in place, consequences of system failures and how to apply and follow risk management principles. • Operators and relevant contractors should be aware of the arrangements that the scheme retail supplier has in place to manage its obligations (eg. communication with end users, training) and that the licensee must/use best endeavours to ensure those arrangements align with licensee's risk controls. • Operators and contractors are aware of their contribution of the effectiveness of implementing the WQP-RW, including benefits of improved performance, and the implications of not conforming to the requirements set out in the WQP-RW. • There are arrangements in place with the scheme retail supplier for ensuring ongoing user awareness. • Identified training has been delivered, or is appropriately scheduled to be delivered so that operators and contractors are competent. • Records are maintained of all employee training, and processes and procedure for training are followed. <p>Overall</p> <p>The Recycled Water Quality Plan³¹¹ (RWQP) Component A7.1.1 states that Altogether will develop mechanisms and communication procedures to increase operator, contractor and end user awareness, and participation in, recycled water quality management and environmental protection.</p>

³⁰⁹ Form A Incident WICA Notification_Discovery Point_Chlorine contact tank volume in SCADA_19May21

³¹⁰ Form A sent 19May21 Incident Notification WICA_Shepherds Bay_Connection of interactive water feature to RW network

³¹¹ Recycled Water Quality Plan AG-WAT-AUS-PL-OPS-1311 Revision: 17 27 April 2021

Licence Clause	Findings
	<p>Under RWQP Component A1.2.1, Altogether has a WICA Responsibilities and Authorities Matrix³¹² that lists the responsibilities of staff positions, including awareness of and promotion of water quality policies. A Training Needs Analysis (TNA) is conducted for all operations annually at the mid-year performance review, and identifies the necessary competencies. The current competencies achieved by staff are recorded in the Water Ops Competencies Training Log³¹³. This timing allows for appropriate training provision budget to be set, and a Learning Plan developed for each staff member³¹⁴. A formal induction process is in place for employees. Under both the RWQP Component A7.2.1 and DWQP Component A7.11, a Training Policy and Procedure document³¹⁵ exists and is implemented. The HR & Training Manager is responsible for ensuring that training is recorded on the Training Register³¹⁶ and that certifications are saved both in the employee file and as evidence on the Training Register. Operators are inducted through a 3-month probationary period with mentoring and on the job training.</p> <p>Altogether has a procedure for Developing Operator Training Plans³¹⁷ for Scheme Operators to achieve Certificate III in Water Industry Treatment. Technical training plans are developed for new Scheme Operators (including trainees) and are reviewed at the time of the performance review. Water Operations Team meetings are conducted where team members are made aware of and bring up any water quality issues.</p> <p>Appropriate recent training has been undertaken Altogether Staff, as shown by completed Training Course Attendance Register forms³¹⁸. This includes online training in WICA License Plan and Compliance for 11 staff on 12/04/2020³¹⁹, and training in Incident Management – Sewage Overflow Response for 10 staff on 17 February 2020³²⁰.</p> <p>A number of PowerPoint training documents that cover drinking water and recycled water quality, and sewerage management has been developed for use as part of the induction process for new staff. These include WICA Licence Plans and Compliance – Induction³²¹, Water Operations Incident Management, Reporting and Investigation Procedure³²², Environmental incidents and POEO Act Compliance³²³, and Introduction to the Framework for Management of Recycled Water Quality and Use³²⁴.</p>

³¹² WICA Responsibilities and Authorities Matrix (Controlled COPY).pdf AG-WAT-AUS-PL-OPS-1316

³¹³ Water Ops Competencies_Training Log – worksheet Competencies (working) Version 0.4 27 April 2021

³¹⁴ Water Ops Competencies_Training Log - worksheet: Learning Plan 22-26 Version 0.4 27 April 2021

³¹⁵ Training Policy and Procedure (Controlled Copy).pdf AG-ALL-AUS-PO-HRT-3168 (1463) Revision: 1 24 June 2020

³¹⁶ Spreadsheet – Training Register

³¹⁷ Developing Operator Training Plans AG-WAT-NSW-PR-OPS-2769 Revision: 2.0 23 April 2021

³¹⁸ Training Course Attendance Register FS-ALL-AUS-FM-HRT-1339 Revision: 2 15 Sep 15

³¹⁹ WICA License Plan and Compliance.pdf - Training Course Attendance Register 12 April 2020

³²⁰ Incident Management - Sewage Overflow Response.pdf – Training Course Attendance Register 17 February 2020

³²¹ WICA Licence Plans and Compliance - Induction.pptx FS-ALL-AUS-TP-OPS-3018 19 June 2019

³²² Water Operations Incident Reporting and Investigation Training Package.pptx FS-ALL-AUS-TP-HSEQ-3020 (or FS-WAT-NSW-PR-INC-2561) 27 October 2020

³²³ Environmental incidents and POEO Act compliance.pptx FS-ALL-AUS-TP-HSEQ-3021

³²⁴ Framework Training_SUS Team undertaking currently – image of first slide title page RW-FWK-AUS-01

Licence Clause	Findings
	<p>Staff competencies are also shown by records of attainment certificates for appropriate industry training, such as Certificate III in Water Industry Management³²⁵, Instrumentation Customised Training^{326 327 328 329}, and risk management principles³³⁰</p> <p>Contractors are site inducted before commencing work under a Visitor and Contractor Induction Procedure³³¹. There is a specific Visitor Induction document³³² to follow, and a more detailed procedure for inducting contractors (including consultants) to Altogether operated sites. This latter procedure includes relevant items such as a Sign In Register [FS-WAT-AUS-FM-WHS-2985], a Site Induction (Operations) presentation³³³ or a Site Induction (Construction) presentation [FS-ALL-AUS-TP-HSEQ-2526], an Induction Questionnaire³³⁴ that for instructs inductees to “Complete the induction presentation before completing the remainder of this induction”, and an Induction Register [FS-ALL-AUS-RG-WHS-2219]. Inductees are required to sign an induction sheet to confirm understanding (see information under individual schemes).</p> <p>Sign in and site induction processes were demonstrated at audit interviews.</p> <p>A Recycled Water Policy³³⁵ and Drinking Water Policy³³⁶ exist and are current (reviewed during the audit period). All staff are instructed during induction to go to the onsite control rooms where the policies are to be displayed (observed at site inspections) and to read and ensure that they understand these them. The policies are also highlighted and discussed within the WICA Licence Plans and Compliance – Induction³³⁷ presentation (slide 6), and in the Operations Site Induction³³⁸ training presentation (slide 36). The BMS Induction³³⁹ PowerPoint training covers the importance of following the Business Management System so that ISO 9001 for QUALITY management, ISO 14001 for ENVIRONMENTAL management, and ISO 45001 and AS 4801 for SAFETY management accreditations are maintained and that Altogether’s vision is achieved. There is a dedicated section for operations staff.</p> <p>There is evidence for site inductions being undertaken, and the sighted Induction Questionnaire³⁴⁰ checklist (Induction Part C Induction Acknowledgement dot point 1) includes the text <i>‘Have you been advised about safety, environmental or community issues, who to contact in the event of an issue on the site (including project policies and procedures)?’</i>.</p>
	Pitt Town

³²⁵ Shane Dohnt Certificate III.jpg 14 January 2011

³²⁶ Certificate Shane Dohnt.pdf - Instrumentation Customised Training 12 November 2020

³²⁷ Certificate Scott Mutimer.pdf - Instrumentation Customised Training 12 November 2020

³²⁸ Andrew Horton.pdf - Instrumentation Customised Training 10 February 2021

³²⁹ Garth Hugo.pdf - Instrumentation Customised Training 10 February 2021

³³⁰ NWPGEN001 Audrey Killeen.pdf - Apply the risk management principles of the water industry standards, guidelines and legislation 21/01/2021

³³¹ Visitor and Contractor Induction Procedure (Controlled COPY).pdf FS-ALL-AUS-PR-HSEQ-1466 Revision: 3 19 July 2020

³³² Visitor Induction.docx AG-ALL-AUS-TE-HSEQ-2537 Revision: 2 22 February 2021

³³³ Operations Site Induction.pptx FS-ALL-AUS-TP-HSEQ-2647 20 November 2020

³³⁴ Induction Questionnaire FS-ALL-AUS-FM-WHS-1361 Revision: 3 09 April 2020

³³⁵ Recycled Water Policy AG-WAT-AUS-PO-OPS-1310 Revision: 3 21 July 2020

³³⁶ Drinking Water Policy AG-WAT-AUS-PO-OPS-1232 Revision: 2 21 July 2020

³³⁷ WICA Licence Plans and Compliance - Induction.pptx FS-ALL-AUS-TP-OPS-3018 19 June 2019

³³⁸ Operations site induction.pptx FS-ALL-AUS-TP-HSEQ-2647 20 November 2020

³³⁹ BMS Induction.pptx FS-ALL-AUS-TP-HSEQ-3022 15 July 2020

³⁴⁰ Induction Questionnaire FS-ALL-AUS-FM-WHS-1361 Revision: 3 09 April 2020

Licence Clause	Findings
	Digital images of two examples of contractors completing the Induction Questionnaire on 07 April 2021 were provided. These included Induction Part A – Information and Competency ³⁴¹ , Induction Part B – Induction Assessment ³⁴² , Induction Part C – Induction Acknowledgement ³⁴³ with date completed and name of induction provider.
	Central Park Digital images of two examples of contractors completing the Induction Questionnaire on 24 February 2021 were provided. These included Induction Part A – Information and Competency ³⁴⁴ , Induction Part B – Induction Assessment ³⁴⁵ , Induction Part C – Induction Acknowledgement ³⁴⁶ with date completed and name of induction provider.
	Huntlee No examples of induction were provided, indicating no contractors entered the site.
	Cooranbong Examples of induction were provided for two contractors on 17/03/2021 ³⁴⁷ .
	Box Hill Digital images of two examples of contractors respectively completing the Induction Questionnaire on 01 February 2021 and 23 February 2021 were provided. These included Induction Part A – Information and Competency ³⁴⁸ , Induction Part B – Induction Assessment ³⁴⁹ , Induction Part C – Induction Acknowledgement ³⁵⁰ with date completed and name of induction provider.
	Green Square Digital images of two examples of contractors respectively completing the Induction Questionnaire on 21 August 2020 and 15 September 2020 were provided. These included Induction Part A – Information and Competency ³⁵¹ , Induction Part B – Induction Assessment ³⁵² , Induction Part C – Induction Acknowledgement ³⁵³ with date completed and name of induction provider.
	Discovery Point

³⁴¹ Induction Part A – Information and Competency - images 20210510_080950 for contractor1 & image 20210510_081007 for contractor1 and contractor2 respectively

³⁴² Induction Part B – Induction Assessment - images 20210510_080955 for contractor1 & image 20210510_081013 for contractor2 respectively

³⁴³ Induction Part C – Induction Acknowledgement - images 20210510_081000 for contractor1 & image 20210510_081019 for contractor2 respectively

³⁴⁴ Induction Part A – Information and Competency - image 20210517_112616 for contractor1 & image 20210517_112758 for contractor2 respectively

³⁴⁵ Induction Part B – Induction Assessment - images 20210517_112621 for contractor1 & image 20210517_112802 for contractor2 respectively

³⁴⁶ Induction Part C – Induction Acknowledgement - image 20210517_112708 for contractor1 & image 20210517_112807 for contractor2 respectively

³⁴⁷ Email attachment from Scott Mutimer to Kim Staples on 14 May 2021 4:15pm

³⁴⁸ Induction Part A – Information and Competency - images Inductionp1AC-BH for contractor1 & image Inductionp1PC-BH for contractor1 and contractor2 respectively

³⁴⁹ Induction Part B – Induction Assessment - images Inductionp2AC-BH for contractor1 & image Inductionp2PC-BH for contractor2 respectively

³⁵⁰ Induction Part C – Induction Acknowledgement - images Inductionp3AC-BH for contractor1 & image Inductionp3PC-BH for contractor2 respectively

³⁵¹ Induction Part A – Information and Competency - images 20210517_110809 for contractor1 & image 20210517_110751 for contractor1 and contractor2 respectively

³⁵² Induction Part B – Induction Assessment - images 20210517_110816 for contractor1 & image 20210517_110757 for contractor2 respectively

³⁵³ Induction Part C – Induction Acknowledgement - images 20210517_110827 for contractor1 & image 20210517_110802 for contractor2 respectively

Licence Clause	Findings
	<p>Digital images of two examples of contractors respectively completing the Induction Questionnaire on 24 March 2021 and 01 April 2021 were provided. These included Induction Part A – Information and Competency³⁵⁴, Induction Part B – Induction Assessment³⁵⁵, Induction Part C – Induction Acknowledgement³⁵⁶ with date completed and name of induction provider.</p> <p>Shepherds Bay</p> <p>No induction information provided, indicating no contractors entered the site.</p>
AGWR Element 8	<p>IPART's Audit Initiation letter identifies the following requirements for Element 8:</p> <ul style="list-style-type: none"> • The scheme retail supplier undertakes consultation with users of recycled water and the community, and makes the information available to the network operator consistent with the strategy. • Arrangements are in place and are actively employed. • The identified information is communicated consistent with identified process. <p>Overall</p> <p>The Recycled Water Quality Plan³⁵⁷ states that the two-way communications plan includes flyers, welcome packs, welcome calls, website contact, telephone enquiries and emails.</p> <p>Operating and Communications Protocol High Rise Communities³⁵⁸ details the protocol for high rise development. The Altogether website³⁵⁹ contains a range of information on the use and management of recycle water, the arrangements for recycled water supply, the process for connecting, establishing an account and disconnecting.</p> <p>The Altogether website³⁶⁰ contains resources for developers and builders. Resources include checklists³⁶¹, and guides for building³⁶², landscaping³⁶³ and land development³⁶⁴.</p> <p>At the Box Hills inspection examples of flyers^{365 366} were shown. The following Welcome Pack records were also provided as evidence of implementation of the community consultation processes:</p> <ul style="list-style-type: none"> • Discovery Point_Welcome Pack.pdf

³⁵⁴ Induction Part A – Information and Competency - images 20210517_094647 for contractor1 & image 20210517_094631 for contractor1 and contractor2 respectively

³⁵⁵ Induction Part B – Induction Assessment - images 20210517_110652 for contractor1 & image 20210517_094637 for contractor2 respectively

³⁵⁶ Induction Part C – Induction Acknowledgement - images 20210517_094702 for contractor1 & image 20210517_094642 for contractor2 respectively

³⁵⁷ Recycled Water Quality Plan AG-WAT-AUS-PL-OPS-1311 Revision: 17 27 April 2021

³⁵⁸ Operating and Communications Protocol High Rise Communities (Controlled COPY) AG-WAT-AUS-UG-OPS-1289 Revision 3 23 December 2020

³⁵⁹ <https://askus.altogethergroup.com.au/hc/en-us/sections/900001583143-Water> accessed 24/5/2021

³⁶⁰ <https://altogethergroup.com.au/building-developing/>

³⁶¹ Builders Checklist (Controlled COPY).pdf AG-WAT-NSW-TE-RET-2002

³⁶² Builder's Guide - Water (Controlled COPY).pdf AG-WAT-NSW-UG-RET-1570

³⁶³ Landscapers Guide (Water) (Controlled COPY).pdf AG-WAT-NSW-UG-RET-1964

³⁶⁴ Developer Guide - Infrastructure (Water)

³⁶⁵ Water Land and Housing Information Pack

³⁶⁶ Water Keep it local flyer

Licence Clause	Findings
	<ul style="list-style-type: none"> • Huntlee_Welcome Pack.pdf • Pitt Town_Welcome Pack.pdf • Shepherds Bay_Welcome Pack.pdf • Box Hill_Welcome Pack.pdf • Central Park_Welcome Pack.pdf • Cooranbong_Welcome Pack.pdf <p>Additional records of communication from the Zendesk database include:</p> <ul style="list-style-type: none"> • Huntlee_Website Contact.pdf • Pitt Town_Email.pdf • Pitt Town_Phone.pdf • Pitt Town_Website Contact.pdf • Shepherds Bay_Email.pdf • Shepherds Bay_Phone.pdf • Shepherds Bay_Website contact.pdf • Welcome Calls Audit Information.docx • Box Hill_Email.pdf • Box Hill_Phone.pdf • Box Hill_Website Contact.pdf • Central Park_Email.pdf • Central Park_Phone.pdf • Central Park_Website Contact.pdf • Cooranbong_Email.pdf • Cooranbong_Phone.pdf • Cooranbong_Website Contact.pdf • Discovery Point_Email.pdf • Discovery Point_Phone.pdf • Discovery Point_Website contact.pdf • Huntlee_Email.pdf • Huntlee_Phone.pdf <p>Records of Welcome calls undertaken in the audit period include:</p> <ul style="list-style-type: none"> • 81 Kesterton Rise, North Rothbury – 07/04/2021 • 15 Johanson Road, Cooranbong – 03/12/2020 • 13 Wilkinson Street Pitt Town – 07/04/2021 • Lot 109, 37 Bitalli St Box Hill – 22/02/2021

Licence Clause	Findings
AGWR Element 9	<p>IPART's Audit Initiation letter identifies the following requirements for Element 9:</p> <ul style="list-style-type: none"> • Validation monitoring is undertaken in accordance with documented processes and procedures to ensure hazards are effectively controlled. • Revalidation of processes is done when variations occur. • Validation of new equipment and infrastructure is undertaken in accordance with documented processes and procedures to ensure continuing reliability. • Implements program as documented. <p>Overall</p> <p>The Recycled Water Quality Plan³⁶⁷ states that ongoing validation is undertaken as set out in the Monitoring and Sampling Plan (MSP), and Offsite Validation Report is produced for each site and an onsite Validation Plan and Report that is produced at the end of each commissioning and prior to commencing commercial operators.</p> <p>As discussed in the assessment of Element 3, there is a discrepancy between the LRV claimed for the UV system across schemes, with different LRV claims, and critical limits. When reviewing all of the 8 schemes CCPs and LRV claims it was noted that there are a number of differences, and some schemes, Discovery Point and Central Park are claiming much higher LRVs for the UV disinfection step than others, additionally UV Transmissivity (UVT) varies between schemes.</p> <ul style="list-style-type: none"> • Discovery Point -1 LRV claimed at a dose of 39 mJ/cm² at a UVT of 50% UVT • Central Park 1.5 LRV claimed at a dose of 39 mJ/cm² at a UVT of 55% UVT • Huntlee, Pitt Town, Box Hill, and Cooranbong 0.5 LRV claimed at a dose of 39 mJ/cm² at a UVT of 55% UVT. <p>The LRVs for Central Park and Discovery Point are well above those recommended for the CCPs dose critical limit in the US EPA UV Disinfection Manual, which recommends a 0.5 LRV claim at 39 mJ/cm². Change notice 4 relates to the UV CCP changes and new validation information. The change notice³⁶⁸ and email³⁶⁹ detail the rationale for reducing the UVT and subsequently changing the LRV claim. There is very little detail, other than pdf screenshots of a design tool provided by Xylem which was attached to the email. There is a lack of evidence that the UV system has been validated to achieve the proposed LRV at the dose and UVT proposed. It is noted that the design tool does not allow for the calculations of reduction equivalent dose (RED) to be reviewed and does not include evidence of the LRV achieved at different doses and UVT values. It is noted that change notice 5³⁷⁰ requests a change of the Central Park LRV claim to 1.0 for virus and a higher dose set point for the UV CCP.</p> <p>A recommendation has been made to document the evidence that demonstrated the system has been validated to the site-specific operational conditions. (REC-RW-2021-007).</p> <p>Change Notice 5 also includes updating the MBR LRV due to more conservative validation evidence provided by the supplier.</p> <p>It was noted that when calculating Chlorine Contact Time (C.t) baffle factors have been applied to different contact tanks for example, Central Park Chlorine Contact tank has no baffles and has a default baffle factor of 0.3 applied. The Log Reduction Values Table³⁷¹ identifies the Victoria Department of</p>

³⁶⁷ Recycled Water Quality Plan AG-WAT-AUS-PL-OPS-1311 Revision: 17 27 April 2021

³⁶⁸ 210413 Change Notice - Control Point and Log Reduction Review for BH, CB, HL, PT

³⁶⁹ 210413 Change Notice - Control Point and Log Reduction Review for BH, CB, HL, PT

³⁷⁰ 210406 Change Notice - Control Point and Log Reduction Review for CP and DP

³⁷¹ 2823 Central Park - Log Reduction Values (Controlled COPY).pdf CP-WAT-NSW-PL-OPS-2822

Licence Clause	Findings
	<p>Health Validating Treatment Processes for Pathogen Reduction – Supporting Class A Water Recycling Schemes in Victoria (2013) as the relevant reference document for calculating C.t. This reference document, it states that <i>‘Without undertaking empirical residence time assessments, or using validated modelling, it is not considered possible to reliably estimate the true T^{10} within a storage tank by using default baffle factors.’</i> An opportunity for improvement has been identified to ensure that calculation of C.t. is consistent with the validation method nominated by Altogether.</p> <p>OFI-RW-2021-007 Review the baffle factors applied to the chlorine contactors and where there is no baffling adopt the most conservative baffle factor until site-specific data can be collected to inform the calculation of the theoretical detention time.</p> <p>LRV Tables have been provided for each scheme, outlining the rationale for the LRV claim, and CCP tables have been developed documenting the critical limits that correspond to the validation information. Relevant documents are provided in the scheme specific section below.</p>
	<p>Pitt Town</p> <ul style="list-style-type: none"> Pitt Town - Control Points³⁷² Pitt Town - Log Reduction Values³⁷³ <p>No additional findings were noted</p>
	<p>Central Park</p> <ul style="list-style-type: none"> Central Park - Control Points³⁷⁴ Central Park - Log Reduction Values³⁷⁵ <p>No additional findings were noted</p>
	<p>Huntlee</p> <ul style="list-style-type: none"> Huntlee - Control Points³⁷⁶ Huntlee - Log Reduction Values³⁷⁷ Huntlee Validation Report³⁷⁸ <p>No additional findings were noted</p>
	<p>Cooranbong</p> <ul style="list-style-type: none"> Cooranbong - Control Points³⁷⁹ Cooranbong Log Reduction Values Table³⁸⁰ <p>No additional findings were noted</p>
	Box Hill

³⁷² Pitt Town - Control Points (CONTROLLED COPY) PT-WAT-NSW-PL-OPS-1291 V3 19 March 2021

³⁷³ Pitt Town - Log Reduction Values (CONTROLLED COPY) PT-WAT-NSW-RE-OPS-2774

³⁷⁴ Central Park - Control Points (Controlled COPY) CP-WAT-NSW-PL-OPS-1208 Version 3 4 November 2019

³⁷⁵ Central Park - Log Reduction Values (Controlled COPY) CP-WAT-NSW-PL-OPS-2822 Version 2 19 November 2020

³⁷⁶ Huntlee - Control Points (Controlled COPY) HU-WAT-NSW-PL-OPS-2581 Version 2 18 March 2021

³⁷⁷ Huntlee - Log Reduction Values (Controlled COPY) HU-WAT-NSW-PL-OPS-2795 Revision 3 16 March 2021

³⁷⁸ Huntlee Validation Report (CONTROLLED COPY) HU-WAT-NSW-RE-OPS-3092 22/08/17

³⁷⁹ Cooranbong - Control Points (Controlled COPY) CO-WAT-NSW-PL-OPS-2832 Version 1 14 August 2020

³⁸⁰ Cooranbong Log Reduction Values Table (Controlled COPY) CO-WAT-NSW-PL-OPS-2749 Version 1 17 September 2020

Licence Clause	Findings
	<ul style="list-style-type: none"> Box Hill - Log Reduction Values³⁸¹ Box Hill - Control Points³⁸² <p>No additional findings were noted</p> <p>Green Square</p> <ul style="list-style-type: none"> Green Square - Log Reduction Values³⁸³ Green Square - Control Points³⁸⁴ <p>No additional findings were noted</p> <p>Discovery Point</p> <ul style="list-style-type: none"> Discovery Point - Control Points³⁸⁵ Discovery Point - Log Reduction Values³⁸⁶ <p>The LRV table indicates that the virus LRV claim for the MBR process is 2.5. The claim of 3 LRV for Chlorine disinfection is conservative, given a minimum Chlorine Contact Time (C.t) of 20 mg.min/L is the critical limit, however the claim of 2.5 through the MBR may no longer be demonstrated due to the more recent validation evidence available for Central Park and may result in a shortfall.</p> <p>Shepherds Bay</p> <p>Shepherds Bay Scheme Management Plan³⁸⁷ as provided however as the LWC is not operating, no LRV claim has been made. No additional findings were noted.</p>
AGWR Element 10	<p>IPART's Audit Initiation letter identifies the following requirements for Element 10:</p> <ul style="list-style-type: none"> Appropriate documentation is kept to provide a foundation for maintaining effective recycled water quality management. All documentation relevant to the implementation of the WQP-RW are reviewed and current. Records management system is maintained and records complete. Employees are trained to complete records. Documents are reviewed and revised as necessary. Internal and external reporting is undertaken according to procedures. Annual report is produced. <p>Overall</p> <p>The Recycled Water Quality Plan³⁸⁸, supporting documents have been updated in the audit period and after the end of the audit period. The document issue record noted the general changes that were made in each revision.</p>

³⁸¹ Box Hill - Log Reduction Values (Controlled COPY) BH-WAT-NSW-PL-OPS-2683 3.0 17 March 2021

³⁸² Box Hill - Control Points (Controlled COPY) BH-WAT-NSW-PL-OPS-2671 Version 2.1 4 November 2019

³⁸³ Green Square - Log Reduction Values (Controlled COPY) GS-WAT-NSW-PL-OPS-2826 Version 3 27 April 2021

³⁸⁴ Green Square - Control Points (Controlled COPY) GS-WAT-NSW-PL-OPS-2577 Version 3.1 20 November 2021

³⁸⁵ Discovery Point - Control Points (Controlled COPY) DP-WAT-NSW-PL-OPS-1228 Version 3 4 November 2019

³⁸⁶ Discovery Point - Log Reduction Values (Controlled COPY) DP-WAT-NSW-PL-OPS-2824 Version 1.2 5 November 2020

³⁸⁷ Shepherds Bay Scheme Management Plan (Scheme MP) (Controlled COPY) SB-WAT-NSW-PL-OPS-1787 Version 6 28 April 2021

³⁸⁸ Recycled Water Quality Plan AG-WAT-AUS-PL-OPS-1311 Revision: 17 27 April 2021

Licence Clause	Findings
	<p>Document Control Policy and Procedure³⁸⁹ The Procedures states that all BMS documents are controlled using the BMS Library on SharePoint. During the site inspection at Pitt Town, the operator demonstrated the BMS system which included overarching licence plans, site-specific plans and procedures, forms and work instructions.</p> <p>Training in the Document Control Procedures is provided in a PowerPoint presentation³⁹⁰</p> <p>In reviewing the documents provide in evidence, the following findings were noted:</p> <ul style="list-style-type: none"> • The footer on the LWC Control System Change Management policy³⁹¹ is inconsistent with the document control properties. • Some of the Stakeholder contacts lists were not reviewed by the due date. • A number of the scheme management plans have errors in the fields and captions. <p>A recommendation has been made to improve documentation.</p> <p>REC-RW-2021-013 Establish review processes to ensure all documents are reviewed on time and do not have typographical and hyperlink errors.</p> <p>Details of annual reports are provided for each scheme below.</p>
	<p>Pitt Town</p> <p>PTW_IPART NOL Annual Report 2019-2020³⁹² states that there were no non-compliances. Schedule B was not provided.</p>
	<p>Central Park</p> <p>CPW_IPART NOL Annual Report 2019-2020³⁹³ contains detail of one non-compliance during the 19/20 financial year. Schedule B was not provided.</p>
	<p>Huntlee</p> <p>HW_IPART NOL Annual Report 2019-2020³⁹⁴ states that there were no non-compliances. Schedule B was not provided.</p>
	<p>Cooranbong</p> <p>CW_IPART NOL Annual Report 2019-2020³⁹⁵ states that there were no non-compliances. Schedule B was not provided.</p>
	<p>Box Hill</p> <p>FSO BH_IPART NOL Annual Report 2019-2020³⁹⁶ contains detail of one non-compliance during the 19/20 financial year. Schedule B was not provided.</p>
	<p>Green Square</p> <p>GSW_IPART NOL Annual Report 2019-2020³⁹⁷ contains detail of one non-compliance during the 19/20 financial year. Schedule B was not provided.</p>
	<p>Discovery Point</p> <p>DPW_IPART NOL Annual Report 2019-2020³⁹⁸ includes non-compliances with the monitoring program in the audit period.</p>

³⁸⁹ Document Control Policy and Procedure (Controlled COPY AG-ALL-AUS-PO-HSEQ-1234 revision 6 19/1/2021

³⁹⁰ BMS Document Control Training.pptx AG-ALL-AUS-TP-HSEQ-3178

³⁹¹ LWC Control System Management of Change Policy (CONTROLLED COPY) Revision 3 27 April 20120

³⁹² PTW_IPART NOL Annual Report 2019-2020 (1).pdf

³⁹³ CPW_IPART NOL Annual Report 2019-2020 (1).pdf

³⁹⁴ HW_IPART NOL Annual Report 2019-2020 (1).pdf

³⁹⁵ CW_IPART NOL Annual Report 2019-2020 (1).pdf

³⁹⁶ FSO BH_IPART NOL Annual Report 2019-2020 (1).pdf

³⁹⁷ GSW_IPART NOL Annual Report 2019-2020 (1).pdf

³⁹⁸ DPW_IPART NOL Annual Report 2019-2020 (1).pdf

Licence Clause	Findings
	Shepherds Bay FSO SB_IPART NOL Annual Report 2019-2020 ³⁹⁹ includes non-compliances with the monitoring program in the audit period.
AGWR Element 11	<p>IPART's Audit Initiation letter identified the following requirements for Element 11:</p> <ul style="list-style-type: none"> • Evaluation of long-term data is undertaken and results reviewed. • Problems from long-term data evaluation are identified and addressed. • Internal audit undertaken at planned intervals. • Audit results are documented and communicated. <p>Overall</p> <p>The Recycled Water Quality Plan⁴⁰⁰ states that annual long-term evaluation of data will be undertaken at the same time as the annual report is prepared and identifies the Altogether Lab data Results Viewer. During the audit, Altogether demonstrated the Power BI database that is also used to undertake an evaluation of data.</p> <p>The risk assessment is reviewed internally annually and externally every two years, and this includes a data analysis component (a recommendation has been made to standardise this process).</p> <p>Altogether has an Audit Procedure⁴⁰¹ that outlines the audit process. An Internal Audit Calendar⁴⁰² was shown that outlined the audits that should be undertaken. The audit procedure indicates that the outcomes of internal audits should go onto an action register. During the audit, Altogether explained that this is the Water Quality Improvement Plan, however the actions from internal audits had not been captured on the improvement plan, there was no evidence the actions had been allocated to a responsible person, progress tracked, or closed out. It is noted that some audit findings were closed out on the day of the audit, however ones that were not closed out were not captured in an action register or on the Water Quality Improvement Plan. A recommendation has been made to ensure the audit process is implemented as documented.</p> <p>REC-RW-2021-014 Develop a process to capture and track the progress in implementing recommendations from internal audits on an action register or improvement program, as required by the procedure.</p>
	Pitt Town No internal audit record was provided for this scheme, no internal audit was identified on the audit calendar for this audit period.
	Central Park Internal Audit_WICA Scheme Specific_Reduced Scope_Central Park_12Aug20
	Huntlee No internal audit record was provided for this scheme, no internal audit was identified on the audit calendar for this audit period.
	Cooranbong

³⁹⁹ FSO SB_IPART NOL Annual Report 2019-2020 (1).pdf

⁴⁰⁰ Recycled Water Quality Plan AG-WAT-AUS-PL-OPS-1311 Revision: 17 27 April 2021

⁴⁰¹ 2352 Audit Procedure (Controlled COPY).pdf AG-ALL-AUS-PR-R&C-1364

⁴⁰² Internal Audit Calendar - Water

Licence Clause	Findings
	No audit record was provided for this scheme, no internal audit was identified on the audit calendar for this audit period.
	Box Hill No internal audit record was provided for this scheme, no internal audit was identified on the audit calendar for this audit period.
	Green Square Internal Audit_WICA Scheme Specific_Reduced Scope_Green Square_12Aug20
	Discovery Point Internal Audit_WICA Scheme Specific_Reduced Scope_Discovery Point_12Aug20
	Shepherds Bay Internal Audit_WICA Scheme Specific_Reduced Scope_Shepherds Bay_12Aug20
AGWR Element 12	<p>IPART's Audit Initiation letter identified the following requirements for Element 12:</p> <ul style="list-style-type: none"> • Effectiveness of the management system is reviewed by senior managers, and the need for change is evaluated. • Decisions and actions by senior management are documented. • The improvement plan is implemented according to the plan. • The improvement plan is communicated and implemented, and improvements are monitored for effectiveness. <p>Overall</p> <p>The Recycled Water Quality Plan⁴⁰³ refers to the Management Review Procedure⁴⁰⁴ as the document that outlines management review processes. This procedure identifies monthly meeting and an annual management review meeting as the relevant process.</p> <p>Monthly Risk and Compliance reports^{405 406 407 408} are prepared, providing an overview of compliance and the implementation of the water quality plans and other management systems under the licence.</p> <p>The Management Review Report⁴⁰⁹ was prepared in September 2020 and provides the summary and review of performance over the 2019/2020 Financial Year.</p> <ul style="list-style-type: none"> • Att 3.1_Flow High Rise Risk Workshop Outcomes Summary Rev1 FINAL • Att 3.2_Flow Land Housing Risk Workshop Outcomes Summary Rev1 FINAL • Att 3.3_SUS Compliance Program 200728 • Att 3.4_HSE Report_FY19_20 • Att 3.5_Flow Regulatory and Policy Agenda - Water_FY19_20 • Att 3.6_Compliance Change Register July 2020 • Att 3.7_Annual Internal Audit Programme 2019-20 • Att 3.8_Compliance Calendar 2019

⁴⁰³ Recycled Water Quality Plan AG-WAT-AUS-PL-OPS-1311 Revision: 17 27 April 2021

⁴⁰⁴ 2750 Management Review Procedure (Controlled COPY).pdf FS-ALL-AUS-PR-HSEQ-1430

⁴⁰⁵ Altogether R&C Monthly Report_Jan 2021_Rev2

⁴⁰⁶ Altogether R&C Monthly Report_Mar 2021_Rev3

⁴⁰⁷ R&C Monthly Report_August 2020_v2

⁴⁰⁸ R&C Monthly Report_November 2020

⁴⁰⁹ Management Review Report FY 19_20

Licence Clause	Findings
	<ul style="list-style-type: none"> • Att 3.9_Compliance Calendar 2020_Jun 20 • Att 3.10_Flow Risks Risk Register • Att 3.11_Flow Opportunities Register <p>Improvement Plan</p> <p>The Water Quality Improvement Plan⁴¹⁰ was provided and discussed in the audit. Inputs to the plan are documented on the 'Lists Ops' tab and include activities such as the risk register, Licence plan review and audit.</p> <p>There were many items on the register that do not have a completion date, and this makes it difficult to audit its implementation. A recommendation has been made to improve the documentation of the improvement plan to ensure that it is implemented.</p> <p>REC-RW-2021-015 Ensure all items on the Improvement Plan have been allocated to a responsible party, communicated, and due dates for completion have been applied.</p>

⁴¹⁰ WQP Improvement Plan

Table 5 Water Quality Plan - Drinking Water

Licence Clause	Findings
WIC Reg Sch 1 cl. 7(4)	<p>The network operator must ensure that its drinking water quality plan is fully implemented and kept under regular review and the network operator's activities are carried out in accordance with that plan.</p> <p>Note: no direction received from Minister to amend plans</p>
	<p>The audit has identified a number of gaps in the implementation of the DWQP and its supporting programs resulting in a compliance grading of Non-compliant Non-Material due to inconsistent implementation of the documented risk assessment methodology leading to an underestimation of health risks. In addition, a number of minor inconsistencies in the implementation of the drinking water quality plan and the supporting documentation were identified contributing to the compliance grading.</p> <p>Detailed assessment of each of the ADWG 12 Elements is provided below, including an overarching assessment, as well as schemes specific findings as relevant.</p>
ADWG Element 1	<p>Overall</p> <p>IPART's audit initiation letter identified the following requirements for Element 1 (Policy):</p> <ul style="list-style-type: none"> • The drinking water policy is implemented within the organisation (see below). • Key employees are aware of the policy as it relates to the implementation of their particular function. (Overlap with implementation of WQP-DW element 7) • Communication to relevant staff is ongoing to ensure understanding is maintained and is current. <p>Overall</p> <p>The Drinking Water Quality Plan⁴¹¹ (DWQP) states under Component A1.1.1 that an endorsed drinking water policy⁴¹² is implemented throughout the organisation, along with a supporting policy on Altogether's commitment to safety, environment, and quality⁴¹³. DWQP Component A1.1.2 states that the drinking water policy⁴¹⁴ is visible on the intranet and displayed at all Local Water Centres and at Head Office. The drinking water policy was displayed prominently at the Green Square and Central Park LWCs. The policy is also highlighted and discussed within the WICA Licence Plans and Compliance – Induction⁴¹⁵ presentation (slide 6), and in the Operations Site Induction⁴¹⁶ training presentation (slide 36) that is also used for onsite contractors.</p> <p>Water Operations Team meetings^{417 418 419} are conducted fortnightly and the minutes show items such as 'Water Quality Review' and 'Water Quality System Update', providing a mechanism to discuss implementation of the water quality licence plans.</p>

⁴¹¹ Drinking Water Quality Plan (DWQP) (Controlled COPY) AG-WAT-AUS-PL-OPS-1241 Revision: 13 15 March 2021

⁴¹² Drinking Water Policy AG-WAT-AUS-PO-OPS-1232 Revision: 2 21 July 2020

⁴¹³ Commitment to Safety, Environment and Quality (Controlled COPY) AG-ALL-AUS-CO-HSEQ-1211 Revision: 5 25 July 2020

⁴¹⁴ Drinking Water Policy AG-WAT-AUS-PO-OPS-1232 Revision: 2 21 July 2020

⁴¹⁵ WICA Licence Plans and Compliance - Induction.pptx FS-ALL-AUS-TP-OPS-3018 19 June 2019

⁴¹⁶ Operations site induction.pptx FS-ALL-AUS-TP-HSEQ-2647 20 November 2020

⁴¹⁷ 20210120 WO Team meeting minutes and attendance

⁴¹⁸ 20210415 WO Team meeting minutes and attendees

⁴¹⁹ 20200916 WO Team meeting minutes and attendance

Licence Clause	Findings
	<p>Training is provided to maintain currency and awareness of responsibilities, such as WICA Licence Plans and Compliance⁴²⁰, Water Operations Incident Reporting and Investigation⁴²¹, and Environmental incidents and POEO Act compliance⁴²².</p> <p>IPART's audit initiation letter identified the following requirements for Element 1 (Obligations):</p> <ul style="list-style-type: none"> • The registry of relevant regulation and other requirements is under regular review and in accordance with documented processes. <p>Under DWQP Component A1.2.1 there is a requirement to identify and document all relevant regulatory and formal requirements. Altogether's Compliance Management Policy and Procedure for identifying all requirements, to review requirements annually, to reflect any changes through the appropriate form⁴²³ and keep them current. A Compliance Register⁴²⁴ was sighted that contained a comprehensive list of all legislation and regulations affecting the operation of Altogether, along with links to individual water schemes. Altogether also established a Compliance Calendar^{425 426} showing obligations within the year, including reporting.</p> <p>IPART's audit initiation letter identified the following requirements for Element 1 (Obligations):</p> <ul style="list-style-type: none"> • Identified stakeholders are engaged in the review of the WQP-DW, where their input is necessary to produce outcomes that are consistent with the ADWG. • The list is up to date and is under regular review in accordance with documented processes. • Mechanisms are effectively employed. • The various agencies are involved in ongoing support of the licensee and, where appropriate, to coordinate their planning and management activities. <p>Altogether's Drinking Water Quality Plan states under Component A1.3.1 that it will identify all stakeholders who could affect, or be affected by, decisions or activities of the drinking water supplier. Altogether uses the scheme specific Stakeholder & Emergency Contact Lists as its means of documenting stakeholders. The lists contain water utilities, NSW and Local government regulators, client interface (property managers) and preferred suppliers for emergencies. These lists are to be reviewed at 6 monthly intervals, however during the audit period, some of the stakeholder registers had not been reviewed 6 monthly (see findings on the review for the individual schemes below). A recommendation has been identified to ensure that the Stakeholder and Emergency Contact list is up to date and is under regular review in accordance with documented processes.</p> <p>REC-DW-2021-001 Implement a process to ensure the Stakeholders Emergency Contact List is reviewed by the due date to ensure it remains current.</p> <p>Altogether staff can request consultation with NSW Health through a formal briefing note⁴²⁷ that provides context for a new /revised risk for consultation purposes. Under DWQP Component A1.3.2 Altogether has established appropriate mechanisms and documentation for stakeholder commitment and involvement. Altogether has established ongoing communications with NSW Health and has formal reporting requirements to IPART. A live register of</p>

⁴²⁰ WICA Licence Plans and Compliance - Induction.pptx FS-ALL-AUS-TP-OPS-3018 19 June 2020

⁴²¹ Water Operations Incident Reporting and Investigation Training Package.pptx FS-ALL-AUS-TP-HSEQ-3020 (or FS-WAT-NSW-PR-INC-2561) 27 October 2020

⁴²² Environmental incidents and POEO Act compliance.pptx FS-ALL-AUS-TP-HSEQ-3021

⁴²³ WICA Change Checklist.docx FS-WAT-NSW-FM-R&C-2690 Version 2 11 June 2020

⁴²⁴ Compliance Register

⁴²⁵ Att 3.9_Compliance Calendar 2020_Jun 20

⁴²⁶ Att 3.8_Compliance Calendar 2019

⁴²⁷ NSW Health Consultation Briefing Note.docx FS-WAT-NSW-FM-OPS-3289 Revision 0.3 30 May 2021

Licence Clause	Findings
	<p>consultation with NSW Health exists and is being used⁴²⁸. Monthly meetings with IPART are occurring and the minutes of some of these meetings (16/06/20⁴²⁹, 18/08/20⁴³⁰, 20/10/20⁴³¹, 18/02/21⁴³² have been provided as evidence.</p> <p>Altogether states under DWQP Component A1.3.2 that it has a range of methods for engaging with users, developers, customers, and tenants, including scheme specific community websites⁴³³, bills, customer contracts⁴³⁴, SMS and email messages, Project Delivery Agreements, a Project Control Group (refer to Element 8 discussion), and a Homeowners Guide⁴³⁵, this last document also being available on their website⁴³⁶</p> <p>It is noted that the WIC (General) Reg cl 9(a) requires all network operators to have an internet website on which the most recent auditor's report under clause 6 that applies to the Network Operator is available for inspection by members of the public. As detailed in the assessment of Element 1 for recycled water, there were times during the audit period that the website did not include the relevant audit report for public inspection. A recommendation has been made to ensure that the required information is maintained on the website.</p> <p>REC-DW-2021-002 Where the water quality plans or legislation identify information to be included on the website, ensure that information is made available.</p>
	<p>Pitt Town Pitt Town - Stakeholders Emergency Contact List⁴³⁷ exists and was last updated 18/01/2021</p>
	<p>Central Park Central Park - Stakeholders Emergency Contact List⁴³⁸ exists and was last updated 19/01/2021.</p>
	<p>Huntlee Huntlee - Stakeholders Emergency Contact List⁴³⁹ exists and was last updated 08/10/2020. The list should have been reviewed in April 2021.</p> <p>A recommendation has been identified to ensure that the Stakeholder and Emergency Contact list is up to date and is under regular review in accordance with documented processes (REC-DW-2021-001).</p>
	<p>Cooranbong</p>

⁴²⁸ LIVE_Register_Consultation with NSW Health

⁴²⁹ Flow IPART Meeting Agenda & Minutes 16Jun20_FINAL (1)

⁴³⁰ Flow IPART Meeting Agenda Minutes 18Aug20_FINAL (1)

⁴³¹ Flow IPART Meeting Agenda Minutes 20Oct20_FINAL (1)

⁴³² Flow IPART Meeting Agenda Minutes 18Feb21_FINAL (1)

⁴³³ <https://altogethergroup.com.au/about/communities/> accessed 28 May 2021

⁴³⁴ Small retail Customer Contract - Altogether Group Pty Ltd – Water REF ID 3534 12 January 2021

⁴³⁵ Homeowner's Guide (Water) AG-WAT-AUS-UG-RET-1569 Revision: 3 9 March 2021

⁴³⁶ <https://information.altogethergroup.com.au/governance/Homeowners%20Guide.pdf> accessed 27 May 2021

⁴³⁷ Pitt Town - Stakeholders Emergency Contact List PT-WAT-NSW-RG-INC-3354 Revision 1.1 18 January 2021

⁴³⁸ Central Park - Stakeholders Emergency Contact List CP-WAT-NSW-RG-INC-3359 Revision 1.2 19 January 2021

⁴³⁹ Huntlee - Stakeholders Emergency Contact List HU-WAT-NSW-RG-INC-3350 Revision 1 08 October 2020

Licence Clause	Findings
	<p>Cooranbong - Stakeholders Emergency Contact List⁴⁴⁰ exists and was last updated 25/09/2020. The list should have been reviewed in March 2021.</p> <p>A recommendation has been identified to ensure that the Stakeholder and Emergency Contact list is up to date and is under regular review in accordance with documented processes (REC-DW-2021-001).</p>
	<p>Box Hill</p> <p>Box Hill - Stakeholders Emergency Contact List⁴⁴¹ exists and was last updated 08/10/2020. The list should have been reviewed in April 2021.</p> <p>A recommendation has been identified to ensure that the Stakeholder and Emergency Contact list is up to date and is under regular review in accordance with documented processes (REC-DW-2021-001).</p>
	<p>Green Square</p> <p>Green Square - Stakeholders Emergency Contact List⁴⁴² exists and was last updated 30/12/2020.</p>
	<p>Discovery Point</p> <p>Discovery Point - Stakeholders Emergency Contact List⁴⁴³ exists and was last updated 30/12/2020.</p>
	<p>Shepherds Bay</p> <p>Shepherds Bay - Stakeholders Emergency Contact List⁴⁴⁴ exists and was last updated 30/12/2020.</p>
ADWG Element 2	<p>IPART's audit initiation letter identified the following requirement for Element 2:</p> <ul style="list-style-type: none"> The drinking water supply system assessment has been prepared and reviewed in accordance with the requirements of element 2 and remains current. <p>Overall</p> <p>The Drinking Water Quality Plan⁴⁴⁵ document control table indicates that on 19/1/2021 Section 11.1.1 was updated to include that a risk review briefing pack is to be included in records kept for the DWQP.</p> <p>Section 2.3 of the DWQP identifies the Risk Assessment Protocol for Water Products and Services⁴⁴⁶ (the RAP) as the documented process for undertaking risk assessments. The RAP was updated several times in the audit period to include IPART and NSW Health comments, identification of critical control points (CCPs) and state the frequency of the providing the risk improvement plan to NSW Health (6 monthly). The RAP states that internal risk reviews will be undertaken annually and external risk reviews will be undertaken biennially.</p>

⁴⁴⁰ Cooranbong - Stakeholders Emergency Contact List CO-WAT-NSW-RG-INC-3293 Revision 1 25 September 2020

⁴⁴¹ Box Hill - Stakeholders Emergency Contact List BH-WAT-NSW-RG-INC-3352 Revision 1 08 October 2020

⁴⁴² Green Square - Stakeholders Emergency Contact List GS-WAT-NSW-RG-INC-3363 Revision 1.1 30 December 2020

⁴⁴³ Discovery Point - Stakeholders Emergency Contact List DP-WAT-NSW-RG-INC-3361 Revision 1.1 30 December 2020

⁴⁴⁴ Shepherds Bay - Stakeholders Emergency Contact List SB-WAT-NSW-RG-INC-3357 Revision 1.1 30 December 2020

⁴⁴⁵ Drinking Water Quality Plan (DWQP) (Controlled COPY) AG-WAT-AUS-PL-OPS-1241 Revision: 13 15 March 2021

⁴⁴⁶ Risk Assessment Protocol for Water Products and Services FS-WAT-NSW-PR-OPS-2466 Revision: 3 16 August 2020

Licence Clause	Findings
	<p>Section A 2.3.1 of the DWQP refers to the Critical Document Review Calendar⁴⁴⁷ and the Scheme Risk Register⁴⁴⁸ when discussing risk assessment reviews, which requires annual review of the risk assessment.</p> <p>The risk register for each scheme indicates that in July 2020, an internal risk review workshop was undertaken, and a risk review workshop was undertaken with NSW Health in August 2020. The document control properties identify the new risks that were added to the risk register, and the risks that were deleted are shown as a strike through in the register.</p> <p>The drinking water system analysis was reviewed in the audit period in accordance with the review schedules in the RWQP and Critical Document Review Calendar.</p> <p>The ADWG provides advice (Section 3.3.2, Chapter 10, Information Sheet 3 – Sampling) on water quality data analysis for risk assessment including:</p> <ul style="list-style-type: none"> • Assemble historical data over time and following specific events. • Assess data (using tools such as control charts and trends analysis), to identify trends and potential problems. <p>Information Packages^{449 450 451} have been provided that detail the water quality analysis and identification of incidents as well as the risk assessment methodology. The information packages show the data analysis undertaken for each scheme, which was from September 2019 – July 2020:</p> <ul style="list-style-type: none"> • Central Park – 57 <i>E. coli</i> datapoints • Discovery Point – 57 <i>E. coli</i> datapoints • Shepherds Bay - 11 <i>E. coli</i> datapoints • Cooranbong - – 54 <i>E. coli</i> datapoints • Huntlee – 6 <i>E. coli</i> datapoints <p>There was no assessment of disinfection residuals or spatial trends in the network. The ADWG recommends analysing historical performance, and it is considered that analysing less than 12 months of data may limit the risk assessment, particularly when assessing data reliability and certainty. It is noted that all incidents dating back to 2012 were included in the briefing paper.</p> <p>During the drinking water audit interviews, Altogether advised that it had undertaken a recent drinking water risk assessment in February 2021 and provided the records⁴⁵² of this after the audit interviews.</p> <p>This briefing pack did include some trending of turbidity and total chlorine performance from January – December 2020. Microbial dataset included the following sample sizes:</p> <ul style="list-style-type: none"> • Central Park – 65 <i>E. coli</i> and Total Chlorine • Discovery Point – 65 <i>E. coli</i> and 68 Total Chlorine

⁴⁴⁷ Critical Document Review Calendar 20-21

⁴⁴⁸ Scheme Risk Register AG-WAT-NSW-RG-OPS-2457 when discussing risk assessment

⁴⁴⁹ Flow High Rise Risk Workshop Briefing Pack August 2020

⁴⁵⁰ Flow Land Housing Risk Workshop Briefing Pack August 2020

⁴⁵¹ Water Services and Products Risk Workshop Briefing Pack July 2020

⁴⁵² Drinking Water Risk Workshop Feb 2021 Summary Outcomes

Licence Clause	Findings
	<ul style="list-style-type: none"> • Huntlee – 66 <i>E. coli</i>, 69 Total Chlorine • Cooranbong 68 <i>E. coli</i>, 69 Total Chlorine • <i>Shepherds Bay</i> – 13 <i>E. coli</i> and Total Chlorine <p>It was noted that data analysis was not consistent between risk assessments and at times did not contain an adequate number of samples. An opportunity for improvement has been made to standardise the water quality data analysis process and ensure that all system assessments are undertaken using the same methodology.</p> <p>OFI-DW-2021-001 Prepare and implement a consistent procedure for undertaking data analysis for risk assessments that includes a minimum appropriate dataset/time range, assessment and trending of treatment plant operational performance, analysis of environmental and other hazards to inform the risk assessment and ensure data reliability and to contextualise certainty/uncertainty in the risk assessment.</p> <p>The RAP includes consequence and likelihood descriptors that should be applied when assessing risk. The RAP states that ‘Health risks on the drinking water risk registers are assessed using the ADWG matrix’. When reviewing the matrix, in the RAP, it is not consistent with the ADWG as the minor and negligible consequence descriptors in the RAP appear to exclude health impacts as detailed below:</p> <ul style="list-style-type: none"> • Minor ranking – Health impact minor - possible aesthetic or amenity impact, population impact small, isolated part of the scheme (zone or street) • Insignificant ranking – Health impact negligible - undetectable impact (normal operations) population impact small, isolated part of the scheme (zone or street) <p>Altogether has advised verbally and in emails that these consequence categories do not exclude health impacts, however this is not clear from reading the documents.</p> <p>There are a number of instances in the risk assessment (August 2020) where health risks have been assessed as minor or insignificant including:</p> <ul style="list-style-type: none"> • Low chlorine residual leading to pathogens present in water supplied to consumers, causing health impacts for consumer and/or exceedance of ADWG health guideline value – given a minor residual consequence ranking. • Mains Break leading to contamination of drinking water quality - given a residual consequence ranking of minor. • Recycled water cross-connection in customer/building plumbing leading to consumption of recycled water - given a residual consequence ranking of minor. • Chemical leaching into distribution system e.g. volatiles, lead, cadmium, copper from water supply infrastructure leading to chemicals present in water supplied to consumers, causing acute or chronic health impacts for consumers and or exceedance of ADWG health guideline value water - given a residual consequence ranking of minor. <p>The examples above have the potential to impact on a whole scheme or building, there for assigning a minor grading is not considered consistent application of the RAP.</p> <p>It is noted that in the live consultation register⁴⁵³, NSW Health provided comments on the risk assessment that do not appear to have been taken into consideration. NSW Health indicated ‘<i>Generally it is not appropriate to change the consequence in assessing risk. Controls address the likelihood; i.e. the likelihood is reduced but the consequence remains the same</i>’ however there are many instances in the risk register where this advice has not been followed and the control measures do not appear to reduce the consequence but the residual consequence has been reduced (refer to findings of the risk assessment below).</p>

⁴⁵³ LIVE_Register_Consultation with NSW Health

Licence Clause	Findings
	<p>In reviewing the risk assessments for all schemes, the auditor identified the following inconsistencies in the application of the RAP when assessing risk:</p> <ul style="list-style-type: none"> DD1.1 Mains break leading to contamination of drinking water, the consequence reduced from 'major' (Potential for short-term and longer-term public health impacts) to 'minor' (Possible aesthetic or amenity impact) also noting that Altogether does not have a network hygiene policy (or similar) or procedures for working on mains and repairing main breaks. Residual risk for hazardous event of cross connections in network and on-lot given a rare frequency with a certainty of 1 (certain), however only 3 cross-connection audits have been undertaken across over 8000 connections. The certainty ranking does not appear appropriate. The assessment appears contrary to industry knowledge and experience as documented in literature ⁴⁵⁴ ⁴⁵⁵ ⁴⁵⁶ ⁴⁵⁷. This is considered a significant gap in understanding risk and taking responsibility for managing risk. <p>The February Risk Assessment⁴⁵⁸ includes new risks that have been assessed and the consequence values appear more appropriate than the August 2020 risk registers, however the risk of cross connections have not been reassessed.</p> <p>The audit found that Altogether did not consistently implement the documented risk assessment process. A recommendation has been made to review the risk assessments or methodology to ensure it is consistently applied.</p> <p>REC-DW-2021-003 Review the risk assessments or risk assessment methodology to ensure that consequence values align with the risk being assessed, for example, where the consequence descriptor is limited to aesthetic or undetectable, these cannot be attributed to a risk that has an acute health impact. Frequencies should also be applied taking into consideration historical performance and the occurrence of incidents. Any reduction in consequence should be justified.</p>
	<p>Pitt Town Pitt Town Risk Register⁴⁵⁹ was finalised on 26/4/2021, no additional findings have been noted for the Pitt Town risk assessment.</p>
	<p>Central Park Central Park Scheme Risk Register⁴⁶⁰ is dated 27/8/2020, no additional findings have been noted for the Central Park risk assessment.</p>
	<p>Huntlee The Huntlee Scheme Risk Register⁴⁶¹ is dated 27/8/2020, no additional findings have been noted for the Huntlee risk assessment.</p>
	<p>Cooranbong Cooranbong Scheme Risk Register⁴⁶² was provided and no additional findings have been noted for the Cooranbong risk assessment.</p>
	<p>Discovery Point</p>

⁴⁵⁴ A. C. Hambly , R. K. Henderson , A. Baker , R. M. Stuetz & S. J. Khan (2012) Cross-connection detection in Australian dual reticulation systems by monitoring inherent fluorescent organic matter, Environmental Technology Reviews, 1:1, 67-80, DOI: 10.1080/09593330.2012.696724

⁴⁵⁵ Water Source <https://watersource.awa.asn.au/publications/technical-papers/third-pipe-water-recycling/>

⁴⁵⁶ Risks to the long-term viability of residential non-potable water schemes: a review https://watersensitivecities.org.au/wp-content/uploads/2016/05/TMR_C3-1_RisksViabilityNonPotableWater.pdf

⁴⁵⁷ Muston, M. H. (2012). *Changing of the water recycling paradigm in Australia*. *Water Science and Technology: Water Supply*, 12(5), 611–618. doi:10.2166/ws.2012.034

⁴⁵⁸ Register of New Risks Feb2021 for Health Consultation

⁴⁵⁹ Pitt Town Risk Register PT-WAT-NSW-RG-OPS-2664 V7.5 26/4/21

⁴⁶⁰ Central Park Scheme Risk Register CP-WAT-NSW-PL-OPS-2480 V9.2 27/8/2020

⁴⁶¹ Huntlee Scheme Risk Register HU-WAT-NSW-RG-OPS-2657 V9.2 27/8/2020

⁴⁶² Cooranbong Scheme Risk Register CO-WAT-NSW-RG-OPS-2472 V7.3 27 August 2020

Licence Clause	Findings
	Discovery Point Scheme Risk Register ⁴⁶³ was provided and there are no additional findings for this scheme.
	Shepherds Bay Shepherds Bay Scheme Risk Register ⁴⁶⁴ ⁴⁶⁵ was provided and there are no additional findings for this scheme.
ADWG Element 3	<p>IPART's audit initiation letter identified the following requirement for Element 3:</p> <ul style="list-style-type: none"> • Documented preventative measures and strategies are implemented • Preventive measures remain effective, and barriers are operational. • SCADA (or other controls system for the treatment plant) set points are consistent with the documented critical limits and target criteria. • Critical control points are monitored and critical limit exceedances actioned in accordance with operational and notification procedures. • Critical control points are reassessed where preventive measures are not effective. <p>Overall The Drinking Water Quality Plan⁴⁶⁶ identifies the risk registers as the location of the preventive or control measures for managing risk. When reviewing the August 2020 risk registers, the preventive measures are quite generic and broad, and the critical preventive measure for managing the risk is not immediately apparent. The February Risk Assessment⁴⁶⁷ provides a more detailed assessment and identification of preventive measures, including identification of new preventive measures that need to be implemented to reduce drinking water network risks, such as</p> <ul style="list-style-type: none"> • Formalise and document procedures around equipment use for various water products and services • Review design process for network and storage tank design to minimise stagnation and optimise maintenance of chlorine residual • SOP on tablet dosing for Huntlee. • Dedicated operator for Huntlee and cover by Technical Lead if operator on leave. <p>Section 3.2 of the DWQP states that control points are shown on Attachment B which include Chlorine Disinfection as a Quality Control Point (QCP). There are no critical control points for the drinking water system. Preventive measures were documented on the risk register and were generally implemented as required.</p> <p>Central Park The following scheme specific documents were reviewed:</p> <ul style="list-style-type: none"> • Central Park Scheme Management Plan⁴⁶⁸ • Central Park - Control Points⁴⁶⁹ • Central Park Monitoring and Sampling Program⁴⁷⁰ <p>There is no chlorine dosing, and there are no CCPs or QCPs</p>

⁴⁶³ Discovery Point Scheme Risk Register P-NSW-WAT-RG-OPS-2451 V4.2 27 August 2020

⁴⁶⁴ Shepherds Bay Scheme Risk Register SB-WAT-NSW-RG-OPS-2656 V4.2 27 August 2020

⁴⁶⁵ Discovery Point Scheme Risk Register P-NSW-WAT-RG-OPS-2451 V4.2 27 August 2020

⁴⁶⁶ Drinking Water Quality Plan (DWQP) (Controlled COPY) AG-WAT-AUS-PL-OPS-1241 Revision: 13 15 March 2021

⁴⁶⁷ Register of New Risks Feb2021 for Health Consultation

⁴⁶⁸ Central Park Scheme Management Plan (Scheme MP) (Controlled COPY) CP-WAT-NSW-PL-OPS-1344 V7 16 April 2020

⁴⁶⁹ Central Park - Control Points (Controlled COPY) CP-WAT-NSW-PL-OPS-1208 Version 3 4 November 2019

⁴⁷⁰ Central Park Monitoring and Sampling Program (Controlled COPY) CP-WAT-AUS-PL-OPS-2859 19 March 2021

Licence Clause	Findings
	<p>Huntlee</p> <ul style="list-style-type: none"> Huntlee - Control Points⁴⁷¹ Huntlee Water Scheme Management Plan⁴⁷² Huntlee Monitoring and Sampling Program⁴⁷³ <p>The CCP Table shows a QCP or drinking water 'Weekly grab sample & free chlorine meter (not connected to SCADA) a potable water tanks outlet. Alert at <0.4 mg/L and >0.5 mg/L. The CCP Tables identify the operator corrective actions; 'Resample if free chlorine is below 0.2 mg/L'.</p> <p>Cooranbong</p> <ul style="list-style-type: none"> Cooranbong Water Scheme Management Plan⁴⁷⁴ Cooranbong - Control Points⁴⁷⁵ Cooranbong Monitoring and Sampling Program⁴⁷⁶ <p>The CCP Table shows a QCP or drinking water 'Weekly grab sample & free chlorine meter (not connected to SCADA) at potable water tanks outlet. Critical < 0.2 mg/L or > 1.0 mg/L (no dial out alarm as QCP only) Alert at <0.7 mg/L and >0.8 mg/L. The CCP Tables identify the operator corrective actions; 'Resample if free chlorine is below 0.2 mg/L'.</p> <p>Discovery Point</p> <ul style="list-style-type: none"> Discovery Point Scheme Management Plan⁴⁷⁷ Discovery Point - Control Points⁴⁷⁸ Discovery Point Monitoring and Sampling Program⁴⁷⁹ <p>There is no chlorine dosing in the drinking water network, and there are no CCPs or QCPs in relation to Discovery Point drinking water service</p> <p>Shepherds Bay</p> <p>The Shepherds Bay Scheme Management Plan (Scheme MP) (Controlled COPY)⁴⁸⁰. There is no chlorine dosing in the drinking water network, and there are no CCPs or QCPs in relation to the Shepherds Bay drinking water service</p>
ADWG Element 4	<p>IPART's audit initiation letter identified the following requirement for Element 4:</p> <ul style="list-style-type: none"> Control of processes is achieved through implementation of operational procedures, monitoring protocols and operational corrections in accordance with the WQP-DW.

⁴⁷¹ Huntlee - Control Points (Controlled COPY) HU-WAT-NSW-PL-OPS-2581 Version 2 18 March 2021

⁴⁷² Huntlee Water Scheme Management Plan (Controlled COPY) HU-WAT-NSW-PL-OPS-1275 Version 14 19 March 2021

⁴⁷³ Huntlee Monitoring and Sampling Program (Controlled COPY) HU-WAT-NSW-PL-OPS-3094 Version 2 19 March 2021

⁴⁷⁴ Cooranbong Water Scheme Management Plan (Scheme MP)(Controlled COPY) CO-WAT-NSW-PL-OPS-1720 Version 10 16 April 2021

⁴⁷⁵ Cooranbong - Control Points (Controlled COPY) CO-WAT-NSW-PL-OPS-2832 Version 1 14 August 2020

⁴⁷⁶ Cooranbong Monitoring and Sampling Program (Controlled COPY)CO-WAT-NSW-PL-OPS-3093 19 March 2021

⁴⁷⁷ Discovery Point Scheme Management Plan (Scheme MP) (Controlled COPY) DP-WAT-NSW-PL-OPS-1242 Revision 9 19 April 2021

⁴⁷⁸ Discovery Point - Control Points (Controlled COPY) DP-WAT-NSW-PL-OPS-1228 Version 3 4 November 2019

⁴⁷⁹ Discovery Point Monitoring and Sampling Program (Controlled COPY) DP-WAT-NSW-PL-O SB-WAT-NSW-PL-OPS-1787 PS-2860 18/09/2020

⁴⁸⁰ 5.1 Shepherds Bay Scheme Management Plan (Scheme MP) (Controlled COPY) SB-WAT-NSW-PL-OPS-1787 28 April 2021

Licence Clause	Findings
	<ul style="list-style-type: none"> Records are maintained to demonstrate implementation of operational procedures, monitoring protocols and operational corrections identified in the WQP-DW. Rapid communications systems responding to unexpected events were followed. Monitoring and measuring equipment is fit for purpose and calibrated at specified intervals. Regular inspection and maintenance of all equipment, from source to point of use, ensures continuing process capability. Materials used in the drinking water system are appropriate and meet specifications. Chemicals used in the drinking water system are appropriate and meet specifications <p>Overall</p> <p>The Drinking Water Quality Plan⁴⁸¹ identifies O&M Manuals for each scheme that are utilised for the scheme operation. During the site inspection at Pitt Town (noting this is not a drinking water scheme) the BMS was demonstrated, and operational procedures, O&M Manual, forms and work instructions were observed and readily available to operators. Operators indicated that this is available for each scheme. Out of Specification work instructions have been developed for the drinking water schemes.</p> <p>There are no CCPs in the drinking water supply systems and QCPs are not linked to SCADA and are monitored by online monitoring (observed when on site) and grab samples.</p> <p>Change notice ⁷⁴⁸² details the rationale for including storage tanks as Quality Control Points, however it is unclear if the schemes that dose chlorine will remain as QCPs for chlorine dosing.</p> <p>The ADWG state (p 129) that 'Good design, management and integrity of distribution systems are essential for maintaining water quality.' The following was noted:</p> <ul style="list-style-type: none"> Altogether has established backflow prevention on its drinking water connections and these were shown during the site inspections. Altogether provided a schedule⁴⁸³ for tank inspections that includes the drinking water potable water tanks, records of implementation are discussed below. When reviewing the data on network free and total chlorine, the disinfection residuals in the network were regularly below the targets identified in the MS Progs, and the total chlorine target in the MS Progs. Altogether indicated during the interviews that it does not have any control over the quality of water received from Sydney Water and Hunter Water, but works with Hunter Water^{484 485} to improve disinfection residuals in the bulk water supplied. When discussing hygienic work practices when working on the drinking water network, Altogether stated that due to the design of the drinking water network, there is no need to undertake works on the drinking water network and there are no mains breaks. Additionally, if there was a need to work on the mains, Altogether uses a trusted contractor, however there do not appear to be any established procedures of policies for hygienic work practices for Altogether staff of contractors undertaking works on the mains. The Drinking Water Risk assessment⁴⁸⁶ undertaken in February 2021 has identified (Ref DW1.6) the need to 'Formalise and document procedures around equipment use for various water products and services. This action item is noted on the Water Quality Improvement Plan⁴⁸⁷, however there is no target date for completion.

⁴⁸¹ Drinking Water Quality Plan (DWQP) (Controlled COPY) AG-WAT-AUS-PL-OPS-1241 Revision: 13 15 March 2021

⁴⁸² CCP review workshop summary outcomes March2021

⁴⁸³ RW and DW Tank PM Schedule all Schemes

⁴⁸⁴ 201022 Meeting Minutes - HWC I Flow

⁴⁸⁵ RE_ Drinking water free chlorine levels at Huntlee

⁴⁸⁶ Register of New Risks Feb2021 for Health Consultation (1)

⁴⁸⁷ WQP Improvement Plan

Licence Clause	Findings
	<p>A recommendation has been made to establish procedures for ensuring the integrity of the drinking water network.</p> <p>REC-DW-2021-004 Establish a policy and procedure for hygienic work practices for Altogether staff and contractors undertaking works on Altogether's drinking water networks and develop a process for ensuring all network operators and contractors have been made aware of the requirements and establish an ongoing audit process to ensure the practices are implemented.</p> <p>Central Park</p> <p>The Central Park Scheme Management Plan⁴⁸⁸ does not identify whether the drinking water system is chloraminated or chlorinated, however the Central Park Monitoring and Sampling Program identifies a Point of Use (PoU) target of 0.2 g/L for Free Chlorine and 0.6 mg/L for total chlorine. When reviewing the Point of Supply (PoS) results, 7/11 samples were above the free chlorine target of 0.2 mg/L, and all total chlorine were above 1.0 mg/L. When reviewing the results of the PoU monitoring⁴⁸⁹, it was noted that only 13 samples out of 46 (28% pass) from customer properties had Total Chlorine above the target limit of ≥ 0.6 mg /L and only 9 samples out of 46 (20% pass) from customer properties had Free Chlorine above the target limit of ≥ 0.2 mg /L. During the audit, Altogether indicated that there was no formal process for working with Sydney Water to improve residuals. It was noted that the monitoring results indicated that the PoU sites experienced a greater frequency of non-compliance with the targets than the PoS sites, indicating a loss of residual after Altogether takes ownership of the water from Sydney Water. A recommendation has been made to ensure that options for improving chlorine residual in the network have been identified and actions taken to ensure drinking water quality does not degrade in Altogether's distribution network.</p> <p>REC-DW-2021-005 The Monitoring and Sampling Programs for drinking water schemes identify that a minimum target of 0.2mg/L of free chlorine should be maintained through reticulation networks, this is consistent with ADWG advice. Identify areas in reticulation where this cannot be met and raise an improvement item to improve the chlorine residual in these areas within an appropriate timeframe</p> <p>Huntlee</p> <p>The Huntlee CCP Table⁴⁹⁰ shows a QCP for Free Chlorine, with grab sample taken from the chlorine meter point at the Potable Water Tanks Outlet, the frequency is not specified. The Weekly Control Points Checklist^{491 492} includes QCPs and CCPs for recycled water but not for drinking water. It is unclear where the results of the grab sample are captured and there was no evidence of that monitoring provided for the audit period. A recommendation has been made to record the result of operational monitoring of the drinking water service.</p> <p>REC-DW-2021-006 Include recording the operational monitoring of the drinking water system on the weekly control points checklist or equivalent.</p> <p>The Tank Inspection Checklist requires various types of inspections of the Huntlee Potable water tank inspections to be undertaken:</p> <ul style="list-style-type: none"> • Annually Lined RW Panel Tank • Monthly Water Storage Tank Flushing and Refilling Record

⁴⁸⁸ Central Park Scheme Management Plan (Scheme MP) (Controlled COPY) CP-WAT-NSW-PL-OPS-1344 V7 16 April 2020

⁴⁸⁹ Extract Altogether Group Eurofins Data

⁴⁹⁰ 2758 Huntlee - Control Points (Controlled COPY).pdf HU-WAT-NSW-PL-OPS-2581

⁴⁹¹ Work_Order 031896 Weekly Control Points Check HT

⁴⁹² Work_Order 037065 Weekly Control Points Check HT

Licence Clause	Findings
	<ul style="list-style-type: none"> Quarterly Water Storage Tank Inspection Routine <p>Records of monthly routine tank inspections⁴⁹³, the quarterly flushing work order⁴⁹⁴ were provided as evidence of implementation.</p> <p>Records⁴⁹⁵ of backflow prevention testing were provided for Huntlee.</p> <p>When reviewing the results of chlorine residuals in the network, it was noted that 10 out of 15 monthly Total Chlorine samples failed with readings below the target limit of ≥ 0.6 mg/L. and 8 out of 16 free chlorine monthly samples failed with readings below the target limit of ≥ 0.2 mg/L. The PoU sampling locations 53/61 to total chlorine and 45/61 Free Chlorine readings failed to meet the minimum target. A recommendation has been made to ensure that options for improving chlorine residual in the network have been identified and actions taken to ensure drinking water quality does not degrade in Altogether's distribution network (REC-DW-2021-005).</p>
	<p>Cooranbong</p> <p>The Cooranbong CCP Table⁴⁹⁶ shows a QCP for Free Chlorine, with grab sample taken from the chlorine meter point at the Potable Water Tanks Outlet. The Weekly Control Points Checklist^{497,498} includes QCPs and CPs for recycled water but not for drinking water. It is unclear where the results of the drinking water QCP grab sample are captured and there was no evidence of that monitoring provided for the audit period. A recommendation has been made to record the result of operational monitoring of the drinking water service (REC-DW-2021-006).</p> <p>The Tank Inspection Checklist requires various types of inspections of the Huntlee Potable water tank inspections to be undertaken:</p> <ul style="list-style-type: none"> Annually Lined RW Panel Tank Quarterly Water Storage Tank Inspection Routine <p>Records of the quarterly inspection work order⁴⁹⁹ ⁵⁰⁰ were provided as evidence of implementation.</p> <p>Backflow prevention device testing records⁵⁰¹ were provided.</p> <p>Free and total chlorine results at the PoS sampling locations were below the targets at times in the beginning of the audit period, however there were no 'fails' for free chlorine after September 2020 or total chlorine after August 2020 indicating the network disinfectant residuals have improved.</p> <p>Discovery Point</p>

⁴⁹³ Work_Order 034346 DW Tank Inspection 13 Dec 2020 HT

⁴⁹⁴ Work_Order 035050 DW Tank Inspection Flushing Record 7 Dec 2020 HT

⁴⁹⁵ Work_Order 031959 Huntlee

⁴⁹⁶ 3205 Cooranbong - Control Points (Controlled COPY).pdf CO-WAT-NSW-PL-OPS-2832

⁴⁹⁷ Work_Order 034475 Weekly Control Points Check CB

⁴⁹⁸ Work_Order 037708 Weekly Control Points Check CB

⁴⁹⁹ Work_Order 034729 DW Tank Inspection 15 Dec 2020 CB

⁵⁰⁰ Work_Order 035833 DW Tank Inspection 18 Jan 2021 CB

⁵⁰¹ Work_Order 033606 RPZD Repair record Cooranbong

Licence Clause	Findings
	<p>The Discovery Point Scheme Management Plan⁵⁰² does not state if the drinking water supplied by Sydney Water is chlorinated or chloraminated. The Discovery Point Monitoring and Sampling Program⁵⁰³ identifies a Point of Use (PoU) target of 0.2 g/L for Free Chlorine and 0.6 mg/L for total chlorine. When reviewing the PoS data, 6 out of 10 monthly samples failed with readings below the target limit of ≥ 0.2 mg/L and no total chlorine reading were below 0.6 mg/L. When reviewing the PoU results, 8/49 total chlorine with readings below the target limit of ≥ 0.6 mg/L (84% pass) and 28 /49 samples 57%) with free chlorine readings below the target limit if ≥ 0.2 mg/L (43% pass). Most of the passes were only just above the target lower limit of ≥ 0.2 mg/L. A recommendation has been made to ensure that options for improving chlorine residual in the network have been identified and actions taken to ensure drinking water quality does not degrade in Altogether's distribution network (REC-DW-2021-005).</p> <p>Backflow prevention records were not provided for Discovery Point</p>
	<p>Shepherds Bay</p> <p>Shepherds Bay Scheme Management Plan⁵⁰⁴ and the Monitoring and Sampling Program⁵⁰⁵ were provided. The MS Prog identifies a Point of Supply (PoS) target of 0.2 g/L for Free Chlorine and 0.6 mg/L for total chlorine No PoU monitoring is identified in the network. For Free Chlorine 4/11 readings were above the 0.2 mg/L target and all total chlorine readings were above 1.0 mg/L. A recommendation has been made to ensure that options for improving chlorine residual in the network have been identified and actions taken to ensure drinking water quality does not degrade in Altogether's distribution network (REC-DW-2021-005).</p> <p>Backflow prevention device testing records⁵⁰⁶ were provided.</p>
ADWG Element 5	<p>IPART's Audit Initiation Letter identifies the following requirements for Element 5:</p> <ul style="list-style-type: none"> • The consolidated sampling plan is followed, and monitoring data is verified to be representative and reliable. • Procedures for sampling and testing are followed. • Adequate resources are provided to ensure valid and reliable results of drinking water quality monitoring. • Results of drinking water quality verification monitoring are used to evaluate conformity to criteria set in the WQP-DW. • Complaints and comments from consumers are evaluated, whether received from the scheme retail supplier or direct to network operator. • Short-term evaluation of monitoring results and consumer feedback is used to verify that the quality of the drinking water conforms to established targets and meets consumer expectations. • Corrective responses to non-conformances are implemented in accordance with documented procedures, or where network operator has deviated from documented procedure; reasons are documented the response has provided an equal or improved management of risk. • Planned changes are controlled and consequences of unintended changes reviewed, action taken to mitigate any adverse effects, as necessary <p>Overall</p>

⁵⁰² Discovery Point Scheme Management Plan (Scheme MP) (Controlled COPY) DP-WAT-NSW-PL-OPS-1242 Revision 9 19 April 2021

⁵⁰³ Discovery Point Monitoring and Sampling Program (Controlled COPY) DP-WAT-NSW-PL-OPS-2860 18/09/2020

⁵⁰⁴ Shepherds Bay Scheme Management Plan (Scheme MP) (Controlled COPY) SB-WAT-NSW-PL-OPS-1787 Version 6 28 April 2021

⁵⁰⁵ 3095 Shepherds Bay Monitoring and Sampling Program (Controlled COPY).pdf SB-WAT-NSW-PL-OPS-3095

⁵⁰⁶ Asset_Record_For_Job_No_76832_28-10-2020_1510

Licence Clause	Findings
	<p>The Drinking Water Quality Plan⁵⁰⁷ and the Monitoring and Sampling Plan⁵⁰⁸ (MSP) were provided along with an extract⁵⁰⁹ of its database which includes the results of the verification monitoring for all schemes during the audit period.</p> <p>Overall, the audit found that Altogether is implementing the verification monitoring program, procedures for testing and sampling are being followed, and adequate resources are being allocated to ensure valid and reliable results.</p> <p>During the audit interviews, Altogether demonstrated a new process for reviewing data and checking compliance with the monitoring program using a Power BI database that included checking the number of samples taken, the frequency of sampling, and that the results are compliant. The database extract was reviewed and the auditor confirmed that the MS Progs are being implemented and the required samples are being taken at the correct frequencies.</p> <p>The results are reviewed in a fortnightly team meeting, with a pdf document prepared for each scheme, the April 2021 pdf for Box Hill was shown in the audit. A separate report is prepared for management review, which includes a summary for all schemes microbiological analysis results, network chlorine performance, exceedances and environmental monitoring. The April 2021 report was shown in the audit.</p> <p>Altogether has developed Drinking Water out of Specification Work Instructions for each scheme during the audit period. These work instructions detail the processes for rapidly notifying external stakeholders when there is contamination detected after the point of supply.</p> <p>The Complaints and Disputes Resolution Policy⁵¹⁰ (the Complaints policy) was provided for the audit, along with the details of all complaints relating to billing, and the records of communication and handling of the complaints.</p> <p>Changes to the monitoring plan are captured on the document control tables on the MSP and MS Progs. Significant changes to the monitoring plan are managed under the Change Notice process with NSW Health. Evidence of the process was shown on Change Notice 1⁵¹¹.</p>
	<p>Central Park</p> <p>Central Park Monitoring and Sampling Program⁵¹² details the verification monitoring and sampling program. The review of the data found that the PoS monthly microbiology, physical and chemistry sampling was completed as scheduled. The six monthly and weekly PoU sampling was completed as scheduled.</p> <p>Records of complaints were provided as evidence on implementation of the complaint handling processes:</p> <ul style="list-style-type: none"> • Drinking water odour complaint⁵¹³ • High water usage^{514 515} • High water bills estimated^{516 517}

⁵⁰⁷ Drinking Water Quality Plan (DWQP) (Controlled COPY) AG-WAT-AUS-PL-OPS-1241 Revision: 13 15 March 2021

⁵⁰⁸ Monitoring and Sampling Plan (MSP)(Controlled COPY) AG-WAT-AUS-PL-OPS-1288 Revision 15 13 April 2021

⁵⁰⁹ Extract Altogether Group Eurofins Data

⁵¹⁰ Complaints and Disputes Resolution Policy AG-ALL-AUS-PO-RET-1249 Revision 6 – 21 December 2021

⁵¹¹ Change Notice 1 - Monitoring and Sampling Programmes_All schemes_APPROVED

⁵¹² Central Park Monitoring and Sampling Program (Controlled COPY) CP-WAT-AUS-PL-OPS-2859 19 March 2021

⁵¹³ Audit 2021 Zendesk Ticket – 387022 (Flow Systems - 2702 in East tower at Central Park) 201008

⁵¹⁴ #393695 - Central Park West - Zendesk Ticket 201028

⁵¹⁵ #393695 - Central Park West - Account Notes 201028

⁵¹⁶ #390299 - Central Park 8 Park Lane- Zendesk Ticket 201021

⁵¹⁷ #390299 - Central Park 8 Park Lane - Account Notes & Transaction History 201021

Licence Clause	Findings
	<p>Huntlee</p> <p>Huntlee Monitoring and Sampling Program⁵¹⁸ details the verification monitoring for the scheme. The monthly physical and chemical sampling was undertaken as scheduled. For monthly microbiology sampling, <i>E. coli</i>, Total Chlorine, Free Chlorine, and turbidity was sampled as per schedule. PoU six monthly sampling completed as scheduled. Weekly microbiological sampling. Weekly E. microbiological sampling was almost completed as scheduled, except for a 17 day gap from 16/06/20 - 02/07/20) resulting in a missed week of sampling. The missing sample was identified and included on the incident register.⁵¹⁹</p> <p>Records of complaints were provided as evidence on implementation of the complaint handling processes:</p> <ul style="list-style-type: none"> • High water usage⁵²⁰ • High water bill^{521 522} <p>Cooranbong</p> <p>Cooranbong Monitoring and Sampling Program⁵²³ details the verification monitoring for the scheme. The monthly physical and chemical sampling was undertaken as scheduled. For monthly microbiology sampling, <i>E. coli</i> and Total Chlorine was sampled as per schedule. PoU six monthly sampling completed as scheduled. Weekly microbiological sampling was completed as scheduled.</p> <p>Records of complaints were provided as evidence on implementation of the complaint handling processes:</p> <ul style="list-style-type: none"> • Water bill^{524 525 526} <p>Discovery Point</p> <p>The Discovery Point Scheme Management Plan⁵²⁷ and Discovery Point Monitoring and Sampling Program⁵²⁸ details the verification monitoring for the scheme. The monthly physical and chemical sampling was undertaken as scheduled. For monthly microbiology sampling, <i>E. coli</i> and Total Chlorine was sampled as per schedule. PoU six monthly sampling completed as scheduled. Weekly microbiological sampling was completed as scheduled.</p> <p>Records of complaints were provided as evidence on implementation of the complaint handling processes:</p> <ul style="list-style-type: none"> • Odour Complaint record^{529 530} <p>Shepherds Bay</p>

⁵¹⁸ Huntlee Monitoring and Sampling Program (Controlled COPY) HU-WAT-NSW-PL-OPS-3094 Version 2 19 March 2021

⁵¹⁹ Corrected Water Ops Incident Register (exported from SharePoint on 17Jun21 for audit period)

⁵²⁰ #395036 - Huntlee - Account Notes201030

⁵²¹ #358704 - Huntlee Water - Zendesk Ticket 200828

⁵²² #358704 - Huntlee - Account Notes 200828

⁵²³ Cooranbong Monitoring and Sampling Program (Controlled COPY) CO-WAT-NSW-PL-OPS-3093 19 March 2021

⁵²⁴ Complaints records provided

⁵²⁵ #354944 - Follow up #337917 - Cooranbong - Zendesk Ticket 200821

⁵²⁶ #354944 - Cooranbong - Zendesk Ticket 200821

⁵²⁷ Discovery Point Scheme Management Plan (Scheme MP) (Controlled COPY) DP-WAT-NSW-PL-OPS-1242 Revision 9 19 April 2021

⁵²⁸ Discovery Point Monitoring and Sampling Program (Controlled COPY) DP-WAT-NSW-PL-OPS-2860 18/09/2020

⁵²⁹ Audit 2021 - Zendesk Ticket – 449009 (U1402B 6 Nancarrow Ave Ryde) 210223

⁵³⁰ #395036 - Huntlee - Zendesk Ticket201030

Licence Clause	Findings
	<p>Shepherds Bay Scheme Management Plan⁵³¹ and the Monitoring and Sampling Program⁵³² were provided. Monthly microbiological, physical and chemical, and six-monthly sampling was undertaken as scheduled.</p> <p>Records of complaints were provided as evidence on implementation of the complaint handling processes:</p> <ul style="list-style-type: none"> Records for drinking water odour⁵³³
ADWG Element 6	<p>Overall</p> <p>IPART's Initiation Letter identified the following requirements for Element 6:</p> <ul style="list-style-type: none"> Incident and emergency communications protocols are implemented as described in the WQP-DW, and follow the requirements of IPART's Network Operator's Reporting Manual and notification requirements as set out in the WIC Regulations sch 1, cl.1(2). Employees are trained in incident and emergency response protocols and the plans are tested as appropriate. Following any incident and emergency situation, an investigation is undertaken, and all appropriate staff debriefed. Protocols have been revised as necessary. <p>The Network Operator's Reporting Manual⁵³⁴ states:</p> <p><i>Licensees must immediately notify IPART of any incident in the conduct of their activities that threatens, or could threaten, water quality, public health or safety.</i></p> <ul style="list-style-type: none"> <i>Immediate notification must also be given to:</i> <i>The Minister administering the Public Health Act</i> <i>The Minister administering the WIC Act (the Minister)</i> <i>Any licensed retail supplier that supplies water or provides sewerage services by means of the licensee's infrastructure</i> <i>Any other licensed network operator or public water utility whose infrastructure is connected to the licensee's infrastructure.</i> <p>The Drinking Water Quality Plan⁵³⁵ provides a diagram in Section 6 which depicts the framework for managing Drinking water incidents and emergencies. The Incident Management Plan⁵³⁶ (IMP) provides the overarching framework for Altogether's incident management. The IMP in Section 5.1.3 identifies the requirements of the reporting manual and includes immediate notification to IPART, NSW Health, Department of Planning and Environment and other licenses and public water utilities.</p>

⁵³¹ Shepherds Bay Scheme Management Plan (Scheme MP) (Controlled COPY) SB-WAT-NSW-PL-OPS-1787 Version 6 28 April 2021

⁵³² 3095 Shepherds Bay Monitoring and Sampling Program (Controlled COPY).pdf SB-WAT-NSW-PL-OPS-3095

⁵³³ Audit 2021 - Zendesk Ticket – 449009 (U1402B 6 Nancarrow Ave Ryde) 210223

⁵³⁴ IPART Reporting manual - Network Operator Reporting Manual - July 2020

⁵³⁵ Drinking Water Quality Plan (DWQP) (Controlled COPY) AG-WAT-AUS-PL-OPS-1241 Revision: 13 15 March 2021

⁵³⁶ Incident Management Plan (IMP) (Controlled COPY) AG-ALL-AUS-PL-INC-1266 Revision 9 25 January 2021

Licence Clause	Findings
	<p>The Water Operations Incident Management, Reporting and Investigation Procedure⁵³⁷ provides flow diagrams that give an overview of incident management. This includes the requirement for the incident manager to assess, declare and classify the incident, make notifications, investigate, debrief and close out the incident. The flow diagram also includes responsibilities for notifying regulators.</p> <p>Altogether provided the Incident Register⁵³⁸ that showed the incidents that occurred in relation to Water Operations which was consistent with the notifications made to IPART during the audit period.</p> <p>The Incident Notification Protocol with NSW Health⁵³⁹ was updated in February 2021 and includes the contact details of the relevant Public Health Units to be notified for each scheme.</p> <p>The Internal Incident Contact Register⁵⁴⁰ was last updated on 15 April 2021 and was previously updated on 26 February 2021, providing an indication that the register has been kept under review. The register includes internal contact for emergencies at each scheme and for different types of emergencies.</p> <p>Other procedures that sit under the incident management framework include:</p> <ul style="list-style-type: none"> • Out specification procedures for each scheme • Responding to sewage overflows • Unplanned outages <p>During the audit the number of incidents attributed to laboratory errors was discussed. Altogether provided evidence⁵⁴¹ of communication with Eurofins (the laboratory) for the issues experienced during the audit period. Changes that Altogether has implemented to improve the accuracy and reliability of the data received from the laboratory include:</p> <ul style="list-style-type: none"> • Regular meetings to discuss the issues • The communication Register recording the issue, internal investigation and report back on the issues • Training and staff turnover • The lab has developed SOPs for new staff to come on board and inductions • Collection of duplicate samples on each sample event • If there is insufficient volume, Eurofins are required to do a retest. If there is a duplicate this will be retested or confirm if there was a need to collect another sample. <p>The Eurofins sampling management plan⁵⁴² was also shown in the audit. Altogether also undertook an audit⁵⁴³ of the Eurofins Lab and noted no issues.</p> <p>Altogether provided evidence of an incident training package⁵⁴⁴ which included:</p> <ol style="list-style-type: none"> 5. Incident management compliance obligations

⁵³⁷ Water Operations Incident Management, Reporting and Investigation Procedure (Controlled COPY) AG-WAT-NSW-PR-OPS-2561 Version 3 22 March 2021

⁵³⁸ Water Ops Incident Register (exported from SharePoint on 15Jun21 for audit period)

⁵³⁹ Incident Notification Protocol with NSW Health (Controlled COPY) AG-ALL-NSW-PR-INC-1277 Revision 9 26 February 2021

⁵⁴⁰ Internal Incident Contact Register AG-ALL-AUS-RG-INC-2563 Version 5.1 15 April 2021

⁵⁴¹ Flow Systems – Communication Register – V1.1

⁵⁴² QS-INS-4205_R0 - EUROFINS SAMPLING MANAGEMENT PLAN - FLOW SYSTEMS

⁵⁴³ 4.3 2nd party Eurofins Lane Cove ISO17025 Audit 2021

⁵⁴⁴ 3020 Water Operations Incident Reporting and Investigation Training Package.pptx FS-ALL-AUS-TP-HSEQ-3020

Licence Clause	Findings
	<ol style="list-style-type: none"> 6. Incident roles and responsibilities 7. Incident management procedures 8. Water Quality Incident Reporting and Investigation Procedure. <p>An opportunity or improvement was identified to include learnings from incidents that have occurred in the water industry to improve awareness of water supply risks.</p> <p>OFI-DW-2021-002 Consider establishing an ongoing process to include learnings from incidents that have occurred in Australia and overseas, to inform incident management in relevant forums, such as meetings, training and toolbox meetings.</p> <p>Huntlee Incident HU_145 (24 April 2020)</p> <ul style="list-style-type: none"> • Email Form A⁵⁴⁵ • Form A Incident⁵⁴⁶ • Form B⁵⁴⁷ • Email Form B⁵⁴⁸ <p>This incident related to a drinking water sample returning a fluoride value above the guideline value. Altogether receives treated drinking water from Hunter Water and does not dose fluoride. Hunter Water did not note a non-compliance within their system. It was determined that the result was likely to be a laboratory error. Evidence of the debrief is provided in HSEQ Meeting Dec 2020⁵⁴⁹ and HSEQ (SUS) Meeting Jun 2020⁵⁵⁰</p> <p>Cooranbong Incident CO_213 (8 December 2020)</p> <ul style="list-style-type: none"> • Form A Incident Notification WICA <i>E. coli</i> Exceedance in Recycled Water 08_12_2020 .msg⁵⁵¹ • Form B Incident Notification WICA_Cooranbong.pdf⁵⁵² • Form B & Closeout for this incident ## RE_ Form A __UPDATE__ Incident Notification WICA Cooranbong - Drinking Water E coli Exceedance.msg⁵⁵³ • 201210 Form A⁵⁵⁴ <p>Form A was sent to all stakeholders within 24 hours of making verbal notification. Form B was sent on 24/12/2020. This incident has been put down to a lab error.</p> <p>Discovery Point</p>

⁵⁴⁵ Form A Incident Notification_Huntlee_DW Fluoride exceedance 24_04_20_Report date 26_06_20.msg

⁵⁴⁶ Form A Incident WICA Notification_Huntlee_DW PoU Fluoride Exceedance_24Apr20_Report date 26Jun20.pdf

⁵⁴⁷ Form B Incident WICA Notification_Huntlee_DW PoU Fluoride Exceedance_24Apr20_Report date 02Jul20.pdf

⁵⁴⁸ Form B Incident Notification_Huntlee_DW Fluoride exceedance 24_04_20_Report date 2_07_20.msg

⁵⁴⁹ HSEQ (SUS) Meeting Dec 2020

⁵⁵⁰ HSEQ (SUS) Meeting Jun 2020

⁵⁵¹ Form A Incident Notification WICA *E. coli* Exceedance in Recycled Water 08_12_2020 .msg

⁵⁵² Form B Incident Notification WICA_Cooranbong.pdf

⁵⁵³ Form B & Closeout for this incident ## RE_ Form A __UPDATE__ Incident Notification WICA Cooranbong - Drinking Water E coli Exceedance.msg

⁵⁵⁴ 201210 Form A Incident Notification WICA_Cooranbong.pdf

Licence Clause	Findings
	<p>Incident DP_183 (9 October 2020)</p> <ul style="list-style-type: none"> Email-Updated Form A ⁵⁵⁵ Form A Updated⁵⁵⁶ and email ⁵⁵⁷ Form A⁵⁵⁸ Form B⁵⁵⁹ Email Form B⁵⁶⁰ <p>A drinking water tap returned a fluoride value above ADWG health criteria. Investigation indicated a lab error or receipt of non-compliant water from Sydney Water. Sydney Water did not report and exceedances in its network. Form A was sent 9/10/2020, an updated Form A was sent on 29/10/2020. Form B was sent 26/11/2020. Evidence of the debrief is provided in HSEQ Meeting Dec 2020⁵⁶¹.</p> <p>Incident DP_144 (29 April 2020)</p> <ul style="list-style-type: none"> Form A⁵⁶² Email - Antimony⁵⁶³ Form A⁵⁶⁴ Email - Form B⁵⁶⁵ Form B⁵⁶⁶ <p>Antimony exceedance in drinking water exceedance in 29 April 2020 but reported on 26 June 2020. Form B was submitted on 30 June 2020. The investigation indicated a lab error.</p> <p>Debrief of the incident is documented in the HSEQ (SUS) Meeting June 2020⁵⁶⁷</p>
ADWG Element 7	<p>IPART's Audit Initiation Letter Identified with following requirements for Element 7:</p> <ul style="list-style-type: none"> Operators have a general understanding of the regulatory requirements of licensed network operators under the WIC Act regarding protection of public health. Operators and relevant contractors are aware of the drinking water policy and objectives of the WQP-DW (overlap with element 1).

⁵⁵⁵ Updated Form A__ RE_ Form A Incident Notification WICA Discovery Point - Drinking Water Fluoride Exceedance

⁵⁵⁶ DP 28Oct20 Form A Update

⁵⁵⁷ Form A Incident Notification WICA Discovery Point - Drinking Water Fluoride Exceedance

⁵⁵⁸ Form A Incident WICA Notification_Discovery Point 183 DP Fluoride Exceedance 9 October 2020

⁵⁵⁹ Form B Incident Notification WICA_Discovery Point 183 DP 26Nov20 Fluoride Exc.pdf

⁵⁶⁰ Form B Incident Notification WICA Discovery Point - Drinking Water Fluoride Exceedance - Laboratory Method

⁵⁶¹ HSEQ (SUS) Meeting Dec 2020

⁵⁶² Form A Incident Notification_Discovery Point_DW Antimony exceedance 29_04_20_Report date 26_06_20.msg

⁵⁶³ Antimony exceedance 29_04_20_Report date 26_06_20.msg

⁵⁶⁴ Form A Incident WICA Notification_Discovery Point Antimony Exceedance_29Apr20_Report Date 26Jun20.pdf

⁵⁶⁵ Form B Incident Notification_Discovery Point_DW Antimony exceedance 29_04_20_Report date 26_06_20.msg

⁵⁶⁶ Form B Incident WICA Notification_Discovery Point Antimony Exceedance_29Apr20_Report Date 30Jun20.pdf

⁵⁶⁷ HSEQ (SUS) Meeting Jun 2020

Licence Clause	Findings
	<ul style="list-style-type: none"> Operators and relevant contractors understand drinking water quality risk management principles set out in the WQP-DW, characteristics of the drinking water supply system and preventive strategies in place, consequences of system failures and how to apply and follow risk management principles. Operators and relevant contractors should be aware of the arrangements that the scheme retail supplier has in place to manage its obligations (eg. communication with consumers) and that the licensee must/use best endeavours to ensure those arrangements align with licensee's risk controls. Employees and contractors are aware of their contribution of the effectiveness of implementing the WQP-DW, including benefits of improved performance, and the implications of not conforming to the requirements set out in the WQP-DW. Identified training has been delivered, or is appropriately scheduled to be delivered so that operators and contractors are competent. Records are maintained of all employee training, and processes and procedure for training are followed. <p>Overall</p> <p>Under the Drinking Water Quality Plan⁵⁶⁸ (DWQP) Component A7.1.1 it states that Altogether will develop mechanisms and communication procedures to increase employees' awareness of, and participation in, drinking water quality management.</p> <p>Under RWQM Component A1.2.1, Altogether has a WICA Responsibilities and Authorities Matrix⁵⁶⁹ that lists the responsibilities of staff positions, including awareness of and promotion of water quality policies. A Training Needs Analysis (TNA) is conducted for all operations annually at the mid-year performance review, and identifies the necessary competencies, and the current competencies achieved by staff are recorded in the Water Ops Competencies Training Log⁵⁷⁰. This timing allows for appropriate training provision budget to be set, and a Learning Plan developed for each staff member⁵⁷¹.</p> <p>A formal induction process is in place for employees. Under both the RWQP Component A7.2.1 and DWQP Component A7.11, a Training Policy and Procedure document⁵⁷² exists and is implemented. The HR & Training Manager is responsible for ensuring that training is recorded on the Training Register⁵⁷³ and that certifications are saved both in the employee file and as evidence on the Training Register. Operators are inducted through a 3-month probationary period with mentoring and on the job training.</p> <p>Altogether has a procedure for Developing Operator Training Plans⁵⁷⁴ for Scheme Operators to achieve Certificate III in Water Industry Treatment. Technical training plans are developed for new Scheme Operators (including trainees) and are reviewed at the time of the performance review.</p> <p>Water Operations Team meetings are conducted where team members are made aware of and bring up any water quality issues.</p> <p>Appropriate recent training has been undertaken for Altogether Staff, as shown by completed Training Course Attendance Register forms⁵⁷⁵. This includes online training in WICA License Plan and Compliance for 11 staff on 12/04/2020⁵⁷⁶, and training in Incident Management – Sewage Overflow Response for 10 staff on 17 February 2020⁵⁷⁷.</p>

⁵⁶⁸ Drinking Water Quality Plan (DWQP) (Controlled COPY) AG-WAT-AUS-PL-OPS-1241 Revision: 13 15 March 2021

⁵⁶⁹ WICA Responsibilities and Authorities Matrix (Controlled COPY).pdf AG-WAT-AUS-PL-OPS-1316

⁵⁷⁰ Water Ops Competencies_Training Log – worksheet Competencies (working) Version 0.4 27 April 2021

⁵⁷¹ Water Ops Competencies_Training Log - worksheet: Learning Plan 22-26 Version 0.4 27 April 2021

⁵⁷² Training Policy and Procedure (Controlled Copy).pdf AG-ALL-AUS-PO-HRT-3168 (1463) Revision: 1 24 June 2020

⁵⁷³ Spreadsheet – Training Register

⁵⁷⁴ Developing Operator Training Plans AG-WAT-NSW-PR-OPS-2769 Revision: 2.0 23 April 2021

⁵⁷⁵ Training Course Attendance Register FS-ALL-AUS-FM-HRT-1339 Revision: 2 15 Sep 15

⁵⁷⁶ WICA License Plan and Compliance.pdf - Training Course Attendance Register 12 April 2020

⁵⁷⁷ Incident Management - Sewer Overflow Response.pdf – Training Course Attendance Register 17 February 2020

Licence Clause	Findings
	<p>A number of PowerPoint training documents that cover drinking water and recycled water quality, and sewerage management has been developed for use as part of the induction process for new staff. These include WICA Licence Plans and Compliance – Induction⁵⁷⁸, Water Operations Incident Management, Reporting and Investigation Procedure⁵⁷⁹, Environmental incidents and POEO Act Compliance⁵⁸⁰, and Introduction to the Framework for Management of Recycled Water Quality and Use⁵⁸¹.</p> <p>Staff competencies are also shown by records of attainment certificates for appropriate industry training, such as Certificate III in Water Industry Management⁵⁸², Instrumentation Customised Training^{583 584 585 586}, and risk management principles⁵⁸⁷.</p> <p>Contractors are site inducted before commencing work under a Visitor and Contractor Induction Procedure⁵⁸⁸. There is a specific Visitor Induction document⁵⁸⁹ to follow, and a more detailed procedure for inducting contractors (including consultants) to Altogether operated sites. This latter procedure includes relevant items such as a Sign In Register [FS-WAT-AUS-FM-WHS-2985], a Site Induction (Operations) presentation⁵⁹⁰ or a Site Induction (Construction) presentation [FS-ALL-AUS-TP-HSEQ-2526], an Induction Questionnaire⁵⁹¹ that instructs inductees to “Complete the induction presentation before completing the remainder of this induction”, and an Induction Register [FS-ALL-AUS-RG-WHS-2219]. Inductees are required to sign an induction sheet to confirm understanding (see information under individual schemes).</p> <p>Sign in and site induction processes were demonstrated at audit interviews.</p> <p>A Recycled Water Policy⁵⁹² and Drinking Water Policy⁵⁹³ exist and are current (reviewed during the audit period). All staff are instructed during induction to go to the onsite control rooms where the policies are to be displayed (observed at site inspections) and to read and ensure that they understand them. The policies are also highlighted and discussed within the WICA Licence Plans and Compliance – Induction⁵⁹⁴ presentation (slide 6), and in the Operations Site Induction⁵⁹⁵ training presentation (slide 36). The BMS Induction⁵⁹⁶ PowerPoint training covers the importance of following the Business Management System so that ISO 9001 for</p>

⁵⁷⁸ WICA Licence Plans and Compliance - Induction.pptx FS-ALL-AUS-TP-OPS-3018 19 June 2019

⁵⁷⁹ Water Operations Incident Reporting and Investigation Training Package.pptx FS-ALL-AUS-TP-HSEQ-3020 (or FS-WAT-NSW-PR-INC-2561) 27 October 2020

⁵⁸⁰ Environmental incidents and POEO Act compliance.pptx FS-ALL-AUS-TP-HSEQ-3021

⁵⁸¹ Framework Training_SUS Team undertaking currently – image of first slide title page RW-FWK-AUS-01

⁵⁸² Shane Dohnt Certificate III.jpg 14 January 2011

⁵⁸³ Certificate Shane Dohnt.pdf - Instrumentation Customised Training 12 November 2020

⁵⁸⁴ Certificate Scott Mutimer.pdf - Instrumentation Customised Training 12 November 2020

⁵⁸⁵ Andrew Horton.pdf - Instrumentation Customised Training 10 February 2021

⁵⁸⁶ Garth Hugo.pdf - Instrumentation Customised Training 10 February 2021

⁵⁸⁷ NWPGEN001 Audrey Killeen.pdf - Apply the risk management principles of the water industry standards, guidelines and legislation 21/01/2021

⁵⁸⁸ Visitor and Contractor Induction Procedure (Controlled COPY).pdf FS-ALL-AUS-PR-HSEQ-1466 Revision: 3 19 July 2020

⁵⁸⁹ Visitor Induction.docx AG-ALL-AUS-TE-HSEQ-2537 Revision: 2 22 February 2021

⁵⁹⁰ Operations Site Induction.pptx FS-ALL-AUS-TP-HSEQ-2647 20 November 2020

⁵⁹¹ Induction Questionnaire FS-ALL-AUS-FM-WHS-1361 Revision: 3 09 April 2020

⁵⁹² Recycled Water Policy AG-WAT-AUS-PO-OPS-1310 Revision: 3 21 July 2020

⁵⁹³ Drinking Water Policy AG-WAT-AUS-PO-OPS-1232 Revision: 2 21 July 2020

⁵⁹⁴ WICA Licence Plans and Compliance - Induction.pptx FS-ALL-AUS-TP-OPS-3018 19 June 2019

⁵⁹⁵ Operations site induction.pptx FS-ALL-AUS-TP-HSEQ-2647 20 November 2020

⁵⁹⁶ BMS Induction.pptx FS-ALL-AUS-TP-HSEQ-3022 15 July 2020

Licence Clause	Findings
	<p>QUALITY management, ISO 14001 for ENVIRONMENTAL management, and ISO 45001 and AS 4801 for SAFETY management accreditations are maintained and that Altogether's vision is achieved. There is a dedicated section for operations staff.</p> <p>There is evidence for site inductions being undertaken, and the sighted Induction Questionnaire⁵⁹⁷ checklist (Induction Part C Induction Acknowledgement dot point 1) includes the text <i>'Have you been advised about safety, environmental or community issues, who to contact in the event of an issue on the site (including project policies and procedures)?'</i>.</p> <p>Central Park Digital images of two examples of contractors completing the Induction Questionnaire on 24 February 2021 were provided. These included Induction Part A – Information and Competency⁵⁹⁸, Induction Part B – Induction Assessment⁵⁹⁹, Induction Part C – Induction Acknowledgement⁶⁰⁰ with date completed and name of induction provider.</p> <p>Huntlee No induction information provided for this audit, indicating no contractor accessed the site.</p> <p>Cooranbong Examples of induction were provided for two contractors on 17/03/2021⁶⁰¹.</p> <p>Discovery Point Digital images of two examples of contractors respectively completing the Induction Questionnaire on 24 March 2021 and 01 April 2021 were provided. These included Induction Part A – Information and Competency⁶⁰², Induction Part B – Induction Assessment⁶⁰³, Induction Part C – Induction Acknowledgement⁶⁰⁴ with date completed and name of induction provider.</p>
	<p>Shepherds Bay No induction information provided for this audit, indicating no contractor accessed the site.</p>
ADWG Element 8	<p>IPART's Audit Initiation Letter identifies the following requirements for Element 8:</p> <ul style="list-style-type: none"> • The scheme retail supplier undertakes consultation with the community, and makes the information available to the network operator consistent with the strategy. • Arrangements are in place and are actively employed. <p>Overall The Drinking Water Quality Plan⁶⁰⁵ ⁶⁰⁶ states that the two-way communications plan includes flyers, welcome packs, welcome calls, website contact, telephone enquiries and emails.</p>

⁵⁹⁷ Induction Questionnaire FS-ALL-AUS-FM-WHS-1361 Revision: 3 09 April 2020

⁵⁹⁸ Induction Part A – Information and Competency - image 20210517_112616 for contractor1 & image 20210517_112758 for contractor2 respectively

⁵⁹⁹ Induction Part B – Induction Assessment - images 20210517_112621 for contractor1 & image 20210517_112802 for contractor2 respectively

⁶⁰⁰ Induction Part C – Induction Acknowledgement - image 20210517_112708 for contractor1 & image 20210517_112807 for contractor2 respectively

⁶⁰¹ Email attachment from Scott Mutimer to Kim Staples on 14 May 2021 4:15pm

⁶⁰² Induction Part A – Information and Competency - images 20210517_094647 for contractor1 & image 20210517_094631 for contractor1 and contractor2 respectively

⁶⁰³ Induction Part B – Induction Assessment - images 20210517_110652 for contractor1 & image 20210517_094637 for contractor2 respectively

⁶⁰⁴ Induction Part C – Induction Acknowledgement - images 20210517_094702 for contractor1 & image 20210517_094642 for contractor2 respectively

⁶⁰⁵ Drinking Water Quality Plan (DWQP) (Controlled COPY) AG-WAT-AUS-PL-OPS-1241 Revision: 13 15 March 2021

⁶⁰⁶ Recycled Water Quality Plan AG-WAT-AUS-PL-OPS-1311 Revision: 17 27 April 2021

Licence Clause	Findings
	<p>Operating and Communications Protocol High Rise Communities⁶⁰⁷ details the protocol for high rise development. The Altogether website⁶⁰⁸ contains a range of information on the use and management of drinking water, the arrangements for drinking water supply, the process for connecting, establishing an account and disconnecting.</p> <p>The Altogether website⁶⁰⁹ contains resources for developers and builders. Resources include checklists⁶¹⁰, and guides for building⁶¹¹, landscaping⁶¹² and land development⁶¹³.</p> <p>The following Welcome Pack records were also provided as evidence of implementation of the community consultation processes:</p> <ul style="list-style-type: none"> • Discovery Point_Welcome Pack.pdf • Huntlee_Welcome Pack.pdf • Shepherds Bay_Welcome Pack.pdf • Central Park_Welcome Pack.pdf • Cooranbong_Welcome Pack.pdf <p>Additional records of communication from the Zendesk database include:</p> <ul style="list-style-type: none"> • Huntlee_Website Contact.pdf • Shepherds Bay_Email.pdf • Shepherds Bay_Phone.pdf • Shepherds Bay_Website contact.pdf • Welcome Calls Audit Information.docx • Central Park_Email.pdf • Central Park_Phone.pdf • Central Park_Website Contact.pdf • Cooranbong_Email.pdf • Cooranbong_Phone.pdf • Cooranbong_Website Contact.pdf • Discovery Point_Email.pdf • Discovery Point_Phone.pdf • Discovery Point_Website contact.pdf <p>Records of Welcome calls undertaken in the audit period include:</p> <ul style="list-style-type: none"> • 81 Kesterton Rise, North Rothbury – 07/04/2021

⁶⁰⁷ Operating and Communications Protocol High Rise Communities (Controlled COPY) AG-WAT-AUS-UG-OPS-1289 Revision 3 23 December 2020

⁶⁰⁸ <https://askus.altogethergroup.com.au/hc/en-us/sections/900001583143-Water> accessed 24/5/2021

⁶⁰⁹ <https://altogethergroup.com.au/building-developing/>

⁶¹⁰ Builders Checklist (Controlled COPY).pdf AG-WAT-NSW-TE-RET-2002

⁶¹¹ Builder's Guide - Water (Controlled COPY).pdf AG-WAT-NSW-UG-RET-1570

⁶¹² Landscapers Guide (Water) (Controlled COPY).pdf AG-WAT-NSW-UG-RET-1964

⁶¹³ Developer Guide - Infrastructure (Water)

Licence Clause	Findings
	<ul style="list-style-type: none"> 15 Johanson Road, Cooranbong – 03/12/2020
ADWG Element 9	<p>IPART's Audit Initiation Letter identifies the following requirements for Element 10:</p> <ul style="list-style-type: none"> Implements program as documented. Validation monitoring is undertaken in accordance with documented processes and procedures to ensure hazards are effectively controlled. Revalidation of processes is done when variations occur. Validation of new equipment and infrastructure is undertaken in accordance with documented processes and procedures to ensure continuing reliability. <p>Overall</p> <p>Altogether receives potable water from Sydney Water and Hunter Water, and undertakes chlorine dosing at the Cooranbong and Huntlee schemes to maintain a chlorine residual in the network.</p> <p>Section 4 of the Monitoring and Sampling Plan⁶¹⁴ states that the offsite validation program is a desktop assessment of the system, and the onsite validation involves verification monitoring as per the MS Prog. As detailed above, in the assessment of Element 5, Altogether is undertaking verification monitoring as scheduled and results generally comply with the water quality criteria.</p>
ADWG Element 10	<p>IPART's Audit Initiation Letter identifies the following requirements for Element 10:</p> <ul style="list-style-type: none"> Appropriate documentation is kept to provide a foundation for maintaining effective drinking water quality management. All documentation relevant to the implementation of the WQP-DW are reviewed and current. Records management system is maintained and records complete. Employees are trained to complete records. Documents are reviewed and revised as necessary. Internal and external reporting is undertaken according to procedures. Annual report is produced. <p>Overall</p> <p>The Drinking Water Quality Plan⁶¹⁵ supporting documents have been updated in the audit period and after the end of the audit period. The document issue record noted the general changes that were made in each revision.</p> <p>Document Control Policy and Procedure⁶¹⁶ states that all BMS documents are controlled using the BMS Library on SharePoint. During the site inspection at Pitt Town, the operator demonstrated the BMS system which included overarching licence plans, site-specific plans and procedures, forms and work instructions.</p> <p>Training in the Document Control Procedures is provided in a PowerPoint presentation⁶¹⁷.</p> <p>In reviewing the documents provide in evidence, the following findings were noted:</p>

⁶¹⁴ 2308 Monitoring and Sampling Plan (MSP)(Controlled COPY).pdf AG-WAT-AUS-PL-OPS-1288

⁶¹⁵ Drinking Water Quality Plan (DWQP) (Controlled COPY) AG-WAT-AUS-PL-OPS-1241 Revision: 13 15 March 2021

⁶¹⁶ Document Control Policy and Procedure (Controlled COPY AG-ALL-AUS-PO-HSEQ-1234 revision 6 19/1/2021

⁶¹⁷ BMS Document Control Training.pptx AG-ALL-AUS-TP-HSEQ-3178

Licence Clause	Findings
	<ul style="list-style-type: none"> The footer on the LWC Control System Change Management policy⁶¹⁸ is inconsistent with the document control properties. Some of the Stakeholder contacts lists were not reviewed by the due date. A number of the scheme management plans have errors in the fields and captions. <p>REC-DW-2021-007 Establish review processes to ensure all documents are reviewed on time and do not have typographical and hyperlink errors.</p> <p>Details of annual reports are provided for each scheme below.</p>
	<p>Central Park CPW_IPART NOL Annual Report 2019-2020⁶¹⁹ contains detail of one non-compliance during the 19/20 financial year. Schedule B was not provided.</p>
	<p>Huntlee HW_IPART NOL Annual Report 2019-2020⁶²⁰ states that there were no non-compliances. Schedule B was not provided.</p>
	<p>Cooranbong CW_IPART NOL Annual Report 2019-2020⁶²¹ states that there were no non-compliances. Schedule B was not provided.</p>
	<p>Discovery Point DPW_IPART NOL Annual Report 2019-2020⁶²² includes non-compliances with the monitoring program in the audit period.</p>
	<p>Shepherds Bay FSO SB_IPART NOL Annual Report 2019-2020⁶²³ includes non-compliances with the monitoring program in the audit period.</p>
ADWG Element 11	<p>IPART's Audit Initiation Letter identifies the following requirements for Element 11:</p> <ul style="list-style-type: none"> Evaluation of long-term data is undertaken and results reviewed. Problems from long-term data evaluation are identified and addressed. Internal audit undertaken at planned intervals. Audit results are documented and communicated. <p>Overall</p> <p>The Drinking Water Quality Plan⁶²⁴ states that annual long-term evaluation of data will be undertaken at the same time as the annual report is prepared and identifies the Altogether Lab data Results Viewer. During the audit, Altogether demonstrated the Power BI database that is also used to undertake an evaluation of data.</p>

⁶¹⁸ LWC Control System Management of Change Policy (CONTROLLED COPY) Revision 3 27 April 20120

⁶¹⁹ CPW_IPART NOL Annual Report 2019-2020 (1).pdf

⁶²⁰ HW_IPART NOL Annual Report 2019-2020 (1).pdf

⁶²¹ CW_IPART NOL Annual Report 2019-2020 (1).pdf

⁶²² DPW_IPART NOL Annual Report 2019-2020 (1).pdf

⁶²³ FSO SB_IPART NOL Annual Report 2019-2020 (1).pdf

⁶²⁴ Drinking Water Quality Plan (DWQP) (Controlled COPY) AG-WAT-AUS-PL-OPS-1241 Revision: 13 15 March 2021

Licence Clause	Findings
	<p>The risk assessment is reviewed internally annually and externally every two years, and this includes a data analysis component (a recommendation has been made to standardise this process).</p> <p>Altogether has an Audit Procedure⁶²⁵ that outlines the audit process. An Internal Audit Calendar⁶²⁶ was shown that outlined the audits that should be undertaken. The audit procedure indicates that the outcomes of internal audits should go onto an action register. During the audit, Altogether explained that this is the Water Quality Improvement Plan, however the actions from internal audits had not been captured on the improvement plan, there was no evidence the actions had been allocated to a responsible person, progress tracked, or closed out. It is noted that some audit findings were closed out on the day of the audit, however ones that were not closed out were not captured in an action register or on the Water Quality Improvement Plan. A recommendation has been made to ensure the audit process is implemented as documented.</p> <p>REC-DW-2021-008 Develop a process to capture and track the progress in implementing recommendations from internal audits on an action register or improvement program, as required by the procedure.</p> <p>Central Park Internal Audit_WICA Scheme Specific_Reduced Scope_Central Park_12Aug20 provided</p> <p>Huntlee No internal audit record was provided for this scheme, as one was not undertaken, and was not required under the Internal Audit Calendar</p> <p>Cooranbong No audit record was provided for this scheme, as one was not undertaken, and was not required under the Internal Audit Calendar</p> <p>Discovery Point Internal Audit_WICA Scheme Specific_Reduced Scope_Discovery Point_12Aug20 provided</p> <p>Shepherds Bay Internal Audit_WICA Scheme Specific_Reduced Scope_Shepherds Bay_12Aug20 provided</p>
Element 12	<p>IPART's Audit Initiation Letter identified the following requirements for Element 12:</p> <ul style="list-style-type: none"> • Effectiveness of the management system is reviewed by senior managers, and the need for change is evaluated. • Decisions and actions by senior management are documented. • The improvement plan is implemented according to the plan. • The improvement plan is communicated and implemented, and improvements are monitored for effectiveness. <p>Overall</p> <p>The Drinking Water Quality Plan⁶²⁷ refers to the Management Review Procedure⁶²⁸ as the document that outlines management review processes. This procedure identifies monthly meetings and an annual management review meeting as the relevant process.</p>

⁶²⁵ 2352 Audit Procedure (Controlled COPY).pdf AG-ALL-AUS-PR-R&C-1364

⁶²⁶ Internal Audit Calendar - Water

⁶²⁷ Drinking Water Quality Plan (DWQP) (Controlled COPY) AG-WAT-AUS-PL-OPS-1241 Revision: 13 15 March 2021

⁶²⁸ 2750 Management Review Procedure (Controlled COPY).pdf FS-ALL-AUS-PR-HSEQ-1430

Licence Clause	Findings
	<p>Monthly Risk and Compliance reports^{629 630 631 632} are prepared, providing an overview of compliance and the implementation of the water quality plans and other management systems under the licence.</p> <p>The Management Review Report⁶³³ was prepared in September 2020 and provides the summary and review of performance over the 2019/2020 Financial Year.</p> <ul style="list-style-type: none"> • Att 3.1_Flow High Rise Risk Workshop Outcomes Summary Rev1 FINAL • Att 3.2_Flow Land Housing Risk Workshop Outcomes Summary Rev1 FINAL • Att 3.3_SUS Compliance Program 200728 • Att 3.4_HSE Report_FY19_20 • Att 3.5_Flow Regulatory and Policy Agenda - Water_FY19_20 • Att 3.6_Compliance Change Register July 2020 • Att 3.7_Annual Internal Audit Programme 2019-20 • Att 3.8_Compliance Calendar 2019 • Att 3.9_Compliance Calendar 2020_Jun 20 • Att 3.10_Flow Risks Risk Register <p>Improvement Plan</p> <p>The Water Quality Improvement Plan⁶³⁴ was provided and discussed in the audit. Inputs to the plan are documented on the 'Lists Ops' tab and include activities such as the risk register, Licence plan review and audit.</p> <p>There were many items on the register that do not have a completion date, and this makes it difficult to audit its implementation.</p> <p>A recommendation has been made to improve the documentation of the improvement plan to ensure that it is implemented.</p> <p>REC-DW-2021-009 Ensure all items on the Improvement Plan have been allocated to a responsible party, communicated, and due dates have been applied.</p>

⁶²⁹ Altogether R&C Monthly Report_Jan 2021_Rev2

⁶³⁰ Altogether R&C Monthly Report_Mar 2021_Rev3

⁶³¹ R&C Monthly Report_August 2020_v2

⁶³² R&C Monthly Report_November 2020

⁶³³ Management Review Report FY 19_20

⁶³⁴ WQP Improvement Plan

Table 6 Water Quality Plan - Sewage

Licence Clause	Findings
WIC Reg Sch 1 cl. 14(3)	<p>A network operator must ensure its sewage management plan is fully implemented and kept under regular review and all its activities are carried out in accordance with the plan.</p> <p>Note: no direction received from Minister to amend plans.</p>
	<p>IPART's audit initiation letter did not provide any specific requirements for the Sewage Management Plan.</p> <p>The audit has found that Altogether has generally implemented its Sewage Management Plan, however, the risk assessment methodology has not been applied consistently. As the risk assessment forms the basis of the Sewage Management Plan, Altogether was found to be non-compliant non-material. The non-compliance is considered non-material as the deficiency does not impact on the implementation of risk management activities for the management of sewage.</p> <p>The Sewage Management Plan⁶³⁵ (Sewage MP) was reviewed and updated in January 2021 and rebranded in March 2021. Prior to this, the Sewage MP has not been updated since December 2018. The Sewage MP identifies the Critical Document Review Calendar⁶³⁶ for the review requirements. The Critical Document Review Calendar indicates that the Sewage MP should be reviewed annually. The annual review was not undertaken in 2019 or 2020.</p> <p>The sewage layout for each scheme is identified in Sewage System Flow Diagrams and the scheme characteristics are generally described in the scheme specific management plans. The Sewage MP states that the flow diagrams are verified by Field Audits Records are maintained in the Document control system. During the audit it was discussed that the results of the audit are noted when changes to the flow diagram are made, and this is noted in the documents control/version history table. Additionally, if there is a change to a scheme, a field audit is undertaken and documented on the process flow diagram.</p> <p>The Sewage MP identifies the AGWR as the reference for the risk assessments, and the approach identified in the RWQP. The RWQP identifies the Risk Assessment Protocol for Water Products and Services⁶³⁷ (the RAP) as the documented process for undertaking risk assessments. The RAP states that internal risk reviews will be undertaken annually, and external risk reviews will be undertaken biennially.</p> <p>The risk assessment includes the assessment of health and environmental risks in relation to sewage activities. In addition to the risk assessments, the Sewage MP states that ecological assessments will be undertaken as a part of development consent. The risk register for each scheme indicates that in July 2020, an internal risk review workshop was undertaken, and a risk review workshop was undertaken with NSW Health in August 2020. The document control properties identify the new risks that were added to the risk register, and the risks that were deleted are shown as a strike through in the register. In April 2021, a recycled water and sewage risk assessment covering the eight schemes was undertaken to address new risks and audit findings. Evidence includes the briefing pack⁶³⁸, recycled water risk register⁶³⁹ and updated sewage risk register⁶⁴⁰.</p>

⁶³⁵ Sewage Management Plan (Sewage MP) (Controlled COPY) AG-WAT-AUS-PL-OPS-1328 Revision 9 16 March 2021

⁶³⁶ Critical Document Review Calendar 20-21

⁶³⁷ Risk Assessment Protocol for Water Products and Services FS-WAT-NSW-PR-OPS-2466 Revision: 3 16 August 2020

⁶³⁸ Recycled Water & Sewage Risk Workshop Briefing Pack Apr2021

⁶³⁹ Updated risks_Recycled water risk register

⁶⁴⁰ Updated risks_Sewage risk register

	<p>The RAP includes consequence and likelihood descriptors that should be applied when assessing risk. The RAP states in Table 2 that ‘Health risks on the sewage and recycled water risk registers are assessed using the AGWR matrix’. When reviewing the matrix, in the RAP, it was found that it was not consistent with the AGWR as the minor and negligible consequence descriptors in the RAP appear to exclude health impacts as detailed below:</p> <ul style="list-style-type: none"> • Minor ranking – Health impact minor - possible aesthetic or amenity impact, population impact small, isolated part of the scheme (zone or street) • Insignificant ranking – Health impact negligible - undetectable impact (normal operations) population impact small, isolated part of the scheme (zone or street) <p>Altogether has advised verbally and in emails that these consequence categories do not exclude health impacts, however this is not clear from reading the documents.</p> <p>It is noted that in the live consultation register⁶⁴¹, NSW Health provided comments on the risk assessment that do not appear to have been taken into consideration. NSW Health indicated ‘<i>Generally it is not appropriate to change the consequence in assessing risk. Controls address the likelihood; i.e. the likelihood is reduced but the consequence remains the same</i>’ however there are many instances in the risk register where this advice has not been followed and the control measures do not appear to reduce the consequence but the residual consequence has been reduced (refer to findings of the risk assessment below).</p> <p>There are instances where health consequences have been reduced, when it is unclear how the control measures reduce the health impact, for example, there are two risks in the Box Hill Risk register (SC1.4, SC1.5) that include human contact with wastewater causing a <i>public health impact</i>, that are reduced from possible/ moderate to rare/minor. It is noted that the controls may reduce the instance of this occurring, but it is not clear how the controls reduce the consequence of a public health impact due to wastewater contact. Additionally, as noted in the recycled water audit findings, frequency descriptors were not consistently applied. For example, Box Hill Scheme Risk Register⁶⁴² was provided. Box Hill has had 4 uncontained sewer overflows that have occurred within the immediate local environment. SC1.1 Infiltration/inflow in private on-lot plumbing leading to overflow leading to contamination of immediate local environment and contamination of downstream water. SC1.2 and 1.3 also relate to overflows to the local environment. The frequency for the residual risk is assessed as unlikely (could occur within 20 year or in unusual circumstances). This is not consistent with the number of overflows that have occurred and have affected the immediate local environment.</p> <p>A recommendation has been made to ensure the documented risk assessment methodology has been consistently implemented.</p> <p>REC-Sewage-2021-001 Review the risk assessments or risk assessment methodology to ensure that consequence values align with the risk being assessed, for example, where the consequence descriptor is limited to aesthetic or undetectable, these cannot be attributed to a risk that has an acute health impact. Frequencies should also be applied taking into consideration historical performance and the occurrence of incidents. Any reduction in consequence should be justified.</p> <p>Control measures identified in the risk assessment include:</p> <ul style="list-style-type: none"> • Robust contracts for managing sewage spills • Tankering company to lower levels in preparation for rainfall events
--	--

⁶⁴¹ LIVE_Register_Consultation with NSW Health

⁶⁴² Box Hill Scheme Risk Register BH-WAT-NSW-RG-OPS-2486 V3.3 20 October 2020

	<p>The Operation of FBT and RWTs Procedure⁶⁴³ includes processes such as reviewing weather forecasts, and monitoring of daily sewage volumes to preventively organise tankers when required to maintain continuity of sewage services. Altogether provided the Services Agreement⁶⁴⁴ for Staples, the sewage tankering company. The contract includes the scope of services and the approved locations, and requirements for the delivery of the service.</p> <p>The Responding to Sewage Overflow Procedure⁶⁴⁵ outlines the procedure for dealing with a sewage overflow to limit or reduce environmental and health impacts. The procedure includes reporting and actions to be taken for contained and uncontained overflows. It was discussed that approved contractors, such as Staples were also used for pumping out sewage spills when required.</p> <p>The Unplanned Outages Procedure⁶⁴⁶ details the actions to be taken for an unplanned outage of the sewage services to ensure continued provision of services.</p> <p>Altogether showed a new operating protocol developed outside the audit period for Pitt Town (4 May 2021) which includes:</p> <ul style="list-style-type: none"> • Dry weather balance monitoring • Wet weather 70% trigger for sewage pump out for on lot systems • When storm mode is triggered, Altogether will form an incident team and commence tankering <p>Section 9 of the Sewage MP details the approach to waste disposal. Wastes relevant to Altogether's schemes include:</p> <ul style="list-style-type: none"> • Grit and screenings • Sludge • Brine • Drums and containers • Chemical wastes • Oil <p>The Sewage MP identifies the records of waste removal from site to be include:</p> <ul style="list-style-type: none"> • Time and date • Volumes • Classification • Transport company • Reuse/disposal locations <p>During the audit it was discussed that Staples transport sewage and sludge and the contract was provided. Veolia undertakes the rubbish bin pick up for Box Hill, Huntlee, Cooranbong and Pitt Town. Local council pick up is used for waste in wheelie bins. Trade waste agreements with Sydney Water and Hunter Water for sewage</p>
--	---

⁶⁴³ Operation of FBT and RWTs (Controlled COPY) AG-WT-NSW-PR-OPS-2634 20 April 2021

⁶⁴⁴ Flow Tankering Services Agreement - Staples

⁶⁴⁵ Responding to Sewage Overflows (Controlled COPY) AG-WT-NSW-PR-OPS-2724 22 April 2021

⁶⁴⁶ Unplanned Outages Procedure (Controlled COPY) AG-WAT-AUS-PR-OPS-2566 22 April 2021

	<p>and cleaning from membranes. Chemical suppliers pick up empty containers. Contractors using oils and lubricants take the waste with them. Records for sludge removal include:</p> <ul style="list-style-type: none"> • Box Hill January 2021⁶⁴⁷ • Cooranbong January 2021⁶⁴⁸ • Cooranbong November 2020⁶⁴⁹ • Huntlee February 2021⁶⁵⁰ • Pitt Town April 2021⁶⁵¹ <p>The records include the transport company, the volume, the date and the destination (Hornsby), but does not include the time. The transporter docket does not have a space for time.</p> <p>OFI -Sewage-2021-001 Consider amending the Sewage MP to reflect the contractor's record keeping, or request that the contractor records the time on the docket.</p>
--	--

Table 7 Network Operators Licence Clauses

Clause	Requirement	Findings
NOL Sch A cl 2.2	<p>The Licensee must:</p> <p>a) fully implement the Operational Procedures (as noted in NOL Sch A, cl 2.1);</p> <p>b) ensure that all of its activities are carried out in accordance with the Operational Procedures; and</p> <p>c) keep records to demonstrate the extent to which the Operational Procedures have been implemented and complied with.</p> <p>DP, CP, CO (Clause 6.1, 6.2), SB (5.1, 5.1), GS (3.1, 3.2) BH, HU, PT - no requirement</p> <p>Cl 2.1 of the Central Park NOL states: The Licensee must develop and document, consistent with element 4 of the Australian Guidelines for Water Recycling, the following Operational Procedures:</p>	<p>The network operators' licenses (NOL) for the 8 schemes address this requirement slightly differently, and some NOL's (Box Hill, Huntlee and Pitt Town) do not have this requirement, however as part of the assessment of the water quality plans, operational procedures were audited for all schemes. For reference:</p> <p><i>Cl 2.1 of the Central Park NOL states:</i></p> <p><i>The Licensee must develop and document, consistent with element 4 of the Australian Guidelines for Water Recycling, the following Operational Procedures:</i></p> <p><i>a) Monitoring protocols for operational performance of the recycled water supply system, including the selection of operational parameters and criteria, and the routine analysis of results;</i></p> <p><i>b) Procedures for corrective action where operational parameters are not met;</i></p> <p><i>c) Procedures for rapid communication systems to deal with unexpected events; and</i></p>

⁶⁴⁷ Box Hill Sludge January 2021

⁶⁴⁸ Cooranbong sludge Jan 2021

⁶⁴⁹ Cooranbong Sludge Nov 2020

⁶⁵⁰ Huntlee Sludge 210209

⁶⁵¹ Pitt Town Sludge Dockets April 2021

Clause	Requirement	Findings
	<p>a) Monitoring protocols for operational performance of the recycled water supply system, including the selection of operational parameters and criteria, and the routine analysis of results;</p> <p>b) Procedures for corrective action where operational parameters are not met;</p> <p>c) Procedures for rapid communication systems to deal with unexpected events; and</p> <p>d) Programs for regular inspection and maintenance of all equipment, including monitoring equipment.</p>	<p><i>d) Programs for regular inspection and maintenance of all equipment, including monitoring equipment.</i></p> <p>Altogether was found to have implemented the procedures required under the relevant licence clauses and was found to be compliant with this requirement.</p> <p>Monitoring protocols</p> <p>Monitoring and Sampling Plan⁶⁵² (MSP) outlines the general approach to the operational monitoring of all schemes and this is translated into the scheme specific Monitoring and Sampling Programs (MS Progs). Critical control points (CCPs) are established with critical limits that identify the acceptable range. CCPs are monitored online using SCADA and the implementation of the off-specification bypass is automatically triggered. Operators also undertake a weekly CCP check, via a work order, which operators demonstrated during the site inspections at Box Hill and Pitt Town. During the audit, the SCADA systems were demonstrated and implementation of the operational monitoring was demonstrated, with additional work order records to prove grab sampling was undertaken for recycled water.</p> <p>Corrective Actions</p> <p>CCP tables detail the corrective actions to be taken when critical limits are exceeded, and the LWC's are designed to initiate automatic corrective actions by diverting to the off-specification bypasses. These were demonstrated during the audit.</p> <p>Additionally, procedures that details corrective actions in response to events are documented including the following examples:</p> <ul style="list-style-type: none"> • Operation of FBT and RWTs Procedure⁶⁵³. • Responding to Sewage Overflow Procedure⁶⁵⁴ • Unplanned Outages Procedure⁶⁵⁵ <p>Rapid Communication</p>

⁶⁵² Monitoring and Sampling Plan (MSP)(Controlled COPY) AG-WAT-AUS-PL-OPS-1288 Revision 15 13 April 2021

⁶⁵³ Operation of FBT and RWTs (Controlled COPY) AG-WT-NSW-PR-OPS-2634 20 April 2021

⁶⁵⁴ Responding to Sewage Overflows (Controlled COPY) AG-WT-NSW-PR-OPS-2724 22 April 2021

⁶⁵⁵ Unplanned Outages Procedure (Controlled COPY) AG-WAT-AUS-PR-OPS-2566 22 April 2021

Clause	Requirement	Findings
		<p>The Incident Notification Protocol with NSW Health⁶⁵⁶ was updated in February 2021 and includes the contact details of the relevant Public Health Units to be notified for each scheme.</p> <p>The Internal Incident Contact Register⁶⁵⁷ was last updated on 15 April and the document contains track changes showing that it was last updated on 26 February 2021, providing an indication that the register has been reviewed. The register includes internal contact for emergencies at each scheme and for different types of emergencies.</p> <p>Altogether has developed Recycled Water out of Specification Work Instructions for each scheme during the audit period. These work instructions detail the processes for rapidly notifying external stakeholders when there is contamination detected after the point of supply.</p> <p>Inspection and Maintenance</p> <p>The Infrastructure Operating Plan⁶⁵⁸ (IOP) was first developed in 2014, the Document Issue Record indicates that the IOP was last updated on 18/3/21. The IOP describes a range of processes for ensuring continuity of supply of drinking, recycled and sewage services. Including planned and reactive inspections and maintenance.</p> <p>During the audit, the Computerised Maintenance Management System (CMMS) was shown in the audit, which included all assets and the work orders for inspections and maintenance.</p> <p>Records of inspection and maintenance were provided for each scheme as previously detailed.</p>
NOL Sch B cl.7.1	The Licensee must undertake any monitoring that is required for the purposes of this Licence, any Plan, the Act or the Regulation in accordance with this clause 7.	Altogether was found to have implemented the monitoring required under the relevant licence clauses and was found to be compliant with this requirement.

⁶⁵⁶ Incident Notification Protocol with NSW Health (Controlled COPY) AG-ALL-NSW-PR-INC-1277 Revision 9 26 February 2021

⁶⁵⁷ Internal Incident Contact Register AG-ALL-AUS-RG-INC-2563 Version 5.1 15 April 2021

⁶⁵⁸ Operating Plan (IOP) (Controlled COPY) AG-WAT-NSW-PL-OPS-1279 18/3/21.

Clause	Requirement	Findings
		<p>Monitoring and Sampling Plan⁶⁵⁹ (MSP) outlines the general approach to the operational and verification monitoring of all schemes and this is translated into the scheme specific Monitoring and Sampling Programs (MS Progs).</p> <p>Altogether demonstrated the SCADA system during the audit for all 8 schemes, and provided weekly CCP checklists as evidence of grab sampling being undertaken.</p> <p>The Verification Data extract⁶⁶⁰ provided evidence that the verification monitoring program is implementation and sampling was undertaken as scheduled.</p>
NOL Sch B cl.7.2	The Licensee must keep the following records of any samples taken for monitoring purposes specified in the Water Quality Plan: a) the date on which the sample was taken; b) the time at which the sample was collected; c) the point or location at which the sample was taken; and d) the chain of custody of the sample (if applicable).	<p>Altogether was found to have kept the records of the monitoring required under the relevant licence clauses and was found to be compliant with this requirement.</p> <p>Verification Data extract provides a compilation of all verification monitoring taken in the audit period, and includes the date and time sampled and location of the sample point. The data extract also includes the Eurofins batch number, and date batch received by the lab.</p>
NOL Sch B cl.7.3	The Licensee must ensure that analyses of all samples taken for the purposes of Verification Monitoring are carried out by a laboratory accredited for the specified tests by an independent body that is acceptable to NSW Health, such as the National Association of Testing Authorities or an equivalent body.	<p>Altogether was found to have water quality analysis undertaken by a NATA accredited laboratory required under the relevant licence clauses and was found to be compliant with this requirement.</p> <p>A search of the NATA website⁶⁶¹ for the Eurofins Laboratory had the following accreditations:</p> <ul style="list-style-type: none"> • ISO/IEC 17025 (2017) for recycled water for cyanide elements, hydrocarbons, nutrients, organochlorine pesticides. • ISO/IEC 17025 (2017) waters for potable and domestic purposes for elements, phenols, hydrocarbons, industrial chemicals, pesticide contaminants, physical and nutritional characteristics. <p>Eurofins Melbourne⁶⁶²:</p>

⁶⁵⁹ Monitoring and Sampling Plan (MSP)(Controlled COPY) AG-WAT-AUS-PL-OPS-1288 Revision 15 13 April 2021

⁶⁶⁰ Extract Altogether Group Eurofins Data

⁶⁶¹ https://www.nata.com.au/entity_scope/?AccNo=1261&q1=e21&str=organochlorine%20pesticides&&BEName=eurofins accessed 29/6/2021

⁶⁶² https://www.nata.com.au/entity_scope/?AccNo=20293&q1=inv&str=clostridium&&BEName=eurofins accessed 29/6/2021

Clause	Requirement	Findings
		<ul style="list-style-type: none"> Industrial waters - Treated, recirculating; Marine waters; Sewage; Potable waters for <i>Campylobacter spp.</i>; <i>Clostridium perfringens</i>; <i>Clostridium spp.</i> (including spores of sulfite reducing <i>Clostridia</i>); <i>Enterococci</i>; <i>Escherichia coli</i>; <i>Pseudomonas aeruginosa</i>; <i>Salmonella spp.</i>; Coliforms; Coliforms - Thermotolerant; <i>Enterococci</i>; <i>Escherichia coli</i>; Bacteriophage - F-specific; Bacteriophage - Somatic;

Table 8 Infrastructure Operating Plan

Licence Clause	Obligation	
WIC Reg Sch 1 cl. 6(1) Water	<p>Before commencing to operate water infrastructure commercially, the licensed network operator for the infrastructure must prepare, and forward to IPART, an infrastructure operating plan that indicates the arrangements that the licensee has made, or proposes to make, in relation to:</p> <ul style="list-style-type: none"> a) the design, construction, operation and maintenance of the infrastructure, including particulars as to the lifespan of the infrastructure, the system redundancy built into the infrastructure and the arrangements for the renewal of the infrastructure, and b) the continued safe and reliable performance of the infrastructure, and c) the continuity of water supply, and d) alternative water supplies when the infrastructure is inoperable, and e) the maintenance, monitoring and reporting of standards of service. 	<p>Altogether was found to have prepared an IOP that meets the requirements of the licence clause and was found to be compliant with WIC Reg Sch 1 cl. 6(1).</p> <p>The Infrastructure Operating Plan⁶⁶³ (IOP) was first developed in 2014. The Document Issue Record indicates that the IOP was last updated on 18/3/21.</p> <p>Asset Management Plan⁶⁶⁴ (AMP) was first developed in January 2015 and was last updated in 14/4/2021, but had not been updated since November 2018. The annual review was not taken in 2019 or 2020. The AMP is currently under a complete review as documented in 3608-68-MEMO-Review and advise on best practice AM-v01-02⁶⁶⁵.</p> <p>The design criteria standards and codes for infrastructure are in Section 2 of the IOP. Standards are communicated to the developers and contractors in the builders and developers guides including guides for Builders⁶⁶⁶,</p>

⁶⁶³ Operating Plan (IOP) (Controlled COPY) AG-WAT-NSW-PL-OPS-1279 18/3/21.

⁶⁶⁴ Asset Management Plan (AMP) (Controlled COPY) AG-WAT-AUS-PL-OPS-1219 14/4/2021

⁶⁶⁵ 3608-68-MEMO-Review and advise on best practice AM-v01-02

⁶⁶⁶ Builders Guide (Water) AG-WAT-NSW-UG-RET-1570 Revision: 3 16 April 2021

Licence Clause	Obligation	
		<p>Landscapers⁶⁶⁷, Electricians⁶⁶⁸ and Plumbers⁶⁶⁹. A builder's checklist⁶⁷⁰ also exists and a Developer Guide - Infrastructure (Water)⁶⁷¹.</p> <p>The Altogether Infrastructure Growth team identifies the requirements for land releases. Infrastructure planning occurs in the initial stages in consultation with the developer.</p> <p>Asset condition ratings are identified in Table 3 of IOP and includes attributing a criticality factor for each asset. Plants are designed on a duty standby mode and preventive maintenance is the tool by which Altogether is assessing maintenance requirements.</p> <p>The IOP indicates that an asset replacement program will be established and will be informed by a capital works operational analysis and inspection of critical assets. An asset register will be created and stored in CMMS, which will include the history of all maintenance and an inventory of all spare parts.</p> <p>The IOP describes a range of processes for ensuring continuity of supply of drinking, recycled and sewage services. Including:</p> <ul style="list-style-type: none"> • Unplanned Outages Procedure⁶⁷² • Utilities Services Agreement • Planned maintenance.
WIC Reg Sch 1 cl. 6(2) Water	<p>The network operator must ensure that the infrastructure operating plan is fully implemented and kept under regular review and all of the network operator's activities are carried out in accordance with that plan.</p> <p>Note: no direction received from Minister to amend plans</p>	<p>Altogether was found to have implemented the IOP and was found to be compliant with WIC Reg Sch 1 cl. 6(2).</p> <p>During the audit, Altogether demonstrated the CMMS which included and</p> <ul style="list-style-type: none"> • Asset Hierarchy and Structure for each scheme and scheme components.

⁶⁶⁷ Landscapers Guide (Water) AG-WAT-NSW-UG-RET-1964 Revision: 2 21 December 2020

⁶⁶⁸ Electricians Guide (Water) AG-WAT-NSW-UG_PRD-1572 Revision: 2 22 December 2020

⁶⁶⁹ Plumbers Guide AG-WAT-NSW-UG-RET-1571 Revision: 2 23 December 2020

⁶⁷⁰ Builders Checklist (Controlled COPY).pdf AG-WAT-NSW-TE-RET-2002 Revision:2 18 December 2020

⁶⁷¹ Developer Guide - Infrastructure (Water) (Controlled COPY).pdf AG-WAT-AUS-UG- PRD-1888 Revision 7: 08 March 2021

⁶⁷² Unplanned Outages Procedure (Controlled COPY) AG-WAT-AUS-PR-OPS-2566 22 April 2021

Licence Clause	Obligation
	<ul style="list-style-type: none"> Addresses that have been connected to the system. The example shown was Box Hill 10 Annear Street showing the pumps and controllers, recycled water meters, tanks and other assets. This included a record of pump runs through a recent storm and a pre-connection inspection in Nov 2020 undertaken by the contractor. Asset condition ratings for each asset shown as a percentage, an example shown was the Membrane tank at Central Park 1000953 (Equipment number is TK2450) that has a condition rating of 85%. Asset criticality was observed for a range of asset types. The CMMS forms the asset register identified in the IOP. <p>Planned Maintenance</p> <p>Altogether provided the following records demonstrating the implementation of planned maintenance.</p> <p>Box Hill</p> <ul style="list-style-type: none"> Work_Order 033166⁶⁷³ Monthly Primary Screen Condition and Maintenance Work_Order 035935⁶⁷⁴ Weekly Operations and Maintenance Check included the task <i>'Maintenance and operational monitoring checklist in accordance with the LWC O&M Manual and relevant OEM Manuals'</i> and was completed by the due date (1/2/2021). Work_Order 032070⁶⁷⁵ UV Condition Assessment included the task <i>'Monthly Control Points to do on UV Reactor & Equipment in accordance with the LWC O&M Manual and OEM Manuals'</i>. This was due to be completed by 28/07/2020 and was closed out by 21/07/2020. Work_Order 033034⁶⁷⁶ Weekly Diesel Generator Test Run and check. <p>Central Park</p>

⁶⁷³ Work_Order 033166 Monthly Primary Screen Condition and Maintenance BH.pdf"

⁶⁷⁴ Work_Order 035935 Weekly Operations and Maintenance Check BH.pdf

⁶⁷⁵ Work_Order 032070 UV Condition Assessment BH.pdf"

⁶⁷⁶ Work_Order 033034 Weekly Diesel Generator Test Run and check BH.pdf

Licence Clause	Obligation
	<ul style="list-style-type: none"> Work_Order 031835⁶⁷⁷ Blower 6 Monthly Planned Maintenance required '6 Monthly Control Points to do on Rotary Blower in accordance with the LWC O&M Manual and OEM Manuals' was completed by the due date. Work_Order 037263⁶⁷⁸ Membrane Condition Assessment Monthly Control Points to do on Membrane Operating System, completed 16/4/2021. Work_Order 037302⁶⁷⁹ Weekly Primary Screen Condition Assessment CP.pdf Work_Order 037402⁶⁸⁰ Weekly Operations and Maintenance Assessment CP.pdf Work Order 031835⁶⁸¹ Attachment Job card was a job undertaken by an external contractor or a 6-month minor service and safety check to a blower unit. <p>Cooranbong</p> <ul style="list-style-type: none"> Work_Order 033492⁶⁸² Weekly Operations and Maintenance Checklist 9 Sept 2020.pdf Work_Order 033641⁶⁸³ Weekly Diesel Generator 14 Sept 2020.pdf Work_Order 034904⁶⁸⁴ Monthly Primary Screen CB.pdf Invoice_9047881_00501⁶⁸⁵ (002) Chubb Fire Extinguisher and Annual Shower Cooranbong.pdf Work_Order 031501⁶⁸⁶ Fire Extinguisher and Safety shower eye wash inspection CB.pdf

⁶⁷⁷ Work_Order 031835 Blower 6 Monthly Planned Maintenance CP.pdf

⁶⁷⁸ Work_Order 037263 Membrane Condition Assessment CP.pdf

⁶⁷⁹ Work_Order 037302 Weekly Primary Screen Condition Assessment CP.pdf

⁶⁸⁰ Work_Order 037402 Weekly Operations and Maintenance Assessment CP.pdf

⁶⁸¹ Work Order 031835 Attachment Jobcard_For_Job_No_21533_06-07-2020_0916 Central Park.pdf

⁶⁸² Work_Order 033492 Weekly Operations and Maintenance Checklist 9 Sept 2020.pdf

⁶⁸³ Work_Order 033641 Weekly Diesel Generator 14 Sept 2020.pdf

⁶⁸⁴ Work_Order 034904 Monthly Primary Screen CB.pdf

⁶⁸⁵ Invoice_9047881_00501 (002) Chubb Fire Extinguisher and Annual Shower Cooranbong.pdf

⁶⁸⁶ Work_Order 031501 Fire Extinguisher and Safety shower eye wash inspection CB.pdf

Licence Clause	Obligation
	<p>Discovery Point</p> <ul style="list-style-type: none"> Work_Order 034479⁶⁸⁷ Weekly Site Operations and Maintenance checklist DP.pdf Work_Order 036482⁶⁸⁸ Primary Screen Active Condition and Maintenance DP.pdf Work_Order 033749⁶⁸⁹ Poly Chemical Storage Tank Condition and Maintenance DP.pdf Work_Order 034472⁶⁹⁰ UV Active Condition and Maintenance External Contractor DP <p>Green Square</p> <ul style="list-style-type: none"> Work_Order 037344⁶⁹¹ Passive Condition Ladder Assessment Green Square.pdf Work_Order 032150⁶⁹² Passive Maintenance Inlet Penstock Green Square.pdf Work_Order 037102⁶⁹³ Weekly Compressor Condition and Maintenance Green Sqaure.pdf Work_Order 037207⁶⁹⁴ Site Weekly Maintenance Checklist Green Square.pdf <p>Huntlee</p> <ul style="list-style-type: none"> Work_Order 033026⁶⁹⁵ Odour Control Weekly Condition and Maintenance HU.pdf

⁶⁸⁷ Work_Order 034479 Weekly Site Operations and Maintenance checklist DP.pdf

⁶⁸⁸ Work_Order 036482 Primary Screen Active Condition and Maintenance DP.pdf

⁶⁸⁹ Work_Order 033749 Poly Chemical Storage Tank Condition and Maintenance DP.pdf

⁶⁹⁰ Work_Order 034472 UV Active Condition and Maintenance External Contractor DP

⁶⁹¹ Work_Order 037344 Passive Condition Ladder Assessment Green Square.pdf

⁶⁹² Work_Order 032150 Passive Maintenance Inlet Penstock Green Square.pdf

⁶⁹³ Work_Order 037102 Weekly Compressor Condition and Maintenance Green Sqaure.pdf

⁶⁹⁴ Work_Order 037207 Site Weekly Maintenance Checklist Green Square.pdf

⁶⁹⁵ Work_Order 033026 Odour Control Weekly Condition and Maintenance HU.pdf

Licence Clause	Obligation	
		<ul style="list-style-type: none"> Work_Order 033360⁶⁹⁶ Monthly Volute Dehydrator Sept 2020 Huntlee.pdf Work_Order 034007⁶⁹⁷ Weekly Operations and Maintenance Checks HU.pdf Work_Order 034007⁶⁹⁸ Weekly Operations and Maintenance Checks HU Work_Order 031923⁶⁹⁹ Quarterly Polymer Makeup System Huntlee Pitt Town <ul style="list-style-type: none"> Work_Order 034362⁷⁰⁰ Weekly Operations and Maintenance Checks Work_Order 035910⁷⁰¹ Poly Chemical Storage Tanks Work_Order 033160⁷⁰² Monthly Volute Dehydrator Sept 2020 Pitt Town Work_Order 034317⁷⁰³ Pump Condition Assessment
WIC Reg Sch 1 cl. 13(1) Sewerage	<p>Before commencing to operate sewerage infrastructure commercially, the licensed network operator for the infrastructure must prepare, and forward to IPART, an infrastructure operating plan that indicates the arrangements that the licensee has made, or proposes to make, in relation to:</p> <p>(a) the design, construction, operation and maintenance of the infrastructure, including particulars as to the lifespan of the infrastructure, the system redundancy built into the infrastructure and the arrangements for the renewal of the infrastructure, and</p> <p>(b) the continued safe and reliable performance of the infrastructure, and</p> <p>(c) the continuity of sewerage services, and</p> <p>(d) alternative sewerage services when the infrastructure is inoperable, and</p> <p>(e) the maintenance, monitoring and reporting of standards of service.</p>	<p>Altogether was found to have prepared an IOP that meets the requirements of the licence clause and was found to be compliant with WIC Reg Sch 1 cl. 13(1).</p> <p>The Infrastructure Operating Plan⁷⁰⁴ (IOP) was first developed in 2014, the Document Issue Record indicates that the IOP was last updated on 18/3/21.</p> <p>The Asset Management Plan⁷⁰⁵ (AMP) was first developed in January 2015 and was last updated in 14/4/2021, and had not been updated since November 2018. The annual review was not taken in 2019 or 2020. The AMP is currently under a complete review as documented in 3608-68-MEMO-Review and advise on best practice AM-v01-02⁷⁰⁶.</p>

⁶⁹⁶ Work_Order 033360 Monthly Volute Dehydrator Sept 2020 Huntlee.pdf

⁶⁹⁷ Work_Order 034007 Weekly Operations and Maintenance Checks HU.pdf

⁶⁹⁸ Work_Order 034007 Weekly Operations and Maintenance Checks HU

⁶⁹⁹ Work_Order 031923 Quarterly Polymer Makeup System Huntlee.pdf

⁷⁰⁰ Work_Order 034362 Weekly Operations and Maintenance Checks PT.pdf

⁷⁰¹ Work_Order 035910 Poly Chemical Storage Tanks PT.pdf

⁷⁰² Work_Order 033160 Monthly Volute Dehydrator Sept 2020 Pitt Town.pdf

⁷⁰³ Work_Order 034317 Pump Condition Assessment PT.pdf

⁷⁰⁴ Operating Plan (IOP) (Controlled COPY) AG-WAT-NSW-PL-OPS-1279 18/3/21.

⁷⁰⁵ Asset Management Plan (AMP) (Controlled COPY) AG-WAT-AUS-PL-OPS-1219 14/4/2021

⁷⁰⁶ 3608-68-MEMO-Review and advise on best practice AM-v01-02 3608-68-MEMO-Review and advise on best practice AM-v01-02

Licence Clause	Obligation
	<p>The design criteria standards and codes for infrastructure are in Section 2 of the IOP. Standards are communicated to the developers and contractors in the builders and developers guides including guides for Builders⁷⁰⁷, Landscapers⁷⁰⁸, Electricians⁷⁰⁹ and Plumbers⁷¹⁰. A builder's checklist⁷¹¹ also exists and a Developer Guide - Infrastructure (Water)⁷¹².</p> <p>The Altogether Infrastructure Growth team identifies the requirements for land releases. Infrastructure planning occurs in the initial stages in consultation with the developer.</p> <p>Asset condition ratings are identified in Table 3 of IOP and includes attributing a criticality factor for each asset. Plants are designed on a duty standby mode and preventive maintenance is the tool by which Altogether is assessing maintenance requirements.</p> <p>The IOP indicates that an asset replacement program will be established and will be informed by a capital works operational analysis and inspection of critical assets. An asset register will be created and stored in CMMS, which will include the history of all maintenance and an inventory of all spare parts.</p> <p>The IOP describes a range of processes for ensuring continuity of supply of drinking, recycled and sewage services. Including:</p> <ul style="list-style-type: none"> • Unplanned Outages Procedure⁷¹³ • Utilities Services Agreement • Planned maintenance.

⁷⁰⁷ Builders Guide (Water) AG-WAT-NSW-UG-RET-1570 Revision: 3 16 April 2021

⁷⁰⁸ Landscapers Guide (Water) AG-WAT-NSW-UG-RET-1964 Revision: 2 21 December 2020

⁷⁰⁹ Electricians Guide (Water) AG-WAT-NSW-UG_PRD-1572 Revision: 2 22 December 2020

⁷¹⁰ Plumbers Guide AG-WAT-NSW-UG-RET-1571 Revision: 2 23 December 2020

⁷¹¹ Builders Checklist (Controlled COPY).pdf AG-WAT-NSW-TE-RET-2002 Revision:2 18 December 2020

⁷¹² Developer Guide - Infrastructure (Water) (Controlled COPY).pdf AG-WAT-AUS-UG- PRD-1888 Revision 7: 08 March 2021

⁷¹³ Unplanned Outages Procedure (Controlled COPY) AG-WAT-AUS-PR-OPS-2566 22 April 2021

Licence Clause	Obligation	
WIC Reg Sch 1 cl. 13(2) Sewerage	<p>The infrastructure operating plan is fully implemented and kept under regular review and all of the network operator's activities are carried out in accordance with that plan.</p> <p>Note: no direction received from Minister to amend plans</p>	<p>Altogether was found to have implemented the IOP and was found to be compliant with WIC Reg Sch 1 cl. 13(2).</p> <p>During the audit, Altogether demonstrated the CMMS which included and</p> <ul style="list-style-type: none"> • Asset Hierarchy and Structure for each scheme and scheme components. • Addresses that have been connected to the sewer system. The example shown was Box Hill 10 Annear Street showing the pumps and controllers, recycled water meters, tanks and other assets. This included a record of pump runs through a recent storm and a pre-connection inspection in Nov 2020 undertaken by the contractor. • Asset condition ratings for each asset shown as a percentage, an example shown was the Membrane tank at Central Park 1000953 (Equipment number is TK2450) that has a condition rating of 85%. • Asset criticality was observed for a range of asset types. • The CMMS forms the asset register identified in the IOP. <p>Planned Maintenance</p> <p>Altogether provided the following records demonstrating the implementation of planned maintenance.</p> <p>Box Hill</p> <ul style="list-style-type: none"> • Work_Order 033166⁷¹⁴ Monthly Primary Screen Condition and Maintenance • Work_Order 035935⁷¹⁵ Weekly Operations and Maintenance Check included the task '<i>Maintenance and operational monitoring checklist in accordance with the LWC O&M Manual and relevant OEM Manuals</i>' and was completed by the due date (1/2/2021). • Work_Order 032070⁷¹⁶ UV Condition Assessment included the task '<i>Monthly Control Points to do on UV Reactor & Equipment in accordance</i>

⁷¹⁴ Work_Order 033166 Monthly Primary Screen Condition and Maintenance BH.pdf"

⁷¹⁵ Work_Order 035935 Weekly Operations and Maintenance Check BH.pdf

⁷¹⁶ Work_Order 032070 UV Condition Assessment BH.pdf"

Licence Clause	Obligation
	<p>with the LWC O&M Manual and OEM Manuals'. This was due to be completed by 28/07/2020 and was closed out by 21/07/2020.</p> <ul style="list-style-type: none"> Work_Order 033034⁷¹⁷ Weekly Diesel Generator Test Run and check. <p>Central Park</p> <ul style="list-style-type: none"> Work_Order 031835⁷¹⁸ Blower 6 Monthly Planned Maintenance required '6 Monthly Control Points to do on Rotary Blower in accordance with the LWC O&M Manual and OEM Manuals' was completed by the due date. Work_Order 037263⁷¹⁹ Membrane Condition Assessment Monthly Control Points to do on Membrane Operating System, completed 16/4/2021. Work_Order 037302⁷²⁰ Weekly Primary Screen Condition Assessment CP.pdf Work_Order 037402⁷²¹ Weekly Operations and Maintenance Assessment CP.pdf Work Order 031835⁷²² Attachment Job card was a job undertaken by an external contractor or a 6-month minor service and safety check to a blower unit. <p>Cooranbong</p> <ul style="list-style-type: none"> Work_Order 033492⁷²³ Weekly Operations and Maintenance Checklist 9 Sept 2020.pdf Work_Order 033641⁷²⁴ Weekly Diesel Generator 14 Sept 2020.pdf Work_Order 034904⁷²⁵ Monthly Primary Screen CB.pdf

⁷¹⁷ Work_Order 033034 Weekly Diesel Generator Test Run and check BH.pdf

⁷¹⁸ Work_Order 031835 Blower 6 Monthly Planned Maintenance CP.pdf

⁷¹⁹ Work_Order 037263 Membrane Condition Assessment CP.pdf

⁷²⁰ Work_Order 037302 Weekly Primary Screen Condition Assessment CP.pdf

⁷²¹ Work_Order 037402 Weekly Operations and Maintenance Assessment CP.pdf

⁷²² Work Order 031835 Attachment Jobcard_For_Job_No_21533_06-07-2020_0916 Central Park.pdf

⁷²³ Work_Order 033492 Weekly Operations and Maintenance Checklist 9 Sept 2020.pdf

⁷²⁴ Work_Order 033641 Weekly Diesel Generator 14 Sept 2020.pdf

⁷²⁵ Work_Order 034904 Monthly Primary Screen CB.pdf

Licence Clause	Obligation
	<ul style="list-style-type: none"> Invoice_9047881_00501⁷²⁶ (002) Chubb Fire Extinguisher and Annual Shower Cooranbong.pdf Work_Order 031501⁷²⁷ Fire Extinguisher and Safety shower eye wash inspection CB.pdf <p>Discovery Point</p> <ul style="list-style-type: none"> Work_Order 034479⁷²⁸ Weekly Site Operations and Maintenance checklist DP.pdf Work_Order 036482⁷²⁹ Primary Screen Active Condition and Maintenance DP.pdf Work_Order 033749⁷³⁰ Poly Chemical Storage Tank Condition and Maintenance DP.pdf Work_Order 034472⁷³¹ UV Active Condition and Maintenance External Contractor DP <p>Green Square</p> <ul style="list-style-type: none"> Work_Order 037344⁷³² Passive Condition Ladder Assessment Green Square.pdf Work_Order 032150⁷³³ Passive Maintenance Inlet Penstock Green Square.pdf Work_Order 037102⁷³⁴ Weekly Compressor Condition and Maintenance Green Sqaure.pdf Work_Order 037207⁷³⁵ Site Weekly Maintenance Checklist Green Square.pdf

⁷²⁶ Invoice_9047881_00501 (002) Chubb Fire Extinguisher and Annual Shower Cooranbong.pdf

⁷²⁷ Work_Order 031501 Fire Extinguisher and Safety shower eye wash inspection CB.pdf

⁷²⁸ Work_Order 034479 Weekly Site Operations and Maintenance checklist DP.pdf

⁷²⁹ Work_Order 036482 Primary Screen Active Condition and Maintenance DP.pdf

⁷³⁰ Work_Order 033749 Poly Chemical Storage Tank Condition and Maintenance DP.pdf

⁷³¹ Work_Order 034472 UV Active Condition and Maintenance External Contractor DP

⁷³² Work_Order 037344 Passive Condition Ladder Assessment Green Square.pdf

⁷³³ Work_Order 032150 Passive Maintenance Inlet Penstock Green Square.pdf

⁷³⁴ Work_Order 037102 Weekly Compressor Condition and Maintenance Green Sqaure.pdf

⁷³⁵ Work_Order 037207 Site Weekly Maintenance Checklist Green Square.pdf

Licence Clause	Obligation	
		<p>Huntlee</p> <ul style="list-style-type: none"> • Work_Order 033026⁷³⁶ Odour Control Weekly Condition and Maintenance HU.pdf • Work_Order 033360⁷³⁷ Monthly Volute Dehydrator Sept 2020 Huntlee.pdf • Work_Order 034007⁷³⁸ Weekly Operations and Maintenance Checks HU.pdf • Work_Order 034007⁷³⁹ Weekly Operations and Maintenance Checks HU • Work_Order 031923⁷⁴⁰ Quarterly Polymer Makeup System Huntlee <p>Pitt Town</p> <ul style="list-style-type: none"> • Work_Order 034362⁷⁴¹ Weekly Operations and Maintenance Checks • Work_Order 035910⁷⁴² Poly Chemical Storage Tanks • Work_Order 033160⁷⁴³ Monthly Volute Dehydrator Sept 2020 Pitt Town • Work_Order 034317⁷⁴⁴ Pump Condition Assessment

Table 9 Incident Notification

Licence clause	Obligation	Comment
----------------	------------	---------

⁷³⁶ Work_Order 033026 Odour Control Weekly Condition and Maintenance HU.pdf

⁷³⁷ Work_Order 033360 Monthly Volute Dehydrator Sept 2020 Huntlee.pdf

⁷³⁸ Work_Order 034007 Weekly Operations and Maintenance Checks HU.pdf

⁷³⁹ Work_Order 034007 Weekly Operations and Maintenance Checks HU

⁷⁴⁰ Work_Order 031923 Quarterly Polymer Makeup System Huntlee.pdf

⁷⁴¹ Work_Order 034362 Weekly Operations and Maintenance Checks PT.pdf

⁷⁴² Work_Order 035910 Poly Chemical Storage Tanks PT.pdf

⁷⁴³ Work_Order 033160 Monthly Volute Dehydrator Sept 2020 Pitt Town.pdf

⁷⁴⁴ Work_Order 034317 Pump Condition Assessment PT.pdf

WIC Reg Sch 1 cl. 1(2)(a)	<p>A network operator must immediately notify</p> <ul style="list-style-type: none"> a) IPART, and b) The Minister administering the Public Health Act 2010, and c) the Minister administering Part 2 of the <i>Water Industry Competition Act 2006 (NSW)</i>, and d) NA, and e) any licensed network operator or public water utility whose infrastructure is connected to the licensed network operator's infrastructure, <p>of any incident in the conduct of its activities that threatens, or could threaten, water quality, public health or safety.</p>	<p>The Incident Management Plan⁷⁴⁵ (IMP) provides the overarching framework for Altogether's incident management. The IMP in Section 5.1.3 identifies the requirements of the reporting manual and includes immediate notification to IPART, NSW Health, Department of Planning and Environment and other licenses and public water utilities.</p> <p>Based on the records identified in the Incident Register and listed in 'Table 10 Incidents Notified to IPART 1 March 2020 – 30 April 2021' below it was found that Altogether complied with its requirements to notify the identified stakeholders in accordance with the requirements of WIC Reg Sch 1 cl. 1(2)(a).</p>
---------------------------	---	---

Table 10 Incidents Notified to IPART 1 March 2020 – 30 April 2021

Licence No.	Notification Type	Notification Description	Date Occurred
15_033 - Cooranbong	Incident - Water Quality	<p>Exceedance in drinking water sampled 3 December 2020, reported verbally 9 December 2020 .</p> <p>Incident CO_213 (8 December 2020)</p> <ul style="list-style-type: none"> • Form A Incident Notification WICA <i>E. coli</i> Exceedance in Recycled Water 08_12_2020 .msg⁷⁴⁶ • Form B Incident Notification WICA_Cooranbong.pdf⁷⁴⁷ • Form B & Closeout for this incident ## RE_Form A __UPDATE__ Incident Notification WICA Cooranbong - Drinking Water E coli Exceedance.msg⁷⁴⁸ • 201210 Form A⁷⁴⁹ <p>Form A was sent to all stakeholders within 24 hours of making verbal notification. Form B was sent on 24/12/2020. This incident has been put down to a lab error.</p>	9-Dec-20

⁷⁴⁵ Incident Management Plan (IMP) (Controlled COPY) AG-ALL-AUS-PL-INC-1266 Revision 9 25 January 2021

⁷⁴⁶ Form A Incident Notification WICA *E. coli* Exceedance in Recycled Water 08_12_2020 .msg

⁷⁴⁷ Form B Incident Notification WICA_Cooranbong.pdf

⁷⁴⁸ Form B & Closeout for this incident ## RE_Form A __UPDATE__ Incident Notification WICA Cooranbong - Drinking Water E coli Exceedance.msg

⁷⁴⁹ 201210 Form A Incident Notification WICA_Cooranbong.pdf

Licence No.	Notification Type	Notification Description	Date Occurred
16_037 - Box Hill	Incident - Water Quality	<p>Exceedance of E coli at Box Hill for recycled water, reported 8/12/2020 .</p> <p>Incident BH_214 (8 December 2020)</p> <ul style="list-style-type: none"> Email - Form A⁷⁵⁰ 201209 Form A⁷⁵¹ Form B⁷⁵² Email - Form B & Closeout of Incident 24_12_2020⁷⁵³ <p>Form A was sent to stakeholders on 9/12/2020 and Form B sent on 24/12/2020. The investigation indicated a lab error for the non-compliant <i>E. coli</i> value.</p>	8-Dec-20
15_033 - Cooranbong	Incident - Water Quality	<p>An exceedance of fluoride was found in recycled water during routine testing of the Cooranbong scheme.</p> <p>Incident CO_184 (14 October 2020)</p> <ul style="list-style-type: none"> Form A Incident Notification⁷⁵⁴ and updated Form A⁷⁵⁵ Email - Form A Incident Notification⁷⁵⁶ Form B⁷⁵⁷ Email - Form B Incident Notification⁷⁵⁸ <p>Form A was sent on 15/10.2020 and the investigation report (Form B) was sent on 26/11/2020. This incident relates to a fluoride exceedance in the recycled water network that was supplied with drinking water. The investigation indicated that the incident was due to a lab error. Evidence of the debrief is provided in HSEQ Meeting Dec 2020⁷⁵⁹.</p>	14-Oct-20

⁷⁵⁰ Form A __UPDATE__ Incident Notification WICA E_ coli Exceedance in Recycled Water 08_12_2020 .msg

⁷⁵¹ 201209 Form A Incident Notification WICA_Box Hill.pdf

⁷⁵² Form B Incident Notification WICA_Box Hill.pdf

⁷⁵³ Form B & Closeout of Incident 24_12_2020

⁷⁵⁴ Form A Incident Notification WICA_Cooranbong 184 CO 14Oct20 Fluoride Exc.pdf

⁷⁵⁵ Form A Incident Notification WICA_Cooranbong UPDATE 184 CO 21Oct20 Fluoride Exc

⁷⁵⁶ Form A Incident Notification WICA Cooranbong - Recycled Water Fluoride Exceedance

⁷⁵⁷ Form B 184 CO 26Nov2020 Fluoride Exc.pdf

⁷⁵⁸ Form B Incident Notification WICA Cooranbong - Recycled Water Fluoride Exceedance - Laboratory Method

⁷⁵⁹ HSEQ (SUS) Meeting Dec 2020

Licence No.	Notification Type	Notification Description	Date Occurred
13_025 - Discovery Point	Incident - Water Quality	<p>Form A Incident Notification, Fluoride Exceedance at Discovery Point. Notified 9 October.</p> <p>Incident DP_183 (9 October 2020)</p> <ul style="list-style-type: none"> Email-Updated Form A ⁷⁶⁰ Form A Updated⁷⁶¹ and email ⁷⁶² Form A⁷⁶³ Form B⁷⁶⁴ Email Form B⁷⁶⁵ <p>A drinking water tap returned a fluoride value above ADWG health criteria. Investigation indicated a lab error or receipt of non-compliant water from Sydney Water. Sydney Water did not report and exceedances in its network. Form A was sent 9/10/2020, an updated Form A was sent on 29/10/2020. Form B was sent 26/11/2020. Evidence of the debrief is provided in HSEQ Meeting Dec 2020⁷⁶⁶.</p>	9-Oct-20
15_030 - Huntlee	Incident - Public Health	<p>The annual metals analysis for the recycled water at the Point of Supply (outlet of the recycled water tanks) returned metal levels over the AGWR health critical limits for manganese, nickel, arsenic and lead.</p> <p>Incident HU_169 (6 August 2020)</p> <ul style="list-style-type: none"> Form A⁷⁶⁷ and Email⁷⁶⁸ Form B⁷⁶⁹ and Email⁷⁷⁰ 	6-Aug-20

⁷⁶⁰ Updated Form A__ RE_ Form A Incident Notification WICA Discovery Point - Drinking Water Fluoride Exceedance

⁷⁶¹ DP 28Oct20 Form A Update

⁷⁶² Form A Incident Notification WICA Discovery Point - Drinking Water Fluoride Exceedance

⁷⁶³ Form A Incident WICA Notification_Discovery Point 183 DP Fluoride Exceedance 9 October 2020

⁷⁶⁴ Form B Incident Notification WICA_Discovery Point 183 DP 26Nov20 Fluoride Exc.pdf

⁷⁶⁵ Form B Incident Notification WICA Discovery Point - Drinking Water Fluoride Exceedance - Laboratory Method

⁷⁶⁶ HSEQ (SUS) Meeting Dec 2020

⁷⁶⁷ Form A Incident WICA Notification_Huntlee_RW PoS Metals_6Aug20.pdf

⁷⁶⁸ Form A Incident Notification WICA Huntlee Recycled Water - Copy.msg

⁷⁶⁹ Form A B Incident WICA Notification Huntlee RW PoS Metals 6Aug20 Incident 169

⁷⁷⁰ RE_ Form A Incident Notification WICA Huntlee Recycled Water

Licence No.	Notification Type	Notification Description	Date Occurred
		This incident related to a number of metal parameters returning high values and the investigation indicated that it was likely a sampling error. Evidence of debrief is documented in HSEQ (SUS) Meeting Aug 2020 ⁷⁷¹ .	
15_033 - Cooranbong	Incident - Public Health	<p>A customer reported that their three year old child drank from a tap labelled as recycled water located outside the house at 6 Cossentine St, Cooranbong on the afternoon of 19/07/2020. The tap had been left running. It was confirmed that the Cooranbong recycled water plant is not yet operational.</p> <p>Incident CO_160 (19 July 2020)</p> <ul style="list-style-type: none"> • 160CO200720FormAB.pdf⁷⁷² • Forms A and B⁷⁷³ • Email Forms A and B⁷⁷⁴ <p>Both forms were sent on the same day, 21 July 2020. This incident related to a child drinking from a recycled water tap, however the network is still charged with drinking water. The outcome was to review the risks with NSW Health, which found that drinking water was currently being supplied through recycled water taps and subsequently that the water consumed was drinking water. All recycled water taps have a removable handle.</p>	19-Jul-20
16_037 - Box Hill	Incident - Sewage Overflow	<p>INCIDENT NOTIFICATION - Form A Incident Notification - Box Hill Sewage overflow - 54 Moonstone Rd.</p> <p>Incident BH_148 (22 June 2020)</p> <p>Form A⁷⁷⁵</p> <p>Email - Form A⁷⁷⁶</p> <p>Form B⁷⁷⁷</p> <p>Email - Form B⁷⁷⁸</p> <p>This incident related to a 600 L sewage overflow across a road and into a stormwater drain and basin. Form A was sent on 22/6/2020, Form B was sent on 16/7/2020.</p>	22-Jun-20

⁷⁷¹ HSEQ (SUS) Meeting Aug 2020 (Controlled COPY)

⁷⁷² 160CO200720FormAB.pdf

⁷⁷³ Forms A and B Incident WICA Notification_Cooranbong.pdf

⁷⁷⁴ FW_Forms A and B Incident Notification WICA Cooranbong.msg

⁷⁷⁵ Form A_Incident Notification WICA_Box Hill_Sewage overflow 54 Moonstone Rd._22Jun20.pdf

⁷⁷⁶ Form A_Incident Notification WICA_Box Hill_Sewage overflow 54 Moonstone Rd._22Jun20.msg

⁷⁷⁷ Form B_Incident Notification WICA_Box Hill_Sewage overflow 54 Moonstone Rd._22Jun20_Report date 14Jul20.pdf

⁷⁷⁸ Form B_Incident Notification WICA_Box Hill_Sewage overflow 54 Moonstone Rd._22Jun20_Report date 14Jul20.msg

Licence No.	Notification Type	Notification Description	Date Occurred
16_037 - Box Hill	Incident - Water Quality	<p>Routine sample taken 06/07/2020 was confirmed to have a reportable level of Clostridia (Sulphite Reducing) – 31 cfu/100mL & Clostridia perfringens - ~1 cfu/100mL on 09/07/2020.</p> <p>Incident BH_158 (9 July 2020)</p> <ul style="list-style-type: none"> Email Form A⁷⁷⁹ Form A⁷⁸⁰ Form B⁷⁸¹ Email - Form B <p>This incident included a Clostridia detection of 31 cfu/100 ml and a <i>Clostridium perfringens</i> detection of ~1 cu/100mL. Initial notification was made on 10/7/2020, additional information was provided on 15/7/2020. Form B was sent on 27/7/2020. The debrief is documented in HSEQ (SUS) Meeting Aug 2020⁷⁸².</p>	9-Jul-20
10_014 - Pitt Town	Incident - Water Quality	<p>A sample taken on 06/07/2020 at Pitt Town Point of Supply (PT1_RW_POS) tested positive for somatic coliphage. The lab result was reported on 09/07/20 ~1pfu/100ml. This sample point is located at the Recycled Water distribution pumps.</p> <p>Incident PT_159 (6/7/2020)</p> <ul style="list-style-type: none"> Email - Form A Incident Notification⁷⁸³ Email - Form B Incident Notification⁷⁸⁴ Form A Incident Notification⁷⁸⁵ Form B Incident Notification⁷⁸⁶ <p>Form A was sent on 10/7/2020, with follow up information sent on 15/7/2020. Form B was sent on 27/7/2020. Form B indicates a 'False positive'. Debrief is documented in HSEQ (SUS) Meeting Aug 2020⁷⁸⁷.</p>	9-Jul-20

⁷⁷⁹ RE_Form A Incident Notification WICA_Box Hill_Clostridia Exceedance 09_07_2020.msg

⁷⁸⁰ Form A Incident Notification WICA_Box Hill_BH3_RW_POU_Clostridia_06Jul20_Update No. 1 14Jul20.pdf

⁷⁸¹ Form B Incident Notification WICA_Box Hill_BH3_RW_POU_Clostridia_06Jul20_Report date 24Jul20.pdf

⁷⁸² HSEQ (SUS) Meeting Aug 2020 (Controlled COPY)

⁷⁸³ FW_Form A Incident Notification WICA_Pitt Town_Somatic Coliphage Exceedance_09_07_2020.msg

⁷⁸⁴ RE_Form B Incident Notification WICA_Pitt Town_Somatic Coliphage Exceedance_09_07_2020.msg

⁷⁸⁵ Form A Incident Notification WICA_Pitt Town_PT1_RW_POS_Somatic Coliphage_09July2020_Update No.1 14July20.pdf

⁷⁸⁶ Form B Incident Notification WICA_Pitt Town_PT1_RW_POS_Somatic Coliphage_09July2020_Report date 24Jul20.pdf

⁷⁸⁷ HSEQ (SUS) Meeting Aug 2020 (Controlled COPY)

Licence No.	Notification Type	Notification Description	Date Occurred
15_031 - Green Square	Incident - Water Quality	<p>The operator changed the 'High High' trans membrane pressure (TMP) setting in SCADA from 69 to 75kPa to keep the plant operational whilst conducting a UF clean in place (CIP) which would restore the TMP to its typically lower value. On the 21.06.20 the ultrafiltration (UF) critical control point (CCP) started operating above the critical limit for a sustained period. On the 24.06.20 the UF stopped operating above the critical limit.</p> <p>Incident GS_152 (29 June 2020)</p> <ul style="list-style-type: none"> Email - Forms A and B⁷⁸⁸ Forms A and B⁷⁸⁹ <p>This incident related to an operational change of a CCP by an operator for the UF system. Both Forms A and B were submitted on 29/6/2020. The incident occurred on 21 June 2020 and the 'On the 24.06.20 the UF stopped operating above the critical limit'. It is unclear when the incident was detected. The incident debrief is documented in HSEQ (SUS) Meeting Aug 2020⁷⁹⁰.</p>	21-Jun-20
15_031 - Green Square	Incident - Water Quality	<p>Analysis for a routine sample taken from the Point of Supply (Pos) at the outlet of the recycled water tanks at Green Square returned an exceedance for Clostridia.</p> <p>Incident GS_151 (27 June 2020)</p> <ul style="list-style-type: none"> Form A⁷⁹¹ and email Email - Form A⁷⁹² Form B⁷⁹³ Email Form B⁷⁹⁴ <p>The incident related to a Clostridia detection of ~1. The date of the incident on Form A is 27 June 2020. Form A was submitted on 27 June 2020 and Form B was submitted on 21/7/2020. The investigation indicated that this was a lab error and a low-level detection. The incident debrief is documented in HSEQ (SUS) Meeting Aug 2020⁷⁹⁵.</p>	27-Jun-20

⁷⁸⁸ Forms A and B Incident Notification WICA_Green Square_UF CCP exceedance_21Jun20_Report date 27Jun20.msg

⁷⁸⁹ Forms A and B Incident Notification WICA_Green Square_UF CCP exceedance_21Jun20_Report date 27Jun20.pdf

⁷⁹⁰ HSEQ (SUS) Meeting Aug 2020 (Controlled COPY)

⁷⁹¹ Forms A Incident Notification WICA_Green Square_RW Clostridia detection SSRC_27Jun20.pdf

⁷⁹² Form A Incident Notification WICA_Green Square_RW Clostridia detection SSRC_27Jun20.msg

⁷⁹³ Form B Incident Notification WICA_Green Square_RW Clostridia detection SSRC_27Jun20_Report date 29Jun20.pdf

⁷⁹⁴ Form B Incident Notification WICA_Green Square_RW Clostridia detection SSRC_27Jun20.msg

⁷⁹⁵ HSEQ (SUS) Meeting Aug 2020 (Controlled COPY)

Licence No.	Notification Type	Notification Description	Date Occurred
13_025 - Discovery Point	Incident - Water Quality	<p>Through a routine review of data, Altogether identified that a laboratory analysis for Antimony in the Sydney Water-supplied drinking water for a sample taken on 23.04.20 returned a result of 0.008mg/L. The upper health limit in the Australian Drinking Water Guidelines (ADWG) is 0.003mg/L.</p> <p>Incident DP_144 (29 April 2020)</p> <ul style="list-style-type: none"> Form A⁷⁹⁶ Email - Antimony⁷⁹⁷ Form A⁷⁹⁸ Email - Form B⁷⁹⁹ Form B⁸⁰⁰ <p>Antimony exceedance in drinking water exceedance on 29 April 2020 but reported on 26 June 2020. Form B was submitted on 30 June 2020. The investigation indicated a lab error.</p>	29-Apr-20
15_030 - Huntlee	Incident - Water Quality	<p>Through a routine review of data, Altogether identified that laboratory analysis for Fluoride in the Hunter Water-supplied drinking water for a sample taken on 16.04.20 returned a result of 5.7mg/L. The upper health limit in the Australian Drinking Water Guidelines (ADWG) is 1.5mg/L.</p> <p>Incident HU_145 (24 April 2020)</p> <ul style="list-style-type: none"> Email Form A⁸⁰¹ Form A Incident⁸⁰² Form B⁸⁰³ Email Form B⁸⁰⁴ <p>This incident related to a drinking water sample returning a fluoride value above the guideline value. Altogether receives treated drinking water from Hunter Water and does not dose fluoride. Hunter Water did not note a non-compliance within</p>	24-Apr-20

⁷⁹⁶ Form A Incident Notification_Discovery Point_DW Antimony exceedance 29_04_20_Report date 26_06_20.msg

⁷⁹⁷ Antimony exceedance 29_04_20_Report date 26_06_20.msg

⁷⁹⁸ Form A Incident WICA Notification_Discovery Point Antimony Exceedance_29Apr20_Report Date 26Jun20.pdf

⁷⁹⁹ Form B Incident Notification_Discovery Point_DW Antimony exceedance 29_04_20_Report date 26_06_20.msg

⁸⁰⁰ Form B Incident WICA Notification_Discovery Point Antimony Exceedance_29Apr20_Report Date 30Jun20.pdf

⁸⁰¹ Form A Incident Notification_Huntlee_DW Fluoride exceedance 24_04_20_Report date 26_06_20.msg

⁸⁰² Form A Incident WICA Notification_Huntlee_DW PoU Fluoride Exceedance_24Apr20_Report date 26Jun20.pdf

⁸⁰³ Form B Incident WICA Notification_Huntlee_DW PoU Fluoride Exceedance_24Apr20_Report date 02Jul20.pdf

⁸⁰⁴ Form B Incident Notification_Huntlee_DW Fluoride exceedance 24_04_20_Report date 2_07_20.msg

Licence No.	Notification Type	Notification Description	Date Occurred
		their system. It was determined that the result was likely to be a laboratory error. Evidence of the debrief is provided in HSEQ Meeting Dec 2020 ⁸⁰⁵ and HSEQ (SUS) Meeting Jun 2020 ⁸⁰⁶ .	
16_037 - Box Hill	Incident - Environmental	<p>Sewage leak from damaged pipe on outlet of on-lot sewage tank leading to sewage leak into stormwater system and ponding in stormwater detention basin.</p> <p>Incident BH_135 (27 April 2020)</p> <ul style="list-style-type: none"> Email Forms A⁸⁰⁷ Forms A⁸⁰⁸ and Forms A_Update⁸⁰⁹ Forms B⁸¹⁰ Email Form B⁸¹¹ <p>Form A was sent on 27/4/20 and Form B was sent on 22/5/2020. The incident related to a sewage leak from a damaged pipe on the outlet of an on-lot sewage tank leading to sewage leak into stormwater system and ponding in the stormwater detention basin. A tanker was used to pump out in the basin and subsequent testing did not identify E. coli in the basin.</p>	27-Apr-20
10_014 - Pitt Town	Incident - Water Quality	<p>Clostridia detection of ~4cfu/100ml in the Point of Supply (PoS) sample. The PoS sample is taken at the outlet of the recycled water tanks.</p> <p>Incident PT_134 (20 March 2020)</p> <ul style="list-style-type: none"> Form A⁸¹² and Email⁸¹³ Form B⁸¹⁴ and email⁸¹⁵ <p>Form A provided the initial notification that was sent to the required stakeholders. The Form B email included the investigation relating to the sampling of Clostridia and <i>Clostridium perfringens</i>.</p>	20-Mar-20

⁸⁰⁵ HSEQ (SUS) Meeting Dec 2020

⁸⁰⁶ HSEQ (SUS) Meeting Jun 2020

⁸⁰⁷ Forms A_Incident Notification WICA_Box Hill_Sewage overflow 16 Kingsburgh Pkwy Maraylya_27Apr20 EPA Ref_ C06587-2020.msg

⁸⁰⁸ Forms A_Incident Notification WICA_Box Hill_Sewage overflow 16 Kingsburgh Pkwy Maraylya_27Apr20.pdf

⁸⁰⁹ Forms A_Incident Notification WICA_Box Hill_Sewage overflow 16 Kingsburgh Pkwy Maraylya_27Apr20_Update No.1 28Apr20.pdf

⁸¹⁰ Forms B_Incident Notification WICA_Box Hill_Sewage overflow 16 Kingsburgh Pkwy Maraylya_Incident date 27Apr20_Form date 22May20.pdf

⁸¹¹ RE_Forms A_Incident Notification WICA_Box Hill_Sewage overflow 16 Kingsburgh Pkwy Maraylya_27Apr20 EPA Ref_ C06587-2020.msg

⁸¹² Form A Incident Notification WICA_Pitt Town_PoS Clostridia detection_20Mar20.pdf

⁸¹³ RE Form A Incident Notification WICA_Pitt Town_PoS Clostridia detection_20Mar20.msg

⁸¹⁴ Form B Incident Notification WICA_Pitt Town_PoS Clostridia detection_20Mar20_Form.pdf

⁸¹⁵ Form A Incident Notification WICA_Pitt Town_PoS Clostridia detection_20Mar20 date 11Jun20

Licence No.	Notification Type	Notification Description	Date Occurred
		The result of the investigation indicates that the non-compliance may have been due to the sampling parameters and the monitoring program has been revised to include <i>Clostridium perfringens</i> rather than clostridia.	

Table 11 Compliance findings to be checked

Licence No.	Description	Clause Ref.	Grade	Auditor to check	Evidence
10_014 - Pitt Town	This clause was found to be non-compliant (non-material) based on the auditor's findings: the risk assessment had not been reviewed by the due date and did not reflect the current circumstances of the scheme, in particular the likelihood of sewage overflows had been underestimated, which was not consistent with the frequency of overflows that had occurred at the scheme as recorded in the incident register. The auditor also made some recommendations.	WIC Reg Sch 1 cl 14(3)(a)	Non-compliant (Non-material)	Check that Risk Assessment (RA) and Incident management procedures are current, and recommendations from Operational Audit (Viridis, August 2020) are implemented	<p>The Pitt Town Audit Report (Viridis August 2020) includes the following recommendations:</p> <ul style="list-style-type: none"> PT-REC-2020-001 Review and update the risk assessment to ensure it comprehensively identifies hazardous events, reflects the current circumstances of the scheme and the risk methodology has been consistently applied. PT-REC-2020-002 Review and update the Incident Management Plan and the Water Quality Incident Management, Reporting and Investigation Procedure as required (annually and in response to an incident). PT-REC-2020-003 Ensure the incident response documentation provides guidance on relevant incidents including but not limited to protozoan water quality non-compliances. <p>The Sewage Management Plan⁸¹⁶ (Sewage MP) was reviewed and updated in January 2021 and rebranded in March 2021. The risk assessment includes the assessment of health and environmental risks in relation to sewage activities. In addition to the risk assessments, the Sewage MP states that ecological assessments will be undertaken as a part of development consent. The risk register indicates that in July 2020, an internal risk review workshop was undertaken, and a risk review workshop was undertaken with NSW Health in August 2020. Pitt Town Risk</p>

⁸¹⁶ Sewage Management Plan (Sewage MP) (Controlled COPY) AG-WAT-AUS-PL-OPS-1328 Revision 9 16 March 2021

Licence No.	Description	Clause Ref.	Grade	Auditor to check	Evidence
					<p>Register⁸¹⁷ was finalised on 26/4/2021. Pitt Town experienced 4 uncontained sewage overflows (grouped as one incident in the briefing pack) in 2019 and a contained overflow in 2014. Altogether, as a whole, has experienced 7 uncontained sewage overflows and 2 contained sewage overflows since 2014. The risk assessment assessed the frequency as 'likely', consistent with the number of overflows for this scheme.</p> <p>The Incident Management Plan⁸¹⁸ (IMP) provides the overarching framework for Altogether's incident management plan updated in January 2021.</p> <p>The Water Operations Incident Management, Reporting and Investigation Procedure⁸¹⁹ provides flow diagrams that give an overview of incident management and was updated in March 2021.</p> <p>The Incident Notification Protocol with NSW Health⁸²⁰ was updated in February 2021.</p> <p>The audit found that Altogether has closed out the requirements of the non-compliance.</p> <p>Note: additional findings have been identified in this audit in relation to the updated risk assessment and incident procedures.</p>
10_014 - Pitt Town	<p>This clause was found to be non-compliant (non-material) based on the auditor's findings:</p> <ul style="list-style-type: none"> the risk assessment had not been reviewed and 	WIC Reg Sch 1 cl 7(4)(a)	Non-compliant (Non-material)	Check that listed documents are current and recommendations from Operational Audit	<p>The Pitt Town Audit Report (Viridis August 2020) includes the following recommendations:</p> <ul style="list-style-type: none"> PT-REC-2020-001 Review and update the risk assessment to ensure it comprehensively identifies hazardous events, reflects the current circumstances of the scheme and the risk methodology has been consistently applied.

⁸¹⁷ Pitt Town Risk Register PT-WAT-NSW-RG-OPS-2664 V7.5 26/4/21

⁸¹⁸ Incident Management Plan (IMP) (Controlled COPY) AG-ALL-AUS-PL-INC-1266 Revision 9 25 January 2021

⁸¹⁹ Water Operations Incident Management, Reporting and Investigation Procedure (Controlled COPY) AG-WAT-NSW-PR-OPS-2561 Version 3 22 March 2021

⁸²⁰ Incident Notification Protocol with NSW Health (Controlled COPY) AG-ALL-NSW-PR-INC-1277 Revision 9 26 February 2021

Licence No.	Description	Clause Ref.	Grade	Auditor to check	Evidence
	<p>updated and did not reflect current circumstances. In particular the risk register does not include assessment of the risk associated with treated water tanks, which was a recent incident that occurred at Pitt Town.</p> <ul style="list-style-type: none"> the Incident Management Plan and Water Quality Incident Management, Reporting and Investigation Procedure had not been reviewed and updated annually or in response to an incident, as required, and did not adequately cover responses to protozoan risk. The auditor has made some recommendations. 			(Viridis, August 2020) are implemented	<ul style="list-style-type: none"> PT-REC-2020-002 Review and update the Incident Management Plan and the Water Quality Incident Management, Reporting and Investigation Procedure as required (annually and in response to an incident). PT-REC-2020-003 Ensure the incident response documentation provides guidance on relevant incidents including but not limited to protozoan water quality non-compliances. <p>The risk register for Pitt Town (drinking and recycled water) indicates that in July 2020, an internal risk review workshop was undertaken, and a risk review workshop was undertaken with NSW Health in August 2020. The document control properties identify the new risks that were added to the risk register, and the risks that were deleted are shown as a strike through in the register. Treated water tanks have been included in the risk assessment.</p> <p>The Incident Management Plan⁸²¹ (IMP) provides the overarching framework for Altogether's incident management plan and was updated in January 2021.</p> <p>The Water Operations Incident Management, Reporting and Investigation Procedure⁸²² provides flow diagrams that give an overview of incident management and was updated in March 2021.</p> <p>The Incident Notification Protocol with NSW Health⁸²³ was updated in February 2021. The out-of-specification procedure⁸²⁴ includes the process for investigation when an out-of-specification parameter is detected. The process includes notifying stakeholders, retesting the out-of-specification parameter, and checking treatment processes. This is considered adequate to cover protozoan risk.</p> <p>The audit found that Altogether has closed out the requirements of the non-compliance.</p>

⁸²¹ Incident Management Plan (IMP) (Controlled COPY) AG-ALL-AUS-PL-INC-1266 Revision 9 25 January 2021

⁸²² Water Operations Incident Management, Reporting and Investigation Procedure (Controlled COPY) AG-WAT-NSW-PR-OPS-2561 Version 3 22 March 2021

⁸²³ Incident Notification Protocol with NSW Health (Controlled COPY) AG-ALL-NSW-PR-INC-1277 Revision 9 26 February 2021

⁸²⁴ Pitt Town Recycled Water Out of Specification Work Instruction (Controlled COPY).pdf PT-WAT-NSW-WI-OPS-3558

Licence No.	Description	Clause Ref.	Grade	Auditor to check	Evidence
					Note: additional findings have been identified in this audit in relation to the updated risk assessment and incident procedures.
10_014 - Pitt Town	During the site visit we observed that although most new assets have been appropriately tagged, three isolation switches were observed without a unique identification label. These were the main switch on the dewatering unit and the isolating switches for the disposal container. To ensure correct identification for isolations and the associated isolating plans, all isolation switches should be uniquely labelled. This reduces the risk for isolation errors for maintenance and operational tasks	WIC Reg Sch 1 cl 3(c)	Non-compliant (Non-material)	Check that the main switch on the dewatering unit and the isolating switches for the disposal container are tagged (refer to recommendation in Cardno's New Infrastructure Audit report, November 2020)	The isolation switches on the dewatering unit were observed during the audit site inspection. Altogether has closed out this audit recommendation.
12_022 - Central Park	A number of minor deficiencies in the documentation. Deficiencies include the SMP and incident management documentation	WIC Reg Sch 1 cl 7(4)(a)	Non-compliant (Non-material)	Check that Scheme MP and Incident management procedures are current, (refer to	The Central Park Audit Report (Viridis October 2020) includes the following recommendations: <ul style="list-style-type: none"> CP-REC-2020-001 Review and confirm the hard-coded time delays for all CCPs and document the outcomes to ensure the

Licence No.	Description	Clause Ref.	Grade	Auditor to check	Evidence
	being out of date, inconsistent implementation of the QCPs and lack of evidence to demonstrate time delays have been implemented and the lack of process to confirm water quality compliance.			recommendation in Operational Audit Viridis, October 2020)	<p>implementation of the Critical Control Points (CCPs) is consistent and auditable.</p> <p>Altogether advised that it had reviewed time delays but did not keep records of the review. In addition, Altogether is in the process of updating permissions to limit access to the critical limits in SCADA.</p> <ul style="list-style-type: none"> CP-REC-2020-002 Review the implementation of quality control points, operational monitoring and corrective actions to ensure that Quality Control Points (QCPs) are implemented and operators are aware of conditions where operation deviates from the desired range and corrective actions are triggered. <p>When reviewing the Quality Control Points (QCPs), some of the limits in SCADA were not consistent with the CCP tables, however it was discussed in the audit that the QCPs are more of an operational limit and operators need to be able to adjust them to optimise operation, for example at Box Hill, the QCP could not be implemented without affecting treatment due to the low flows coming into the plant. Altogether has reviewed the QCPS and proposed changes with rationale detailed in the change notice 7 documents⁸²⁵</p> <ul style="list-style-type: none"> CP-REC-2020-003 – Review the verification monitoring programs to ensure that there is an effective internal process to review and record verification monitoring data, confirm the compliance and ensure immediate reporting of non-compliant results. <p>During the audit interviews, Altogether demonstrated a new process for reviewing data and checking compliance with the monitoring program using a Power BI database that included checking the number of samples taken, the frequency of sampling, and that the results are compliant. The database extract was reviewed and the auditor confirmed that the MS Progs are being</p>

⁸²⁵ CCP review workshop summary outcomes March2021

Licence No.	Description	Clause Ref.	Grade	Auditor to check	Evidence
					<p>implemented and the required samples are being taken at the correct frequencies.</p> <ul style="list-style-type: none"> CP-REC-2020-004 Review and update the Incident Management Plan and the Water Quality Incident Management, Reporting and Investigation Procedure as required (annually and in response to an incident). <p>The Incident Management Plan⁸²⁶ (IMP) provides the overarching framework for Altogether's incident management plan and was updated in January 2021.</p> <p>The Water Operations Incident Management, Reporting and Investigation Procedure⁸²⁷ provides flow diagrams that give an overview of incident management and was updated in March 2021.</p> <p>The Incident Notification Protocol with NSW Health⁸²⁸ was updated in February 2021.</p> <ul style="list-style-type: none"> CP-REC-2020-005 Ensure the incident response documentation provides guidance on relevant incidents including but not limited to protozoan water quality non-compliances. <p>The out-of-specification procedure⁸²⁹ includes the process for investigation when an out-of-specification parameter is detected. The process includes notifying stakeholders, retesting the out-of-specification parameter, and checking treatment processes. This is considered adequate to cover protozoan risk.</p> <ul style="list-style-type: none"> CP-REC-2020-006 Review and update the Scheme Management Plan in accordance with specified review cycles. <p>The Central Park Scheme Management Plan⁸³⁰ was updated in April 2020.</p>

⁸²⁶ Incident Management Plan (IMP) (Controlled COPY) AG-ALL-AUS-PL-INC-1266 Revision 9 25 January 2021

⁸²⁷ Water Operations Incident Management, Reporting and Investigation Procedure (Controlled COPY) AG-WAT-NSW-PR-OPS-2561 Version 3 22 March 2021

⁸²⁸ Incident Notification Protocol with NSW Health (Controlled COPY) AG-ALL-NSW-PR-INC-1277 Revision 9 26 February 2021

⁸²⁹ Central Park Recycled Water Out of Specification Work Instruction (Controlled COPY).pdf CP-WAT-NSW-WI-OPS-3472

⁸³⁰ Central Park Scheme Management Plan (Scheme MP) (Controlled COPY) CP-WAT-NSW-PL-OPS-1344 V7 16 April 2020

Licence No.	Description	Clause Ref.	Grade	Auditor to check	Evidence
					Altogether was found to have closed out the recommendations other than the confirmation of the time delays (CP-REC-2020-001).
12_022 - Central Park	A plan showing the nature and general location of the infrastructure was not available on the website as required by WIC Reg Sch1 Clause 12(a) and WIC Reg Sch1 Clause 16(a). The reason for the licence non-compliance was human error. The plans were available for the Flow Systems Group licensees' land housing schemes, but were not available for the high rise schemes. The plans were made available on https://askus.flowsystems.com.au/hc/enus/articles/208876906-Reticulation-and-StandardDrawings .	WIC Reg Sch 1 cl 16(a) WIC Reg Sch 1 cl 12 (a)	Non-compliant (Non-material)	Check plans are available on website	The Central Park Overall Water Services Plan is available on the Altogether website ⁸³¹ . Altogether was found to have closed out the non-compliance.
13_025 - Discovery Point	The licensee has been found to be non-compliant (material) because it did not have an adequate process to review its compliance and confirm the quality of water supplied to customers; to ensure it complied with its requirement to make immediate notification.	WIC Reg Sch 1 cl 1(2)	Non-compliant (Material)	Review all verification programs to address items listed in recommendation in Operational Audit (Viridis, October 2020)	The Discovery Point Audit Report (Viridis October 2020) includes the following recommendations <ul style="list-style-type: none"> DP-REC-2020-002– Undertake a thorough review of all verification monitoring programs to ensure that: <ul style="list-style-type: none"> the program is implemented in accordance with the documentation

⁸³¹ https://information.altogethergroup.com.au/askus/Central_Park/Central%20Park.pdf

Licence No.	Description	Clause Ref.	Grade	Auditor to check	Evidence
	Failure to take the required verification samples, and failure to identify non-compliant samples and failure to notify the necessary regulators could threaten, water quality, public health or safety.				<ul style="list-style-type: none"> o that that there is a process to regularly check that samples are being taken at the correct frequency and to rapidly identify missed samples o that there is an effective process to review and record verification monitoring data to confirm the compliance and ensure immediate reporting of non-compliant results. <p>During the audit interviews, Altogether demonstrated a new process for reviewing data and checking compliance with the monitoring program using a Power BI database that included checking the number of samples taken, the frequency of sampling, and that the results are compliant. The database extract was reviewed and the auditor confirmed that the MS Progs are being implemented and the required samples are being taken at the correct frequencies.</p> <p>Altogether was found to have closed out the non-compliance.</p>
13_025 - Discovery Point	The licensee has been assessed as non-compliant (Material) for this licence clause due to a number of deficiencies in the documentation, failure to implement the monitoring program and implement the incident procedures to make immediate notifications when non-compliant water quality verification result were received. Deficiencies include the SMP and incident management documentation being out of date, inconsistent implementation of the QCPs and	WIC Reg Sch 1 cl 7(4)	Non-compliant (Material)	Check that Scheme MP and Incident management procedures are current and that recommendations in Operational Audit (Viridis, October 2020) are implemented	<p>The Discovery Point Audit Report (Viridis October 2020) includes the following recommendations:</p> <ul style="list-style-type: none"> • DP-REC-2020-001 Review and confirm the hard coded time delays for all CCPs and document the outcomes to ensure the implementation of the CCPs is consistent and auditable. <p>Altogether advised that it had reviewed time delays but did not keep records of the review. In addition, Altogether is in the process of updating permissions to limit access to the critical limits in SCADA.</p> <ul style="list-style-type: none"> • DP-REC-2020-002– Undertake a thorough review of all verification monitoring programs to ensure that: <ul style="list-style-type: none"> o the program is implemented in accordance with the documentation

Licence No.	Description	Clause Ref.	Grade	Auditor to check	Evidence
	lack of evidence to demonstrate time delays have been implemented, failure to implement the water quality monitoring program and the lack of process to confirm water quality compliance. The non-compliances were considered material because the auditor determined that the non-compliances had the potential to affect water quality, public health and safety or the environment.				<ul style="list-style-type: none"> o that that there is a process to regularly check that samples are being taken at the correct frequency and to rapidly identify missed samples o that there is an effective process to review and record verification monitoring data to confirm the compliance and ensure immediate reporting of non-compliant results. <p>During the audit interviews, Altogether demonstrated a new process for reviewing data and checking compliance with the monitoring program using a Power BI database that included checking the number of samples taken, the frequency of sampling, and that the results are compliant. The database extract was reviewed and the auditor confirmed that the MS Progs are being implemented and the required samples are being taken at the correct frequencies.</p> <ul style="list-style-type: none"> • DP-REC-2020-003 Review and update the Incident Management Plan and the Water Quality Incident Management, Reporting and Investigation Procedure as required (annually and in response to an incident as relevant) <p>The Incident Management Plan⁸³² (IMP) provides the overarching framework for Altogether's incident management plan and was updated in January 2021.</p> <p>The Water Operations Incident Management, Reporting and Investigation Procedure⁸³³ provides flow diagrams that give an overview of incident management and was updated in March 2021.</p> <p>The Incident Notification Protocol with NSW Health⁸³⁴ was updated in February 2021.</p>

⁸³² Incident Management Plan (IMP) (Controlled COPY) AG-ALL-AUS-PL-INC-1266 Revision 9 25 January 2021

⁸³³ Water Operations Incident Management, Reporting and Investigation Procedure (Controlled COPY) AG-WAT-NSW-PR-OPS-2561 Version 3 22 March 2021

⁸³⁴ Incident Notification Protocol with NSW Health (Controlled COPY) AG-ALL-NSW-PR-INC-1277 Revision 9 26 February 2021

Licence No.	Description	Clause Ref.	Grade	Auditor to check	Evidence
					<ul style="list-style-type: none"> DP-REC-2020-004 Ensure the incident response documentation provides guidance on relevant incidents including but not limited to protozoan related water quality non-compliances. <p>The out-of-specification procedure⁸³⁵ includes the process for investigation when an out-of-specification parameter is detected. The process includes notifying stakeholders, retesting the out-of-specification parameter, and checking treatment processes. This is considered adequate to cover protozoan risk.</p> <ul style="list-style-type: none"> DP-REC-2020-005 Review and update the Scheme Management plan in accordance with specified review cycles included in the plan. <p>The Discovery Point Scheme Management Plan⁸³⁶ was updated on 19 April 2021.</p> <p>Altogether was found to have closed out the recommendations other than the confirmation of the time delays (CP-REC-2020-001).</p>
13_025 - Discovery Point	The licensee has been found to be non-complaint (material) as it did not adequately implement its monitoring plans and take the required samples at the specified frequencies. Additionally, it did not have processes in place to	NOL Sch B cl 8.1	Non-compliant (Material)	Check that Review of hardcoded time delays and verification programs have been completed and is adequate (refer to recommendation in	<p>The Discovery Point Audit Report (Viridis October 2020) includes the following recommendations</p> <ul style="list-style-type: none"> DP-REC-2020-002– Undertake a thorough review of all verification monitoring programs to ensure that: <ul style="list-style-type: none"> the program is implemented in accordance with the documentation

⁸³⁵ 3512 Discovery Point Recycled Water Out of Specification Work Instruction (Controlled COPY).pdf DP-WAT-NSW-WI-OPS-3474

⁸³⁶ 2573 Discovery Point Scheme Management Plan (Scheme MP) (Controlled COPY).pdf DP-WAT-NSW-PL-OPS-1242

Licence No.	Description	Clause Ref.	Grade	Auditor to check	Evidence
	review water quality data, identify non-compliant samples or missed samples. The non-compliance is considered material because it has the potential to impact on public health and water quality.			Operational Audit Viridis, October 2020)	<ul style="list-style-type: none"> o that that there is a process to regularly check that samples are being taken at the correct frequency and to rapidly identify missed samples o that there is an effective process to review and record verification monitoring data to confirm the compliance and ensure immediate reporting of non-compliant results. <p>During the audit interviews, Altogether demonstrated a new process for reviewing data and checking compliance with the monitoring program using a Power BI database that included checking the number of samples taken, the frequency of sampling, and that the results are compliant. The database extract was reviewed and the auditor confirmed that the MS Progs are being implemented and the required samples are being taken at the correct frequencies.</p> <p>Altogether was found to have closed out the non-compliance.</p>
13_025 - Discovery Point	Sample taken 29/04/20, report received 5/05/20 (Flow Incident No. 167). The routine verification sample taken from one of the Discovery Point Point of Use (PoU) drinking water sample points (DP2_DW_POU) was not tested for total coliforms as required by Flow's Monitoring and Sampling Programme (M&S Prog) for Discovery Point, and as recommended	NOL Sch B cl 8.1	Non-compliant (Non-material)	Self reported – Annual reporting 2020	<p>During the audit interviews, Altogether demonstrated a new process for reviewing data and checking compliance with the monitoring program using a Power BI database that included checking the number of samples taken, the frequency of sampling, and that the results are compliant. The database extract was reviewed and the auditor confirmed that the MS Progs are being implemented and the required samples are being taken at the correct frequencies.</p> <p>Altogether was found to have closed out the non-compliance.</p>

Licence No.	Description	Clause Ref.	Grade	Auditor to check	Evidence
	by the Australian Guidelines for Water Recycling (AGWR).				
13_025 - Discovery Point	Sample taken 29/04/20, report received 5/05/20 (Flow Incident No. 167). The routine verification sample taken from one of the Discovery Point Point of Use (PoU) drinking water sample points (DP2_DW_POU) was not tested for total coliforms as required by Flow's Monitoring and Sampling Programme (M&S Prog) for Discovery Point, and as recommended by the Australian Guidelines for Water Recycling (AGWR).	WIC Reg Sch 1 cl 7(4)(a)	Non-compliant (Non-material)	Self reported – Annual reporting 2020	<p>During the audit interviews, Altogether demonstrated a new process for reviewing data and checking compliance with the monitoring program using a Power BI database that included checking the number of samples taken, the frequency of sampling, and that the results are compliant. The database extract was reviewed and the auditor confirmed that the MS Progs are being implemented and the required samples are being taken at the correct frequencies.</p> <p>Altogether was found to have closed out the non-compliance.</p>
13_025 - Discovery Point	From 27/01/15 (commencement of operations) to 07/02/20 (date the off-spec timer was changed to 60 seconds). (Flow Incident No. 118). The MBR CCP off spec diversion delay timer was set to 360 seconds as opposed to 60 seconds. There were no positive micro analysis results for Discovery Point for this period (excluding the micro incident in	WIC Reg Sch 1 cl 7(4)(a)	Non-compliant (Non-material)	Self reported – Annual reporting 2020	<p>This non-compliance/incident was assessed in the previous Discovery Point Audit Report (Viridis October 2020). A subsequent recommendation was made:</p> <p>DP-REC-2020-001 Review and confirm the hard coded time delays for all CCPs and document the outcomes to ensure the implementation of the CCPs is consistent and auditable</p> <p>This recommendation has not yet been closed out, however it is considered that this non-compliance has been closed out.</p>

Licence No.	Description	Clause Ref.	Grade	Auditor to check	Evidence
	2018 which was in fact a sample of the building's rainwater system).				
13_025 - Discovery Point	A plan showing the nature and general location of the infrastructure was not available on the website as required by WIC Reg Sch1 Clause 12(a) and WIC Reg Sch1 Clause 16(a).	WIC Reg Sch 1 cl 12 (a) WIC Reg Sch 1 cl 16(a)	Non-compliant (Non-material)	Self reported – Annual reporting 2020	The Central Park Water Service Plan was available on the website ⁸³⁷ . Altogether was found to have closed out the non-compliance.
13_025 - Discovery Point	Point of Supply (PoS) frequency of Clostridia and coliphage testing was at a lower frequency than it should have been. Sampling was being undertaken monthly not weekly as required by Flow's Monitoring and Sampling Programme (M&S Prog) for Discovery Point, and as recommended by the Australian Guidelines for Water Recycling (AGWR).	WIC Reg Sch 1 cl 7(4)(a)	Non-compliant (Non-material)	Self reported – Annual reporting 2020	During the audit interviews, Altogether demonstrated a new process for reviewing data and checking compliance with the monitoring program using a Power BI database that included checking the number of samples taken, the frequency of sampling, and that the results are compliant. The database extract was reviewed and the auditor confirmed that the MS Progs are being implemented and the required samples are being taken at the correct frequencies. Altogether was found to have closed out the non-compliance.
13_025 - Discovery Point	Point of Supply (PoS) frequency of Clostridia and coliphage testing was at a lower frequency than it should have been. Sampling was being undertaken monthly not weekly as required by Flow's Monitoring and Sampling	NOL Sch B cl 8.1	Non-compliant (Non-material)	Self reported – Annual reporting 2020	During the audit interviews, Altogether demonstrated a new process for reviewing data and checking compliance with the monitoring program using a Power BI database that included checking the number of samples taken, the frequency of sampling, and that the results are compliant. The database extract was reviewed and the auditor confirmed that the MS Progs are being implemented and the required samples are being taken at the correct frequencies.

⁸³⁷ https://information.altogethergroup.com.au/askus/Central_Park/Central%20Park.pdf

Licence No.	Description	Clause Ref.	Grade	Auditor to check	Evidence
	Programme (M&S Prog) for Discovery Point, and as recommended by the Australian Guidelines for Water Recycling (AGWR).				Altogether was found to have closed out the non-compliance.
15_030 - Huntlee	<p>This clause was found to be non-compliant (non-material) based on the auditor's findings:</p> <ul style="list-style-type: none"> examination of the flow diagram of the recycled water scheme revealed that the "off-spec return" from the UV system was not shown the risk assessment had not been reviewed and updated and did not reflect current circumstances. In particular the risk register does not include assessment of the risk associated with treated water tanks, which was a recent incident that occurred at Pitt Town the Incident Management Plan and Water Quality Incident Management, Reporting and Investigation Procedure had not been reviewed and updated 	WIC Reg Sch 1 cl 7(4)(a)	Non-compliant (Non-material)	Check that RA and Incident management procedures are current, Flow diagram updated and recommendations from Operational Audit (Viridis, August 2020) are implemented	<p>The Huntlee Operational Audit Report (Viridis, August 2020) identified the following recommendations:</p> <ul style="list-style-type: none"> HU-REC-2020-001 Review and update the Process Flow Diagram Recycled Water & Sewerage to ensure it is accurate and shows all scheme components <p>The flow diagram⁸³⁸ identifies the off-spec return from the UV System</p> <ul style="list-style-type: none"> HU-REC-2020-002 Review and update the risk assessment to ensure it comprehensively identified hazardous events, reflects the current circumstances of the scheme and the risk methodology has been consistently applied. HU-REC-2020-003 Review and update the Incident Management Plan and the Water Quality Incident Management, Reporting and Investigation Procedure as required (annually and in response to an incident) <p>The Incident Management Plan⁸³⁹ (IMP) provides the overarching framework for Altogether's incident management plan and was updated in January 2021.</p> <p>The Water Operations Incident Management, Reporting and Investigation Procedure⁸⁴⁰ provides flow diagrams that give an overview of incident management and was updated in March 2021.</p>

⁸³⁸ 2688 Huntlee Process Flow Diagram - Recycled Water & Sewerage (CONTROLLED COPY).pdf HU-WAT-NSW-DR-OPS-2613

⁸³⁹ Incident Management Plan (IMP) (Controlled COPY) AG-ALL-AUS-PL-INC-1266 Revision 9 25 January 2021

⁸⁴⁰ Water Operations Incident Management, Reporting and Investigation Procedure (Controlled COPY) AG-WAT-NSW-PR-OPS-2561 Version 3 22 March 2021

Licence No.	Description	Clause Ref.	Grade	Auditor to check	Evidence
	<p>annually or in response to an incident, as required, and did not adequately cover responses to protozoan risk, and</p> <ul style="list-style-type: none"> the assessment of the drinking water service for the identification CCPs and QCPs had not been documented. This resulted in questions around whether the chlorine dosing should be included as a CCP. The auditor also identified a lack of clarity around operation of QCPs. 				<p>The Incident Notification Protocol with NSW Health⁸⁴¹ was updated in February 2021.</p> <ul style="list-style-type: none"> HU-REC-2020-004 Ensure the incident response documentation provides guidance on relevant incidents including but not limited to protozoan water quality non-compliances. <p>The out-of-specification procedure⁸⁴² includes the process for investigation when an out-of-specification parameter is detected. The process includes notifying stakeholders, retesting the out-of-specification parameter, and checking treatment processes. This is considered adequate to cover protozoan risk.</p> <ul style="list-style-type: none"> HU-REC-2020-005 Record the critical control point assessment for the drinking water system, ensuring that all components of the system have been assessed and critical controls points have been properly identified using the nominated process. Ensure CCPs and QCPs are implemented in accordance with the documentation. <p>CCPs have been reviewed and the results are detailed in Change Notice 3⁸⁴³ and Change Notice 7⁸⁴⁴. The audit found that the CCPs are implemented.</p> <ul style="list-style-type: none"> HU-REC-2020-006 Review the risk associated with the use of the fire tanks to determine if additional preventive measures are required and include the storages in the verification program to ensure that when supply is taken from the tanks, that the water quality has not deteriorated.

⁸⁴¹ Incident Notification Protocol with NSW Health (Controlled COPY) AG-ALL-NSW-PR-INC-1277 Revision 9 26 February 2021

⁸⁴² 3512 Discovery Point Recycled Water Out of Specification Work Instruction (Controlled COPY).pdf DP-WAT-NSW-WI-OPS-3474

⁸⁴³ 210413 Change Notice - Control Point and Log Reduction Review for BH, CB, HL, PT

⁸⁴⁴ CCP review workshop summary outcomes March 2021

Licence No.	Description	Clause Ref.	Grade	Auditor to check	Evidence
					<p>The Huntlee Risk Register includes a risk 'Contamination of drinking water in drinking water storage tank' and the inclusion of storages as a CCP is detailed in Change Notice 7⁸⁴⁵</p> <p>Altogether was found to have closed out the non-compliance.</p> <p>Note: additional findings have been identified in this audit in relation to the updated risk assessment and incident procedures.</p>
15_030 - Huntlee	<p>This clause was found to be non-compliant (non-material) based on the auditor's findings:</p> <ul style="list-style-type: none"> the risk assessment had not been reviewed by the due date and did not reflect the current circumstances of the scheme, in particular the likelihood of sewage overflows had been underestimated, which was not consistent with the frequency of overflows that had occurred at the scheme as recorded in the incident register. 	WIC Reg Sch 1 cl 14(3)(a)	Non-compliant (Non-material)	Check that RA and Incident management procedures are current, and recommendations from Operational Audit (Viridis, August 2020) are implemented	<p>The Huntlee Operational Audit Report (Viridis, August 2020) identified the following recommendations:</p> <ul style="list-style-type: none"> HU-REC-2020-002 Review and update the risk assessment to ensure it comprehensively identified hazardous events, reflects the current circumstances of the scheme and the risk methodology has been consistently applied. <p>The risk register⁸⁴⁶ for Huntlee (drinking and recycled water) indicates that in July 2020, an internal risk review workshop was undertaken, and a risk review workshop was undertaken with NSW Health in August 2020. The document control properties identify the new risks that were added to the risk register, and the risks that were deleted are shown as a strike through in the register.</p> <p>Altogether was found to have closed out the non-compliance.</p> <p>Note: additional findings have been identified in this audit in relation to the updated risk assessment and incident procedures.</p>

⁸⁴⁵ CCP review workshop summary outcomes March 2021

⁸⁴⁶ Huntlee Risk Register (Controlled COPY) HU-WAT-NSW-RG-OPS-2657.pdf HU-WAT-NSW-RG-OPS-2657

Licence No.	Description	Clause Ref.	Grade	Auditor to check	Evidence
15_030 - Huntlee	<p>Based on the review of Flow Systems documentation, site observations and discussions with key Licensee personnel, we consider that the Licensee has substantially demonstrated that the sludge dewatering infrastructure that has been included in the scope of this audit has been</p> <p>properly designed and constructed with regard to any publicly available standards or codes relating to its design, construction, operation and maintenance. However, during the site visit we observed that new assets have been appropriately tagged, with the exception of the main switch on the dewatering system, which does not have a unique number (refer to Figure 2-11). To ensure correct identification for isolations and the associated isolating plans, all isolation switches should be uniquely labelled. This reduces the risk for isolation errors for maintenance and operational tasks. As a result, we have graded this clause as Non-compliant (non-material) and</p>	NOL Sch B cl 4.1	Non-compliant (Non-material)	Check that dewatering system main switch has been tagged (refer to recommendation in Cardno's New Infrastructure Audit report, November 2020)	<p>Altogether provided evidence that the isolation switch has been included, via a Photograph⁸⁴⁷ of the tagged isolation switch.</p> <p>Altogether was found to have closed out the non-compliance.</p>

⁸⁴⁷ Huntlee Isolation Switch Photo

Licence No.	Description	Clause Ref.	Grade	Auditor to check	Evidence
	included a recommendation to address this deficiency. Although the clause has been graded as Non-compliant (non-material), this non-compliance does not affect the infrastructure's ability to operate safely and in accordance with its licence plans.				
15_031 - Green Square	The licensee has been assessed as non-compliant material for this licence clause due to the failure to implement the verification monitoring program verification monitoring and a number of minor deficiencies in the documentation. Deficiencies include the SMP and incident management documentation being out of date, lack of evidence to demonstrate time delays have been implemented and the lack of a process to confirm water quality compliance. The non-compliance is considered material because the licensee did not take microbiological samples at the required frequencies, resulting in periods of four week of time (between the monthly samples) where compliance with the water	WIC Reg Sch 1 cl 7(4)(a)	Non-compliant (Material)	Check documents have been updated implemented in as per recommendations in Operational Audit (Viridis, October 2020)	<p>The Green Square Audit Report (Viridis October 2020) included the following recommendations:</p> <ul style="list-style-type: none"> GS-REC-2020-001 Review and confirm the hard-coded time delays for all CCPs and document the outcomes to ensure the implementation of the CCPs is consistent and auditable. <p>Altogether advised that it had reviewed time delays but did not keep records of the review. In addition, Altogether is in the process of updating permissions to limit access to the critical limits in SCADA.</p> <ul style="list-style-type: none"> GS-REC-2020-002 – Document the operational monitoring program for the implementation of manual operator checks using hand-held instruments (weekly CCP checks) and ensure the Monitoring and Sampling Plan and Monitoring and Sampling Program include this process. <p>This audit found that the MS Progs do not comprehensively identify the operational monitoring program. A new recommendation has been made in relation to improving the documentation of the operational monitoring program.</p> <ul style="list-style-type: none"> GS-REC-2020-003 Implement a process to take and record the operator checks using handheld instruments (e.g. recording the weekly CCP checks through the CMMS).

Licence No.	Description	Clause Ref.	Grade	Auditor to check	Evidence
	<p>quality criteria has not been verified. Additionally, the licensee did not identify a period of one month (February 2020) where no microbiological samples were taken. The non-compliances have the potential to affect water quality, public health and safety or the environment. It is noted that the licensee has updated the verification monitoring program to include the correct frequencies and has commenced work on updating the scheme management plan, recycled water quality plan and the incident management procedures, which are expected address some of the deficiencies once complete.</p>				<p>Evidence of weekly CCP checks^{848 849} were provided which include grab sampling and checking online instrument readings.</p> <ul style="list-style-type: none"> GS-REC-2020-004 – Undertake a thorough review of all verification monitoring programs to ensure that: <ul style="list-style-type: none"> the program is implemented in accordance with the documentation that that there is a process to regularly check that samples are being taken at the correct frequency and to rapidly identify missed samples that there is an effective process to review and record verification monitoring data to confirm the compliance and ensure immediate reporting of non-compliant results. <p>During the audit interviews, Altogether demonstrated a new process for reviewing data and checking compliance with the monitoring program using a Power BI database that included checking the number of samples taken, the frequency of sampling, and that the results are compliant. The database extract was reviewed and the auditor confirmed that the MS Progs are being implemented and the required samples are being taken at the correct frequencies</p> <ul style="list-style-type: none"> GS-REC-2020-005 Review and update the Incident Management Plan and the Water Quality Incident Management, Reporting and Investigation Procedure as required (annually and in response to an incident). <p>The Incident Management Plan⁸⁵⁰ (IMP) provides the overarching framework for Altogether's incident management plan and was updated in January 2021.</p>

⁸⁴⁸ Work_Order 035765 Weekly Control Points Check GS

⁸⁴⁹ Work_Order 036702 Weekly Control Points Check GS

⁸⁵⁰ Incident Management Plan (IMP) (Controlled COPY) AG-ALL-AUS-PL-INC-1266 Revision 9 25 January 2021

Licence No.	Description	Clause Ref.	Grade	Auditor to check	Evidence
					<p>The Water Operations Incident Management, Reporting and Investigation Procedure⁸⁵¹ provides flow diagrams that give an overview of incident management and was updated in March 2021.</p> <p>The Incident Notification Protocol with NSW Health⁸⁵² was updated in February 2021.</p> <ul style="list-style-type: none"> GS-REC-2020-006 Ensure the incident response documentation provides guidance on relevant incidents including but not limited to protozoan water quality non-compliances. <p>The out-of-specification procedure⁸⁵³ includes the process for investigation when an out-of-specification parameter is detected. The process includes notifying stakeholders, retesting the out-of-specification parameter, and checking treatment processes. This is considered adequate to cover protozoan risk.</p> <p>Altogether has closed out this non-compliance other than confirming the hard coded time delays.</p> <p>A new recommendation has been made in relation to improving the documentation of the operational monitoring program.</p>
15_031 - Green Square	The Monitoring and Sampling Plan documents the approach to operational and verification monitoring, and the MS Prog outlines the specific sampling for GSW. During the audit, the Licensee demonstrated the SCADA system including operational trends, showing that the system operates generally within the target operational range. The Licensee did not provide evidence of	NOL Sch B cl 7.1	Non-compliant (Material)	Check documents have been updated implemented in as per recommendations in Operational Audit (Viridis, October 2020)	<p>The Green Square Audit Report (Viridis October 2020) included the following recommendations:</p> <ul style="list-style-type: none"> GS-REC-2020-004 – Undertake a thorough review of all verification monitoring programs to ensure that: <ul style="list-style-type: none"> the program is implemented in accordance with the documentation that that there is a process to regularly check that samples are being taken at the correct frequency and to rapidly identify missed samples that there is an effective process to review and record verification monitoring data to confirm the

⁸⁵¹ Water Operations Incident Management, Reporting and Investigation Procedure (Controlled COPY) AG-WAT-NSW-PR-OPS-2561 Version 3 22 March 2021

⁸⁵² Incident Notification Protocol with NSW Health (Controlled COPY) AG-ALL-NSW-PR-INC-1277 Revision 9 26 February 2021

⁸⁵³ 3512 Discovery Point Recycled Water Out of Specification Work Instruction (Controlled COPY).pdf DP-WAT-NSW-WI-OPS-3474

Licence No.	Description	Clause Ref.	Grade	Auditor to check	Evidence
	operator checks with handheld instruments as identified in the risk assessment as a preventive measure. The Licensee provided evidence that it implements the verification monitoring outlined in the MS Prog The licensee did not undertake the monitoring required under the water quality plan and did not have processes to ensure ongoing compliance with the Monitoring and Sampling Plan and Monitoring and Sampling Program.				<p>compliance and ensure immediate reporting of non-compliant results.</p> <p>During the audit interviews, Altogether demonstrated a new process for reviewing data and checking compliance with the monitoring program using a Power BI database that included checking the number of samples taken, the frequency of sampling, and that the results are compliant. The database extract was reviewed and the auditor confirmed that the MS Progs are being implemented and the required samples are being taken at the correct frequencies.</p> <p>Altogether was found to have closed out the non-compliance.</p>
15_031 - Green Square	A plan showing the nature and general location of the infrastructure was not available on the website as required by WIC Reg Sch1 Clause 12(a) and WIC Reg Sch1 Clause 16(a). The reason for the licence non-compliance was human error. The plans were available for the Flow Systems Group licensees' land housing schemes, but were not available for the high rise schemes. The plans were made available on 6/08/2020 at: https://askus.flowsystems.com.au/hc/enus/articles/208876906	<p>WIC Reg Sch 1 cl 12 (a)</p> <p>WIC Reg Sch 1 cl 16(a)</p>	Non-compliant (Non-material)	Self reported – Annual reporting 2020	<p>The overall Site plan for Green Square were available on the Altogether Website⁸⁵⁴</p> <p>Altogether was found to have closed out the non-compliance.</p>

⁸⁵⁴ https://information.altogethergroup.com.au/askus/Green_Square/Green%20Square%20Town%20Centre.pdf

Licence No.	Description	Clause Ref.	Grade	Auditor to check	Evidence
	-Reticulation-and-StandardDrawings.				
15_031 - Green Square	Point of Supply (PoS) frequency of Clostridia and coliphage testing was at a lower frequency than it should have been. Sampling was being undertaken monthly not weekly as required by Flow's Monitoring and Sampling Programme (M&S Prog) for Green Square, and as recommended by the Australian Guidelines for Water Recycling (AGWR).	WIC Reg Sch 1 cl 7(4)(a)	Non-compliant (Non-material)	Self reported – Annual reporting 2020	<p>The Green Square Audit Report (Viridis October 2020) included the following recommendations:</p> <ul style="list-style-type: none"> GS-REC-2020-004 – Undertake a thorough review of all verification monitoring programs to ensure that: <ul style="list-style-type: none"> the program is implemented in accordance with the documentation that that there is a process to regularly check that samples are being taken at the correct frequency and to rapidly identify missed samples that there is an effective process to review and record verification monitoring data to confirm the compliance and ensure immediate reporting of non-compliant results. <p>During the audit interviews, Altogether demonstrated a new process for reviewing data and checking compliance with the monitoring program using a Power BI database that included checking the number of samples taken, the frequency of sampling, and that the results are compliant. The database extract was reviewed and the auditor confirmed that the MS Progs are being implemented and the required samples are being taken at the correct frequencies.</p> <p>Altogether was found to have closed out the non-compliance.</p>

Licence No.	Description	Clause Ref.	Grade	Auditor to check	Evidence
15_031 - Green Square	Point of Supply (PoS) frequency of Clostridia and coliphage testing was at a lower frequency than it should have been. Sampling was being undertaken monthly not weekly as required by Flow's Monitoring and Sampling Programme (M&S Prog) for Green Square, and as recommended by the Australian Guidelines for Water Recycling (AGWR).	NOL Sch B cl 8.1	Non-compliant (Non-material)	Self reported – Annual reporting 2020	<p>The Green Square Audit Report (Viridis October 2020) included the following recommendations:</p> <ul style="list-style-type: none"> GS-REC-2020-004 – Undertake a thorough review of all verification monitoring programs to ensure that: <ul style="list-style-type: none"> the program is implemented in accordance with the documentation that that there is a process to regularly check that samples are being taken at the correct frequency and to rapidly identify missed samples that there is an effective process to review and record verification monitoring data to confirm the compliance and ensure immediate reporting of non-compliant results. <p>During the audit interviews, Altogether demonstrated a new process for reviewing data and checking compliance with the monitoring program using a Power BI database that included checking the number of samples taken, the frequency of sampling, and that the results are compliant. The database extract was reviewed and the auditor confirmed that the MS Progs are being implemented and the required samples are being taken at the correct frequencies.</p> <p>Altogether was found to have closed out the non-compliance.</p>
15_033 - Cooranbong	<p>This clause was found to be non-compliant (non-material) based on the auditor's findings:</p> <ul style="list-style-type: none"> the risk assessment had not been reviewed by the due date and did not reflect the current 	WIC Reg Sch 1 cl 14(3)(a)	Non-compliant (Non-material)	Check that RA and Incident management procedures are current, and recommendations from Operational Audit	<p>The Cooranbong Operational Audit (Viridis, August 2020) made the following recommendations:</p> <ul style="list-style-type: none"> CO-REC-2020-001 Review and update the risk assessment to ensure it comprehensively identified hazardous events, reflects

Licence No.	Description	Clause Ref.	Grade	Auditor to check	Evidence
	<p>circumstances of the scheme, and</p> <ul style="list-style-type: none"> the Incident Management Procedures had not been reviewed and updated by the due date. 			(Viridis, August 2020) are implemented	<p>the current circumstances of the scheme and the risk methodology has been consistently applied.</p> <p>The risk register⁸⁵⁵ for Cooranbong (drinking and recycled water) indicates that in July 2020, an internal risk review workshop was undertaken, and a risk review workshop was undertaken with NSW Health in August 2020. The document control properties identify the new risks that were added to the risk register, and the risks that were deleted are shown as a strike through in the register.</p> <ul style="list-style-type: none"> CO-REC-2020-002 Review and update the Incident Management Plan and the Water Quality Incident Management, Reporting and Investigation Procedure as required (annually and in response to an incident) <p>The Incident Management Plan⁸⁵⁶ (IMP) provides the overarching framework for Altogether's incident management plan and was updated in January 2021.</p> <p>The Water Operations Incident Management, Reporting and Investigation Procedure⁸⁵⁷ provides flow diagrams that give an overview of incident management and was updated in March 2021.</p> <p>The Incident Notification Protocol with NSW Health⁸⁵⁸ was updated in February 2021.</p> <ul style="list-style-type: none"> CO-REC-2020-003 Ensure the incident response documentation provides guidance on relevant incidents including but not limited to protozoan water quality non-compliances. <p>The out-of-specification procedure⁸⁵⁹ includes the process for investigation when an out-of-specification parameter is detected. The process includes notifying stakeholders, retesting the out-of-</p>

⁸⁵⁵ Cooranbong Scheme Risk Register (Controlled COPY) CO-WAT-NSW-RG-OPS-2472.pdf CO-WAT-NSW-RG-OPS-2472

⁸⁵⁶ Incident Management Plan (IMP) (Controlled COPY) AG-ALL-AUS-PL-INC-1266 Revision 9 25 January 2021

⁸⁵⁷ Water Operations Incident Management, Reporting and Investigation Procedure (Controlled COPY) AG-WAT-NSW-PR-OPS-2561 Version 3 22 March 2021

⁸⁵⁸ Incident Notification Protocol with NSW Health (Controlled COPY) AG-ALL-NSW-PR-INC-1277 Revision 9 26 February 2021

⁸⁵⁹ 3343 Recycled water out of specification work instruction_Cooranbong (Controlled COPY).pdf CO-WAT-NSW-WI-OPS-3321

Licence No.	Description	Clause Ref.	Grade	Auditor to check	Evidence
					<p>specification parameter, and checking treatment processes. This is considered adequate to cover protozoan risk.</p> <ul style="list-style-type: none"> CO-REC-2020-004 Record the critical control point assessment, ensuring that all components of the system have been assessed and critical controls points have been properly identified using the nominated process. Ensure CCPs and QCPs are implemented in accordance with the documentation. <p>CCPs have been reviewed and the results are detailed in Change Notice 3⁸⁶⁰ and Change Notice 7⁸⁶¹.</p> <p>Altogether was found to have closed out the non-compliance.</p> <p>Note: additional findings have been identified in this audit in relation to the updated risk assessment and incident procedures.</p>
15_033 - Cooranbo ng	<p>This clause was found to be non-compliant (non-material) based on the auditor's findings:</p> <ul style="list-style-type: none"> the risk assessment had not been reviewed by the due date and did not reflect current circumstances of the scheme the risk assessment did not address overdosing of chlorine the drinking water quality control point was not implemented, and 	WIC Reg Sch 1 cl 7(4)(a)	Non-compliant (Non-material)	Check that listed documents are current and recommendations from Operational Audit (Viridis, August 2020) are implemented	<p>The Cooranbong Operational Audit (Viridis, August 2020) made the following recommendations:</p> <ul style="list-style-type: none"> CO-REC-2020-001 Review and update the risk assessment to ensure it comprehensively identified hazardous events, reflects the current circumstances of the scheme and the risk methodology has been consistently applied. <p>The risk register⁸⁶² for Cooranbong (drinking and recycled water) indicates that in July 2020, an internal risk review workshop was undertaken, and a risk review workshop was undertaken with NSW Health in August 2020. The document control properties identify the new risks that were added to the risk register, and the risks that were deleted are shown as a strike through in the register.</p>

⁸⁶⁰ 210413 Change Notice - Control Point and Log Reduction Review for BH, CB, HL, PT

⁸⁶¹ CCP review workshop summary outcomes March 2021

⁸⁶² Cooranbong Scheme Risk Register (Controlled COPY) CO-WAT-NSW-RG-OPS-2472.pdf CO-WAT-NSW-RG-OPS-2472

Licence No.	Description	Clause Ref.	Grade	Auditor to check	Evidence
	<ul style="list-style-type: none"> the Incident Management Plan and Water Quality Incident Management, Reporting and Investigation Procedure had not been reviewed and updated annually or in response to an incident, as required, and did not adequately cover responses to protozoan risks. 				<p>DS1.7 of the updated drinking water risk assessment⁸⁶³ includes overdosing of chlorine.</p> <ul style="list-style-type: none"> CO-REC-2020-002 Review and update the Incident Management Plan and the Water Quality Incident Management, Reporting and Investigation Procedure as required (annually and in response to an incident) <p>The Incident Management Plan⁸⁶⁴ (IMP) provides the overarching framework for Altogether's incident management plan and was updated in January 2021.</p> <p>The Water Operations Incident Management, Reporting and Investigation Procedure⁸⁶⁵ provides flow diagrams that give an overview of incident management and was updated in March 2021.</p> <p>The Incident Notification Protocol with NSW Health⁸⁶⁶ was updated in February 2021.</p> <ul style="list-style-type: none"> CO-REC-2020-003 Ensure the incident response documentation provides guidance on relevant incidents including but not limited to protozoan water quality non-compliances. <p>The out-of-specification procedure⁸⁶⁷ includes the process for investigation when an out-of-specification parameter is detected. The process includes notifying stakeholders, retesting the out-of-specification parameter, and checking treatment processes. This is considered adequate to cover protozoan risk.</p> <ul style="list-style-type: none"> CO-REC-2020-004 Record the critical control point assessment, ensuring that all components of the system have been assessed and critical controls points have been properly

⁸⁶³ Register of New Risks Feb2021 for Health Consultation

⁸⁶⁴ Incident Management Plan (IMP) (Controlled COPY) AG-ALL-AUS-PL-INC-1266 Revision 9 25 January 2021

⁸⁶⁵ Water Operations Incident Management, Reporting and Investigation Procedure (Controlled COPY) AG-WAT-NSW-PR-OPS-2561 Version 3 22 March 2021

⁸⁶⁶ Incident Notification Protocol with NSW Health (Controlled COPY) AG-ALL-NSW-PR-INC-1277 Revision 9 26 February 2021

⁸⁶⁷ 3343 Recycled water out of specification work instruction_Cooranbong (Controlled COPY).pdf CO-WAT-NSW-WI-OPS-3321

Licence No.	Description	Clause Ref.	Grade	Auditor to check	Evidence
					<p>identified using the nominated process. Ensure CCPs and QCPs are implemented in accordance with the documentation.</p> <p>CCPs have been reviewed and the results are detailed in Change Notice 3⁸⁶⁸ and Change Notice 7⁸⁶⁹.</p> <p>Altogether was found to have closed out the non-compliance.</p> <p>Note: additional findings have been identified in this audit in relation to the updated risk assessment and incident procedures.</p>
15_033 - Cooranbo ng	<p>The Licence Plans as a whole is considered adequate, with a few deficiencies: Element 5 - deficiency noted in process for identifying additional sample and monitoring locations following the scheme expansion</p> <p>Element 10 (Reporting) - A gap was noted against the ADWG which states that an annual report should be made available to consumers, regulatory authorities and stakeholders. The DWQP is silent on annual reporting to consumers.</p> <p>Element 11 - The process for the long-term evaluation of results as described in Section 11.1 of the DWQP is not</p>	WIC Reg Sch 1 cl 7(1)	Non-compliant (Non-material)	Check that recommendations from Licence plan Audit (Atom Consulting, November 2020) are implemented	<p>The DWQP⁸⁷⁰ was updated in March 2021. During the audit, Altogether demonstrated the process for reviewing the monitoring locations based on the network and the development of new areas which included a servicing map that showed the different stages of the Cooranbong development and the locations of monitoring points.</p> <p>Section 10.2.2 of the DWQP⁸⁷¹ includes a requirement to make annual reports available to the public on the Altogether website.</p> <p>Section 11.1.1 of the DWQP details the long-term evaluation of the water quality performance.</p> <p>Altogether was found to have closed out the non-compliance.</p>

⁸⁶⁸ 210413 Change Notice - Control Point and Log Reduction Review for BH, CB, HL, PT

⁸⁶⁹ CCP review workshop summary outcomes March2021

⁸⁷⁰ 2461 Drinking Water Quality Plan (DWQP) (Controlled COPY).pdf AG-WAT-AUS-PL-OPS-1241

⁸⁷¹ 2461 Drinking Water Quality Plan (DWQP) (Controlled COPY).pdf AG-WAT-AUS-PL-OPS-1241

Licence No.	Description	Clause Ref.	Grade	Auditor to check	Evidence
	adequate to ADWG requirements for this component, as the DWQP is silent on the assessment of water quality performance as part of an annual review reporting process. Recommended that these be assessed as part of the next scheduled RWQP licence plan audit (noting that this is scheduled for 2021).				
16_037 - Box Hill	<p>This clause was found to be non-compliant (non-material) based on the auditor's findings:</p> <ul style="list-style-type: none"> the risk assessment had not been reviewed by the due date and did not reflect current circumstances of the scheme Incident Management Procedures do not provide corrective responses for protozoan risk, and the Incident Management Plan and Water Quality Incident Management, Reporting and Investigation Procedure had not been reviewed and updated annually or in response to an incident, as required. 	WIC Reg Sch 1 cl 7(4)(a)	Non-compliant (Non-material)	Check that RA and Incident management procedures are current, and recommendations from Operational Audit (Viridis, August 2020) are implemented	<p>The Box Hill Operational Audit (Viridis, August 2020) made the following recommendations:</p> <ul style="list-style-type: none"> BH-REC-2020-001 Review and update the risk assessment to ensure it comprehensively identified hazardous events, reflects the current circumstances of the scheme and the risk methodology has been consistently applied. <p>The Box Hill Scheme Risk Register⁸⁷² (drinking and recycled water) indicates that in July 2020, an internal risk review workshop was undertaken, and a risk review workshop was undertaken with NSW Health in August 2020. The document control properties identify the new risks that were added to the risk register, and the risks that were deleted are shown as a strike through in the register.</p> <ul style="list-style-type: none"> BH-REC-2020-002 Review and update the Incident Management Plan and the Water Quality Incident Management, Reporting and Investigation Procedure as required (annually and in response to an incident)

⁸⁷² Box Hill Scheme Risk Register (Controlled COPY).pdf BH-WAT-NSW-RG-OPS-2486

Licence No.	Description	Clause Ref.	Grade	Auditor to check	Evidence
					<p>The Incident Management Plan⁸⁷³ (IMP) provides the overarching framework for Altogether's incident management plan and was updated in January 2021.</p> <p>The Water Operations Incident Management, Reporting and Investigation Procedure⁸⁷⁴ provides flow diagrams that give an overview of incident management and was updated in March 2021.</p> <p>The Incident Notification Protocol with NSW Health⁸⁷⁵ was updated in February 2021.</p> <ul style="list-style-type: none"> BH-REC-2020-003 Ensure the incident response documentation provides guidance on relevant incidents including but not limited to protozoan water quality non-compliances. <p>The out-of-specification procedure⁸⁷⁶ includes the process for investigation when an out-of-specification parameter is detected. The process includes notifying stakeholders, retesting the out-of-specification parameter, and checking treatment processes. This is considered adequate to cover protozoan risk.</p> <p>The non-compliance has been closed out.</p> <p>Note: additional findings on the risk assessment for this audit.</p>
16_037 - Box Hill	<p>This clause was found to be non-compliant (non-material) based on the auditor's findings:</p> <ul style="list-style-type: none"> the risk assessment had not been reviewed by the due date 	WIC Reg Sch 1 cl 14(3)(a)	Non-compliant (Non-material)	Check that RA and Incident management procedures are current, and recommendations	<p>The Box Hill Operational Audit (Viridis, August 2020) made the following recommendations:</p> <ul style="list-style-type: none"> BH-REC-2020-001 Review and update the risk assessment to ensure it comprehensively identified hazardous events, reflects

⁸⁷³ Incident Management Plan (IMP) (Controlled COPY) AG-ALL-AUS-PL-INC-1266 Revision 9 25 January 2021

⁸⁷⁴ Water Operations Incident Management, Reporting and Investigation Procedure (Controlled COPY) AG-WAT-NSW-PR-OPS-2561 Version 3 22 March 2021

⁸⁷⁵ Incident Notification Protocol with NSW Health (Controlled COPY) AG-ALL-NSW-PR-INC-1277 Revision 9 26 February 2021

⁸⁷⁶ 3512 Discovery Point Recycled Water Out of Specification Work Instruction (Controlled COPY).pdf DP-WAT-NSW-WI-OPS-3474

Licence No.	Description	Clause Ref.	Grade	Auditor to check	Evidence
	<p>and did not reflect the current circumstances of the scheme, and</p> <ul style="list-style-type: none"> the Incident Management Procedures (Incident Management Plan and Water Quality Incident Management, Reporting and Investigation Procedure) had not been reviewed and updated by the due date. The auditor made some recommendations. 			from Operational Audit (Viridis, August 2020) are implemented	<p>the current circumstances of the scheme and the risk methodology has been consistently applied.</p> <p>The Box Hill Scheme Risk Register⁸⁷⁷ (drinking and recycled water) indicates that in July 2020, an internal risk review workshop was undertaken, and a risk review workshop was undertaken with NSW Health in August 2020. The document control properties identify the new risks that were added to the risk register, and the risks that were deleted are shown as a strike through in the register.</p> <ul style="list-style-type: none"> BH-REC-2020-002 Review and update the Incident Management Plan and the Water Quality Incident Management, Reporting and Investigation Procedure as required (annually and in response to an incident) <p>The Incident Management Plan⁸⁷⁸ (IMP) provides the overarching framework for Altogether's incident management plan and was updated in January 2021.</p> <p>The Water Operations Incident Management, Reporting and Investigation Procedure⁸⁷⁹ provides flow diagrams that give an overview of incident management and was updated in March 2021.</p> <p>The Incident Notification Protocol with NSW Health⁸⁸⁰ was updated in February 2021.</p> <ul style="list-style-type: none"> BH-REC-2020-003 Ensure the incident response documentation provides guidance on relevant incidents including but not limited to protozoan water quality non-compliances. <p>The out-of-specification procedure⁸⁸¹ includes the process for investigation when an out-of-specification parameter is detected. The process includes notifying stakeholders, retesting the out-of-</p>

⁸⁷⁷ Box Hill Scheme Risk Register (Controlled COPY).pdf BH-WAT-NSW-RG-OPS-2486

⁸⁷⁸ Incident Management Plan (IMP) (Controlled COPY) AG-ALL-AUS-PL-INC-1266 Revision 9 25 January 2021

⁸⁷⁹ Water Operations Incident Management, Reporting and Investigation Procedure (Controlled COPY) AG-WAT-NSW-PR-OPS-2561 Version 3 22 March 2021

⁸⁸⁰ Incident Notification Protocol with NSW Health (Controlled COPY) AG-ALL-NSW-PR-INC-1277 Revision 9 26 February 2021

⁸⁸¹ 3512 Discovery Point Recycled Water Out of Specification Work Instruction (Controlled COPY).pdf DP-WAT-NSW-WI-OPS-3474

Licence No.	Description	Clause Ref.	Grade	Auditor to check	Evidence
					<p>specification parameter, and checking treatment processes. This is considered adequate to cover protozoan risk.</p> <p>The non-compliance has been closed out.</p> <p>Note: additional findings on the risk assessment for this audit.</p>
17_042 - Shepherds Bay	Due to a number of documents including the Sewage Management Plan, Scheme Management Plan being out-dated, the licensee has been found non-compliant (nonmaterial) as it did not keep its sewage management plan under regular review. A recommendation has been made to review and update the Sewage management plan and scheme management plan in line with the relevant review cycles.	WIC Reg Sch 1 cl 14(3)(a)	Non-compliant (Non-material)	Check that SMP is current (refer to recommendation in Operational Audit Viridis, October 2020)	<p>The Shepherds Bay Scheme Management Plan⁸⁸² was updated in April 2021. The Sewage Management Plan⁸⁸³ (Sewage MP) was reviewed and updated in January 2021 and rebranded in March 2021.</p> <p>The non-compliance has been closed out.</p>
17_042 - Shepherds Bay	The licensee has been assessed as non-compliant non-material for this licence clause due to a number of minor deficiencies in the documentation. Deficiencies include the SMP and incident management documentation being out of	WIC Reg Sch 1 cl 7(4)(a)	Non-compliant (Non-material)	Check that Scheme MP and Incident management procedures are current, (refer to recommendation in Operational Audit Viridis, October 2020)	<p>The Shepherds Bay Operational Audit (Viridis, October 2020) made the following recommendations:</p> <ul style="list-style-type: none"> SB-REC-2020-001 -Review the verification monitoring programs to ensure that there is an effective internal process to review and record verification monitoring data, confirm the compliance and ensure immediate reporting of non-compliant results.

⁸⁸² 2509 Shepherds Bay Scheme Management Plan (Scheme MP) (Controlled COPY).pdf SB-WAT-NSW-PL-OPS-1787

⁸⁸³ Sewage Management Plan (Sewage MP) (Controlled COPY) AG-WAT-AUS-PL-OPS-1328 Revision 9 16 March 2021

Licence No.	Description	Clause Ref.	Grade	Auditor to check	Evidence
	date and the lack of a process to confirm water quality compliance.				<p>During the audit interviews, Altogether demonstrated a new process for reviewing data and checking compliance with the monitoring program using a Power BI database that included checking the number of samples taken, the frequency of sampling, and that the results are compliant. The database extract was reviewed and the auditor confirmed that the MS Progs are being implemented and the required samples are being taken at the correct frequencies.</p> <ul style="list-style-type: none"> SB-REC-2020-002 Review and update the Incident Management Plan and the Water Quality Incident Management, Reporting and Investigation Procedure as required (annually and in response to an incident) <p>The Incident Management Plan⁸⁸⁴ (IMP) provides the overarching framework for Altogether's incident management plan and was updated in January 2021.</p> <p>The Water Operations Incident Management, Reporting and Investigation Procedure⁸⁸⁵ provides flow diagrams that give an overview of incident management and was updated in March 2021.</p> <p>The Incident Notification Protocol with NSW Health⁸⁸⁶ was updated in February 2021.</p> <ul style="list-style-type: none"> SB-REC-2020-003 Ensure the incident response documentation provides guidance on relevant incidents including but not limited to protozoan water quality non-compliances. <p>The out-of-specification procedure⁸⁸⁷ includes the process for investigation when an out-of-specification parameter is detected. The process includes notifying stakeholders, retesting the out-of-specification parameter, and checking treatment processes. This is considered adequate to cover protozoan risk.</p>

⁸⁸⁴ Incident Management Plan (IMP) (Controlled COPY) AG-ALL-AUS-PL-INC-1266 Revision 9 25 January 2021

⁸⁸⁵ Water Operations Incident Management, Reporting and Investigation Procedure (Controlled COPY) AG-WAT-NSW-PR-OPS-2561 Version 3 22 March 2021

⁸⁸⁶ Incident Notification Protocol with NSW Health (Controlled COPY) AG-ALL-NSW-PR-INC-1277 Revision 9 26 February 2021

⁸⁸⁷ 3512 Discovery Point Recycled Water Out of Specification Work Instruction (Controlled COPY).pdf DP-WAT-NSW-WI-OPS-3474

Licence No.	Description	Clause Ref.	Grade	Auditor to check	Evidence
					<p>The non-compliance has been closed out.</p> <p>Note: additional findings on the risk assessment for this audit.</p>
17_042 - Shepherds Bay	<p>A plan showing the nature and general location of the infrastructure was not available on the website as required by WIC Reg Sch1 Clause 12(a) and WIC Reg Sch1 Clause 16(a). The reason for the licence non-compliance was human error. The plans were available for the Flow Systems Group licensees' land housing schemes, but were not available for the high rise schemes. The plans were made available at https://askus.flowsystems.com.au/hc/enus/articles/208876906-Reticulation-and-StandardDrawings on 6/08/2020</p>	<p>WIC Reg Sch 1 cl 12 (a)</p> <p>WIC Reg Sch 1 cl 16(a)</p>	Non-compliant (Non-material)	Check plan is on website [I think we can do this ourselves]	<p>A plan of the drainage services is available on the Altogether website⁸⁸⁸.</p> <p>The non-compliance has been closed out.</p>
17_042 - Shepherds Bay	<p>Sample taken on 25th February 2020 & report received 28th July 2020 (Flow Incident No. 168) The routine verification sample taken from one of the Shepherds Bay drinking water sample points (SB3_RW_PoU) was not tested for total coliforms. Total</p>	NOL Sch B cl 7.1	Non-compliant (Non-material)	Auditor to check that monitoring plan is being followed [no need for separate item. It's already in scope]	<p>During the audit interviews, Altogether demonstrated a new process for reviewing data and checking compliance with the monitoring program using a Power BI database that included checking the number of samples taken, the frequency of sampling, and that the results are compliant. The database extract was reviewed and the auditor confirmed that the MS Progs are being implemented and the required samples are being taken at the correct frequencies.</p>

⁸⁸⁸ https://information.altogethergroup.com.au/askus/Shepherds_Bay/Shepherds%20Bay.pdf

Licence No.	Description	Clause Ref.	Grade	Auditor to check	Evidence
	coliform test was not undertaken as per monitoring and sampling plan, and as per Australian Guidelines for Water Recycling. No customer impact. Also occurred at Discovery Point 28th February and 5th May 2020. Due to a transcription error when the lab receipted the sample into their system the total coliforms test requested was not entered and so the test was not performed. This error was not identified by Eurofins' personnel until the report was being finalized, at which point the sample was out of holding time (24 hours)				The non-compliance has been closed out.
17_042 - Shepherds Bay	Sample taken on 25th February 2020 & report received 28th July 2020 (Flow Incident No. 168) The routine verification sample taken from one of the Shepherds Bay drinking water sample points (SB3_RW_PoU) was not tested for total coliforms. Total coliform test was not undertaken as per monitoring and sampling plan, and as per Australian Guidelines for Water Recycling. No customer impact. Also occurred at Discovery Point 28th February and 5th	WIC Reg Sch 1 cl 7(4)(a)	Non-compliant (Non-material)	Check that RA and Incident management procedures are current, and recommendations from Operational Audit (Viridis, August 2020) are implemented	<p>During the audit interviews, Altogether demonstrated a new process for reviewing data and checking compliance with the monitoring program using a Power BI database that included checking the number of samples taken, the frequency of sampling, and that the results are compliant. The database extract was reviewed and the auditor confirmed that the MS Progs are being implemented and the required samples are being taken at the correct frequencies.</p> <p>The non-compliance has been closed out.</p>

Licence No.	Description	Clause Ref.	Grade	Auditor to check	Evidence
	May 2020. Due to a transcription error when the lab receipted the sample into their system the total coliforms test requested was not entered and so the test was not performed. This error was not identified by Eurofins' personnel until the report was being finalized, at which point the sample was out of holding time (24 hours)				

APPENDIX B SUMMARY TABLE

Obligation/ Clause		Findings & evidence	Audit Grade	Recommendations	Recommendations applicable to which schemes (Yes or No or Not Authorised supply under the licence)							
					High rise schemes				Land & housing schemes			
Obligation/ Clause		Findings & evidence	Audit Grade	Recommendations	DPW	GSW	CPW	FSSB	FSBH	PTW	HW	CW
WIC Reg Sch 1 cl. 7(4):The licensee must ensure that its water quality plan is fully implemented and kept under regular review and, in particular, that all of its activities are carried out in accordance with that plan		See comments on each Recycled Water and Drinking Water element below.		See recommendations for each element below.								
RWQP	Element 1- Identify all agencies with responsibilities for water resources and use of recycled water; regularly update the list of relevant agencies.	The Recycled Water Quality Plan (RWQP) states under Component A1.3 that Altogether will identify all agencies with responsibilities for water resources and use of recycled water and regularly update the list of relevant agencies. These lists are to be reviewed at 6 monthly intervals, however during the audit period, some of the stakeholder registers had not been reviewed 6 monthly (see findings on the review for the individual schemes below). A recommendation has been identified to ensure that the Stakeholder and Emergency Contact list is up to date and is under regular review in accordance with documented processes.	Non-compliant (material)	REC-RW-2021-001 Implement a process to ensure the Stakeholders Emergency Contact List is reviewed by the due date to ensure it remains current.	N	N	N	N	Y	N	Y	Y

Obligation/ Clause		Findings & evidence	Audit Grade	Recommendations	Recommendations applicable to which schemes (Yes or No or Not Authorised supply under the licence)							
RWQP	Element 1 - Develop appropriate mechanisms and documentation for stakeholder commitment and involvement	Element 1 of the AGWR indicates that a recycled water supplier should engage users of recycled water; ensure responsibilities are identified and understood. Section A1.3.2 of the RWQP states that Licence Plan audit reports are provided on the Altogether website as form of customer engagement. When reviewing the website, it was found that the hyperlink to some of the audit reports linked to a different document. A subsequent search on 14/6/2021 indicated that the links had been corrected during the audit. It is considered that during the audit period, Altogether did not make its audit report publicly available, as required by the RWQP. A recommendation has been made to ensure that the information identified in the RWQP is available on the website.		REC-RW-2021-002 Where the water quality plans or legislation identify information to be included on the website, ensure that information is made available.	Y	N	Y	N	N	N	Y	N
RWQP	Element 1 - Identify all stakeholders (including the public) affecting, or affected by, decisions or activities related to the use of recycled water.	Section A1.3.3 of the RWQP states that the Stakeholder and Emergency contact list includes the public, however when reviewing the scheme specific lists, the public is not listed for Box Hill, Huntlee or Cooranbong. There are a number of recycled water uses across all schemes that include the irrigation of public open spaces or areas (car washes) where non-residents may be considered a user of recycled water. The AGWR in Section 2.1.3 requires that recycled water operators should identify all stakeholders (including the public) affecting, or affected by, decisions or activities		REC-RW-2021-003 Review and update stakeholder lists or equivalent to reflect all potential stakeholders, including the public.	Y	Y	Y	Y	Y	Y	Y	Y

Obligation/ Clause		Findings & evidence	Audit Grade	Recommendations	Recommendations applicable to which schemes (Yes or No or Not Authorised supply under the licence)								
		<p>related to the use of recycled water and engage users of recycled water; ensure responsibilities are identified and understood. It is unclear how Altogether communicates with members of the public who are not residents and who access areas with recycled water in use.</p> <p>A recommendation has been made to establish a process to identify all potential recycled water users and ensure there is a process for communicating responsibilities to all identified recycled water users. It is considered that appropriate mechanisms have not been developed and effectively employed for members of the public (end users) accessing areas where they may be exposed to recycled water. It is noted that the Stakeholder and Emergency Contact list may not be the most appropriate mechanism for identifying and engaging with the public.</p>											
RWQP	Element 1 - Identify all stakeholders (including the public) affecting, or affected by, decisions or activities related to the use of recycled water.	<p>It was noted that the interpretive signage at the Pitt Town LWC centre refers to recycled water as ‘purified water’. It is understood that Altogether was previously advised by IPART that this terminology is not acceptable as it does not indicate that the water is non-potable and may communicate a confusing message to people visiting the LWC. A recommendation has been made to ensure that engagement with recycled water users and other stakeholders clearly identifies that water produced by the LWC is recycled (REC-RW-2021-004).</p>		<p>REC-RW-2021-004 Undertake an internal audit of interpretive signage at all Altogether sites and remove any references to ‘purified’ water and ensure all relevant signage refers to recycled water.</p>	N	N	N	N	N	Y	N	N	

Obligation/ Clause		Findings & evidence	Audit Grade	Recommendations	Recommendations applicable to which schemes (Yes or No or Not Authorised supply under the licence)							
RWQP	Element 1 Develop a recycled water policy, endorsed by senior managers, to be implemented within an organisation or by participating agencies. Ensure that the policy is visible and is communicated, understood and implemented by employees and contractors.	The Recycled Water Policy states that Altogether will implement and maintain recycled water management system consistent with the AGWR and all managers and personnel are responsible for implementing, maintain and continuously improving the recycled water management system. During the audit, Altogether team members (Water Operations Manager 31 May 2021)(responsible for implementing the preventive measures in the risk assessment indicated that there have been insufficient resources to implement some processes (for example when discussing the implementation of the Minimising the Risk of Cross-Connection Checks Policy and Procedure), and the agreed compliance program (Executive Manager – Risk & Compliance 15 June 221) with IPART has affected Altogether’s ability to allocate sufficient resources to RWQP implementation. Additionally, when gaps in implementation (for example the implementation of the risk assessment methodology) were identified during the audit, Altogether representatives (Water Quality Systems Manager 31 May 2021) indicated in some instances that external consultants had undertaken the works and could not explain how the process was implemented. Additionally, it was indicated that in cases where recycled water is used in public spaces, that the public should have the ‘common sense’ to know that		REC-RW-2021-005 Implement a program to increase staff awareness of recycled water risks, improve ownership for managing risk and allocation of adequate resources to implement licence plans and meet regulatory requirements.	Y	Y	Y	Y	Y	Y	Y	Y

Obligation/ Clause	Findings & evidence	Audit Grade	Recommendations	Recommendations applicable to which schemes (Yes or No or Not Authorised supply under the licence)							
	recycled water is in use, without signage being installed (Technical Operations Lead 9 June 2021). This approach does not appear to adequately cover protecting the most vulnerable members of the community. It is the auditor's finding that Altogether has not fully implemented its recycled water policy due to gaps in risk management, failure to implement procedures in relation to cross-connection auditing, failure to take ownership for managing risk and by not allocating adequate resources for the implementation of the RWQP and supporting programs. A recommendation has been made to improve implementation of the recycled water policy and to ensure recycled water risk is well understood.										

Obligation/ Clause		Findings & evidence	Audit Grade	Recommendations	Recommendations applicable to which schemes (Yes or No or Not Authorised supply under the licence)							
RWQP	Element 2 Define the approach to hazard identification and risk assessment, considering both public and ecological health. Estimate the level of risk for each identified hazard or hazardous event. Consider inadvertent and unauthorised use or discharge. Evaluate the major sources of uncertainty associated with each hazard and hazardous event and consider actions to reduce uncertainty.	<p>The RAP includes consequence and likelihood descriptors that should be applied when assessing risk. The RAP states in Table 2 that 'Health risks on the sewage and recycled water risk registers are assessed using the AGWR matrix'. When reviewing the matrix, in the RAP, it was found that it was not consistent with the AGWR as the minor and negligible consequence descriptors in the RAP appear to exclude health impacts as detailed below:</p> <ul style="list-style-type: none"> • Minor ranking – Health impact minor - possible aesthetic or amenity impact, population impact small, isolated part of the scheme (zone or street) • Insignificant ranking – Health impact negligible - undetectable impact (normal operations) population impact small, isolated part of the scheme (zone or street) <p>Altogether has advised verbally and in emails that these consequence categories do not exclude health impacts, however this is not clear from reading the documents. Furthermore, there are a number of health impacts identified in the risk assessment that have been assigned 'insignificant' grading, which describes a health impact as 'negligible', and 'undetectable' and 'normal operations'. It is difficult to justify how a health impact from exposure to recycled water is part of 'normal operations'. There are a number of instances in the risk assessment where health risks have been assessed as insignificant for example:</p> <ul style="list-style-type: none"> • RL1.5 (refence Huntlee Risk 		REC-RW-2021-006 Review the risk assessments or risk assessment methodology to ensure that consequence values align with the risk being assessed, for example, where the consequence descriptor is limited to aesthetic or undetectable, these cannot be attributed to a risk that has an acute health impact. Frequencies should also be applied taking into consideration historical performance and the occurrence of incidents. Any reduction in consequence should be justified.	Y	Y	Y	Y	Y	Y	Y	Y

Obligation/ Clause		Findings & evidence	Audit Grade	Recommendations	Recommendations applicable to which schemes (Yes or No or Not Authorised supply under the licence)								
		<p>Register) Human health impacts ‘Pathogens present in recycled water supplied to customers, causing health impacts for customers’ ‘Exceedance of AGWR health guideline value’</p> <ul style="list-style-type: none">• RD1.4 (reference Huntlee Risk Register) Human health impacts from on lot and network cross connections’ ‘Recycled water entering potable water plumbing in home’ ‘Pathogens present in water supplied to consumers, causing health impacts for consumers’ ‘Exceedance of ADWG health guideline value’ <p>It is noted that in the live consultation register , NSW Health provided comments on the risk assessment that do not appear to have been taken into consideration. NSW Health indicated ‘Generally it is not appropriate to change the consequence in assessing risk. Controls address the likelihood; i.e. the likelihood is reduced but the consequence remains the same’ however there are many instances in the risk register where this advice has not been followed and the control measures do not appear to reduce the consequence but the residual consequence has been reduced (refer to findings of the risk assessment below). In reviewing the risk assessments for all schemes, the auditor identified inconsistencies in the application of the RAP when assessing risk. :</p> <p>Based on the review of the scheme specific risk registers against the requirements of the RAP, it was found that the RAP</p>											

Obligation/ Clause		Findings & evidence	Audit Grade	Recommendations	Recommendations applicable to which schemes (Yes or No or Not Authorised supply under the licence)							
		was not consistently implemented in the audit period, resulting in an underestimation of health risk and there was ambiguity about the health impacts captured in the consequence descriptors. A recommendation has been made to ensure the risk assessment consistently assesses risks.										
RWQP	Element 3 Assess preventive measures throughout the recycled water system to identify critical control points. Establish mechanisms for operational control. Document the critical control points, critical limits and target criteria. & Element 9	The LRVs for Central Park and Discovery Point LRV claims for the UV disinfection system are well above those recommended for the CCPs dose critical limit in the US EPA UV Disinfection Manual (noting that the LRV Table identifies the USEPA as the reference for the LRV claim), which recommends a 0.5 LRV claim at 39 m/cm2. A recommendation has been made to document the evidence that demonstrated the system has been validated to the site-specific operational conditions.		REC-RW-2021-007 Clearly document the UV dose calculations documenting the evidence used. This is required to validate that the UV Systems are able to achieve the LRV required for the site-specific operational conditions (flow and UVT), documented in the log reduction tables and CCP Tables. Critical limits must be set to ensure the operational range of the UV is within the validated limits.	Y	N	Y	N	N	N	N	N

Obligation/ Clause		Findings & evidence	Audit Grade	Recommendations	Recommendations applicable to which schemes (Yes or No or Not Authorised supply under the licence)							
RWQP	Element 3 Establish mechanisms for operational control. Document the critical control points, critical limits and target criteria.	Section 4.2 of the RWQP states that operational monitoring is captured in the Monitoring and Sampling Plan and a scheme specific monitoring protocol is compiled into a Monitoring and Sampling Program. The Monitoring and Sampling Plan identifies operational monitoring as a component of the overarching monitoring approach, however operational monitoring is not consistently documented on the Monitoring and Sampling Program. A recommendation has been made to ensure that the operational monitoring program is correctly documented on the MS Prog, or relevant alternative.		REC-RW-2021-008 Review the scheme specific monitoring and sampling programs to ensure they include all operational parameters or develop a separate comprehensive operational monitoring program.	Y	Y	Y	N	Y	Y	Y	Y
	Element 9 Validate processes and procedures to ensure they control hazards effectively.											
RWQP	Element 4 Identify procedures required for all processes and activities applied within the whole recycled water system (source to use). Document all procedures and compile into an operations manual.	The procedure for minimising cross-connections was chosen as a sample procedure for a more detailed audit. The Minimising the Risk of Cross-Connection Checks Policy and Procedure was provided and discussed at the audit. The document control properties indicate that the procedure was established in December 2018 and updated in June 2019. The procedure in Section 8.4.2 states that 'Flow will conduct a statistically significant set of one of the following types of tests on three streets in a scheme or three units in a high rise building annually, to confirm that there are no cross-connections between potable and recycled water systems or tap-ins of potable to recycled water fittings: 1. flow tests 2. electrical conductivity (EC) tests and/or 3. chlorine/chloramine tests, or		REC-RW-2021-009 Review the Minimising the Risk of Cross-Connection Checks Policy and Procedure to ensure that it clearly identifies the number of connections to be audited, audit procedure and the record keeping requirements. Ensure that the ongoing cross-connection audit program is adequate to control the risk of on-lot cross connections noting that the AGWR suggests a rolling 6-monthly audits with all properties audited at least every 5 years as an example of appropriate cross connection monitoring.	Y	Y	Y	Y	Y	Y	Y	Y

Obligation/ Clause	Findings & evidence	Audit Grade	Recommendations	Recommendations applicable to which schemes (Yes or No or Not Authorised supply under the licence)							
	<p>similar.'</p> <p>When reviewing the implementation of the Minimising the Risk of Cross-Connection Checks Policy and Procedure it was unclear what a 'statistically significant' number of tests would equate to and how this will relate to three streets or three units in a high rise. The AGWR in Table 2.8 provides examples of potential operational criteria and monitoring, suggesting an ongoing cross-connection program, rolling 6-monthly audits with all properties audited at least every 5 years. Whilst the AGWR provides an example of an acceptable cross connection program, this audit has found that the existing Minimising the Risk of Cross-Connection Checks Policy and Procedure is not clear on the number of audits that need to be taken for each scheme and how the properties to be audited are to be chosen to ensure they are representative. When discussing the implementation of the procedure, it was noted that Altogether produced records of only three cross-connection audits undertaken in the audit period across all schemes, with a total of 8146 recycled water connections (as of April 2021). One cross-connection audit was undertaken each at Cooranbong, Huntlee and Box Hill. The Minimising the Risk of Cross-Connection Checks Policy and Procedure has not been implemented as documented. Additionally, during the audit interviews Altogether staff advised (Water Operations</p>										

Obligation/ Clause	Findings & evidence	Audit Grade	Recommendations	Recommendations applicable to which schemes (Yes or No or Not Authorised supply under the licence)								
		Manager 31 May 2021) that there are insufficient staff resources to undertake a planned cross-connection program.										
RWQP	Element 5 Application Site and Receiving Environment Determine the characteristics to be monitored and the points at which monitoring will be undertaken. Establish and document procedures for corrective responses to nonconformance or feedback from users of recycled water. Establish rapid communication systems to deal with unexpected events.	The Huntlee Environmental monitoring program (at the Creek Downstream location) returned high microbiological values including E. coli recorded values of 360 cfu/100mL and 2200 cfu/100mL, Clostridium perfringens recorded values of 700 cfu/100mL and 100 cfu/100mL, and Somatic Coliphage recorded values of 100 cfu/100mL and <1 cfu/100mL respectively for July 2020 and March 2021 sampling. It was discussed that the results are reviewed upon receipt and the high concentrations of human sewage indicators may be due to the septic tanks on properties. When discussing the results, it was uncertain if there was an action limit or a value		REC-RW-2021-010 For surface water and other environmental monitoring processes, identify appropriate limits to trigger further investigation and reporting to determine the source of human sewage indicators and to implement actions to reduce environmental harm.	N	N	N	N	N	N	Y	N

Obligation/ Clause		Findings & evidence	Audit Grade	Recommendations	Recommendations applicable to which schemes (Yes or No or Not Authorised supply under the licence)							
		for the parameters that would trigger an investigation or reporting to an environmental regulator. A recommendation has been made to establish criteria for action when environment monitoring results indicate potential environmental harm. REC-RW-2021-010 For surface water and other environmental monitoring processes, identify appropriate limits to trigger further investigation and reporting to determine the source of human sewage indicators and to implement actions to reduce environmental harm.										
RWQP	Element 6 Define potential incidents and emergencies and document procedures and response plans with the involvement of relevant agencies. Train employees and regularly test emergency response plans. Investigate any incidents or emergencies and revise protocols as necessary.	The Water Operations Incident Management, Reporting and Investigation Procedure provides flow diagrams that give an overview of incident management. This includes the requirement for the incident manager to assess, declare and classify the incident, make notifications, investigate, debrief and close out the incident. The flow diagram also includes responsibilities for notifying regulators. The Incident Notification Protocol with NSW Health was updated in February 2021 and includes the contact details of the relevant Public Health Units to be notified for each scheme. It was noted in both documents above, that there is a recycled water event identified as 'recycled water delivered to customers below the AGWR values measured at the point of supply or point of use'. This appears to be an error and the event should be defined as recycled water delivered to		REC-RW-2021-011 Review and update the Water Operations Incident Management, Reporting and Investigation Procedure and Incident Notification Protocol with NSW Health to define a recycled water event as a non-compliance with the documented water quality criteria for recycled water.	Y	Y	Y	Y	Y	Y	Y	Y

Obligation/ Clause		Findings & evidence	Audit Grade	Recommendations	Recommendations applicable to which schemes (Yes or No or Not Authorised supply under the licence)							
		customers that does not comply with the documented water quality criteria. It is noted that AGWR does not identify specific water quality criteria for recycled water and the water quality criteria are documented on the MS Progs for each scheme. A recommendation has been made to review the Water Operations Incident Management, Reporting and Investigation Procedure and Incident Notification Protocol with NSW Health to clearly define the recycled water event with reference to the documented water quality criteria.										
RWQP	Element 6 Define potential incidents and emergencies and document procedures and response plans with the involvement of relevant agencies. Train employees and regularly test emergency response plans. Investigate any incidents or emergencies and revise protocols as necessary.	No recycled water incidents were reported in relation to Shepherds Bay in the audit period, however there was an incident that occurred during the audit period, that was identified and reported outside the audit period, where recycled water was connected to a rainwater tank, that ultimately fed an interactive water play park. The recycled water network was charged with drinking water at the time. A recommendation has been made to ensure there is a process to regularly confirm that there are no unapproved connections to recycled water. REC-RW-2021-012 Establish a program to regularly audit the recycled water network to ensure there are no connections to unapproved uses.		REC-RW-2021-012 Establish a program to regularly audit the recycled water network to ensure there are no connections to unapproved uses.	N	N	N	Y	N	N	N	N

Obligation/ Clause		Findings & evidence	Audit Grade	Recommendations	Recommendations applicable to which schemes (Yes or No or Not Authorised supply under the licence)							
RWQP	Element 10 Document information pertinent to all aspects of recycled water quality management, and develop a document-control system to ensure current versions are in use.	In reviewing the documents provide in evidence, the following findings were noted: • The footer on the LWC Control System Change Management policy is inconsistent with the document control properties. • Some of the Stakeholder contacts lists were not reviewed by the due date. • A number of the scheme management plans have errors in the fields and captions. A recommendation has been made to improve documentation.		REC-RW-2021-013 Establish review processes to ensure all documents are reviewed on time and do not have typographical and hyperlink errors.	Y	N	Y	Y	Y	Y	Y	Y
RWQP	Element 11 Establish processes for internal and external audits. Document and communicate audit results.	Altogether has an Audit Procedure that outlines the audit process. An Internal Audit Calendar was shown that outlined the audits that should be undertaken. The audit procedure indicates that the outcomes of internal audits should go onto an action register. During the audit, Altogether explained that this is the Water Quality Improvement Plan, however the actions from internal audits had not been captured on the improvement plan, there was no evidence the actions had been allocated to a responsible person, progress tracked, or closed out. It is noted that some audit findings were closed out on the day of the audit, however ones that were not closed out were not captured in an action register or on the Water Quality Improvement Plan. A recommendation has been made to ensure the audit process is implemented as documented.		REC-RW-2021-014 Develop a process to capture and track the progress in implementing recommendations from internal audits on an action register or improvement program, as required by the procedure.	Y	Y	Y	Y	Y	Y	Y	Y

Obligation/ Clause		Findings & evidence	Audit Grade	Recommendations	Recommendations applicable to which schemes (Yes or No or Not Authorised supply under the licence)							
RWQP	Element 12 Develop a recycled water quality management improvement plan. Ensure that the plan is communicated and implemented, and that improvements are monitored for effectiveness.	The Water Quality Improvement Plan was provided and discussed in the audit. Inputs to the plan are documented on the 'Lists Ops' tab and include activities such as the risk register, Licence plan review and audit. There were many items on the register that do not have a completion date, and this makes it difficult to audit its implementation. A recommendation has been made to improve the documentation of the improvement plan to ensure that it is implemented.		REC-RW-2021-015 Ensure all items on the Improvement Plan have been allocated to a responsible party, communicated, and due dates for completion have been applied.	Y	Y	Y	Y	Y	Y	Y	Y
DWQP	Element 1 Identify all stakeholders who could affect, or be affected by, decisions or activities of the drinking water supplier. Develop appropriate mechanisms and documentation for stakeholder commitment and involvement. Regularly update the list of relevant agencies.	Altogether's Drinking Water Quality Plan states under Component A1.3.1 that it will identify all stakeholders who could affect, or be affected by, decisions or activities of the drinking water supplier. Altogether uses the scheme specific Stakeholder & Emergency Contact Lists as its means of documenting stakeholders. The lists contain water utilities, NSW and Local government regulators, client interface (property managers) and preferred suppliers for emergencies. These lists are to be reviewed at 6 monthly intervals, however during the audit period, some of the stakeholder registers had not been reviewed 6 monthly (see findings on the review for the individual schemes below). A recommendation has been identified to ensure that the Stakeholder and Emergency Contact list is up to date and is under regular review in accordance with documented processes.	Non-compliant (non-material)	REC-DW-2021-001 Implement a process to ensure the Stakeholders Emergency Contact List is reviewed by the due date to ensure it remains current.	N	NA	N	N	NA	NA	Y	Y

Obligation/ Clause		Findings & evidence	Audit Grade	Recommendations	Recommendations applicable to which schemes (Yes or No or Not Authorised supply under the licence)							
DWQP	Element 1	<p>Identify all stakeholders who could affect, or be affected by, decisions or activities of the drinking water supplier. Develop appropriate mechanisms and documentation for stakeholder commitment and involvement. Regularly update the list of relevant agencies.</p> <p>It is noted that the WIC (General) Reg cl 9(a) requires all network operators to have an internet website on which the most recent auditor's report under clause 6 that applies to the Network Operator is available for inspection by members of the public. As detailed in the assessment of Element 1 for recycled water, there were times during the audit period that the website did not include the relevant audit report for public inspection. A recommendation has been made to ensure that the required information is maintained on the website.</p>		REC-DW-2021-002 Where the water quality plans or legislation identify information to be included on the website, ensure that information is made available.	Y	NA	Y	N	NA	NA	Y	N
DWQP	Element 2	<p>Define the approach and methodology to be used for hazard identification and risk assessment. Identify and document hazards, sources and hazardous events for each component of the water supply system. Estimate the level of risk for each identified hazard or hazardous event. Evaluate the major sources of uncertainty associated with each hazard and hazardous event and consider actions to reduce uncertainty. Determine significant risks and document priorities for risk management. Periodically review and update the</p> <p>Section 2.3 of the DWQP identifies the Risk Assessment Protocol for Water Products and Services (the RAP) as the documented process for undertaking risk assessments. It was noted in the audit that the RAP methodology has not been consistently implemented resulting in instances of under estimation of risk.</p>		REC-DW-2021-003 Review the risk assessments or risk assessment methodology to ensure that consequence values align with the risk being assessed, for example, where the consequence descriptor is limited to aesthetic or undetectable, these cannot be attributed to a risk that has an acute health impact. Frequencies should also be applied taking into consideration historical performance and the occurrence of incidents. Any reduction in consequence should be justified.	Y	NA	Y	Y	NA	NA	Y	Y

Obligation/ Clause		Findings & evidence	Audit Grade	Recommendations	Recommendations applicable to which schemes (Yes or No or Not Authorised supply under the licence)							
	hazard identification and risk assessment to incorporate any changes.											
DWQP	Element 4 Identify procedures required for processes and activities from catchment to consumer. Document all procedures and compile into an operations manual.	When discussing hygienic work practices when working on the drinking water network, Altogether stated that due to the design of the drinking water network, there is no need to undertake works on the drinking water network and there are no mains breaks. Additionally, if there was a need to work on the mains, Altogether uses a trusted contractor, however there do not appear to be any established procedures of policies for hygienic work practices for Altogether staff of contractors undertaking works on the mains. The Drinking Water Risk assessment undertaken in February 2021 has identified (Ref DW1.6) the need to ‘Formalise and document procedures around equipment use for various water products and services. This action item is noted on the Water Quality Improvement Plan ^[2] , however		REC-DW-2021-004 Establish a policy and procedure for hygienic work practices for Altogether staff and contractors undertaking works on Altogether’s drinking water networks and develop a process for ensuring all network operators and contractors have been made aware of the requirements and establish an ongoing audit process to ensure the practices are implemented.	Y	NA	Y	Y	NA	NA	Y	Y

Obligation/ Clause		Findings & evidence	Audit Grade	Recommendations	Recommendations applicable to which schemes (Yes or No or Not Authorised supply under the licence)							
		there is no target date for completion.										
DWQP	Element 4 Develop monitoring protocols for operational performance of the water supply system, including the selection of operational parameters and criteria, and the routine analysis of results. Document monitoring protocols into an operational monitoring plan.	Monitoring results indicated that chlorine residual in the drinking water network regulatory fail the target criteria identified in the Monitoring and Sampling Programs. A recommendation has been made investigate instances of low chlorine residual and raise improvement actions to address the issue.		REC-DW-2021-005 The Monitoring and Sampling Programs for drinking water schemes identify that a minimum target of 0.2mg/L of free chlorine should be maintained through reticulation networks, this is consistent with ADWG advice. Identify areas in reticulation where this cannot be met and raise an improvement item to improve the chlorine residual in these areas within an appropriate timeframe	Y	NA	Y	Y	NA	NA	Y	N
DWQP	Element 4 Develop monitoring protocols for operational performance of the water supply system, including the selection of operational parameters and criteria, and the routine analysis of results. Document monitoring protocols into an operational monitoring plan.	The CCP Tables and Monitoring and Sampling Programs identify operational monitoring for drinking water however, there was no record of the sampling being undertaken. The Weekly Control Points Checklist includes QCPs and CCPs for recycled water but not for drinking water. It is unclear where the results of the grab sample are captured and there was no evidence of that monitoring provided for the audit period. A recommendation has been made to record the result of operational monitoring of the drinking water service.		REC-DW-2021-006 Include recording the operational monitoring of the drinking water system on the weekly control points checklist or equivalent.	N	NA	N	N	NA	NA	Y	Y





Obligation/ Clause		Findings & evidence	Audit Grade	Recommendations	Recommendations applicable to which schemes (Yes or No or Not Authorised supply under the licence)							
DWQP	Element 10 Document information pertinent to all aspects of drinking water quality management. Develop a document control system to ensure current versions are in use.	In reviewing the documents provide in evidence, the following findings were noted: • The footer on the LWC Control System Change Management policy is inconsistent with the document control properties. • Some of the Stakeholder contacts lists were not reviewed by the due date. • A number of the scheme management plans have errors in the fields and captions. A recommendation has been made to improve documentation.		REC-DW-2021-007 Establish review processes to ensure all documents are reviewed on time and do not have typographical and hyperlink errors.	Y	NA	Y	Y	NA	NA	Y	Y
DWQP	Element 11 Establish processes for internal and external audits. Document and communicate audit results.	Altogether has an Audit Procedure that outlines the audit process. An Internal Audit Calendar was shown that outlined the audits that should be undertaken. The audit procedure indicates that the outcomes of internal audits should go onto an action register. During the audit, Altogether explained that this is the Water Quality Improvement Plan, however the actions from internal audits had not been captured on the improvement plan, there was no evidence the actions had been allocated to a responsible person, progress tracked, or closed out. It is noted that some audit findings were closed out on the day of the audit, however ones that were not closed out were not captured in an action register or on the Water Quality Improvement Plan. A recommendation has been made to ensure the audit process is implemented as documented.		REC-DW-2021-008 Develop a process to capture and track the progress in implementing recommendations from internal audits on an action register or improvement program, as required by the procedure	Y	NA	Y	Y	NA	NA	Y	Y

Obligation/ Clause		Findings & evidence	Audit Grade	Recommendations	Recommendations applicable to which schemes (Yes or No or Not Authorised supply under the licence)							
DWQP	Element 12 Develop a drinking water quality management improvement plan. Ensure that the plan is communicated and implemented, and that improvements are monitored for effectiveness.	The Water Quality Improvement Plan was provided and discussed in the audit. Inputs to the plan are documented on the 'Lists Ops' tab and include activities such as the risk register, Licence plan review and audit. There were many items on the register that do not have a completion date, and this makes it difficult to audit its implementation. A recommendation has been made to improve the documentation of the improvement plan to ensure that it is implemented.		REC-DW-2021-009 Ensure all items on the Improvement Plan have been allocated to a responsible party, communicated, and due dates have been applied.	Y	NA	Y	Y	NA	NA	Y	Y
WIC Reg Sch 1 cl. 14(3):The licensee must ensure that its sewage management plan is fully implemented and kept under regular review and, in particular, that all of its activities are carried out in accordance with that plan		The Sewage Management Plan identifies the Risk Assessment Protocol for Water Products and Services (the RAP) as the documented process for undertaking risk assessments. It was noted in the audit that the RAP methodology has not been consistently implemented resulting in instances of under estimation of risk.	Non-compliant (non-material)	REC-Sewage-2021-001 Review the risk assessments or risk assessment methodology to ensure that consequence values align with the risk being assessed, for example, where the consequence descriptor is limited to aesthetic or undetectable, these cannot be attributed to a risk that has an acute health impact. Frequencies should also be applied taking into consideration historical performance and the occurrence of incidents. Any reduction in consequence should be justified.	Y	NA	Y	Y	Y	Y	Y	Y

APPENDIX C SUMMARY OF FINDINGS DISCOVERY POINT WATER

5. OVERALL SUMMARY

This section provides a summary of the findings, detailed findings and discussions are in Appendix A. The Table below provides an overview of the level of compliance for Discovery Point Water. Discovery Point Water (Altogether) is the licensee.

Compliance Grades	Number of Findings	
	Compliant	9
	Non-compliant (non-material)	2
	Non-compliant (material)	1
	No requirement	0

Audit findings are summarised by obligation in the sections below.

5.1. Water Quality Plans - Recycled Water

WIC Reg Sch 1 cl. 7(4) The network operator must ensure that its recycled water quality plan is fully implemented and kept under regular review and the network operator's activities are carried out in accordance with that plan.

5.1.1. Summary of Findings

The audit has identified a number of gaps in the implementation of the Recycled Water Quality Plan⁸⁸⁹ (RWQP) and its supporting programs due to inconsistent implementation the documented risk assessment methodology leading to an underestimation of health risks, inadequacy of the current cross-connection audit program, and failure to implement the current program for cross-connection auditing. In addition, a number of minor inconsistencies in the implementation of the recycled water quality plan and the supporting documentation were identified.

Altogether did not provide sufficient verifiable evidence that it's RWQP is fully implemented, and it is the auditor's finding that the deficiency adversely affects Altogether's ability to assure controlled processes, products and outcomes and protect public health.

A grading of **non-compliant material** is awarded to WIC Reg Sch 1 cl. 7(4).

Recommendations have been identified below. Opportunities for improvement have been identified in the combined audit summary and detailed findings in Appendix A.

5.1.2. Recommendations

The following recommendations have been identified to address the areas of non-compliance:

Element 1

⁸⁸⁹ Recycled Water Quality Plan AG-WAT-AUS-PL-OPS-1311 Revision: 17 27 April 2021

Element 1 of the AGWR indicates that a recycled water supplier should engage users of recycled water; ensure responsibilities are identified and understood. Section A1.3.2 of the RWQP⁸⁹⁰ states that Licence Plan audit reports are provided on the Altogether website as form of customer engagement. When reviewing the website⁸⁹¹, it was found that the hyperlink to the audit report linked to a different document. The Discovery Point Water Licence Plan Audit Report for 2021 is listed as being available on the website, but the site instead linked to the scheme's Residential Price Fact Sheet. It was noted that these links were affected when Altogether rebranded its website in January 2021. A subsequent search on 14/6/2021 indicated that the links had been corrected during the audit. It is considered that during the audit period, Altogether did not make its audit report publicly available, as required by the RWQP. A recommendation has been made to ensure that the information identified in the RWQP is available on the website.

- **REC-RW-2021-002 Where the water quality plans or legislation identify information to be included on the website, ensure that information is made available.**

The AGWR in Section 2.1.3 indicates that recycled water suppliers should identify all stakeholders (including the public) affecting, or affected by, decisions or activities related to the use of recycled water and engage users of recycled water; ensure responsibilities are identified and understood.

Section A1.3.3 of the RWQP states that the Stakeholder and Emergency contact list includes the public. Section A1.3.4 of the RWQP identifies scheme specific community website, bills, customer contract, SMS and email messages, project delivery Agreements, Project Control Group and Homeowners Guide as methods for engaging with developers, customers and tenants. The Altogether Flow WICA Licences - Authorised Purposes Matrix⁸⁹² identifies unrestricted irrigation, water features and general washdown as authorised purposes for the Discovery Point Scheme. When reviewing the scheme specific list⁸⁹³, 'Public Stakeholders' are listed however the list is silent on how Altogether communicates with members of the public who are not residents and who access areas with recycled water in use to ensure responsibilities are understood by the public (for example signage in irrigation areas warning that recycled water is in use).

A recommendation has been made to establish a process to identify all potential recycled water users and ensure there is a process for communicating responsibilities to all identified recycled water users. It is considered that appropriate mechanisms have not been developed and effectively employed for members of the public (end users) accessing areas where they may be exposed to recycled water. It is noted that the Stakeholder and Emergency Contact list may not be the most appropriate mechanism for identifying and engaging with the public.

- **REC-RW-2021-003 Review and update stakeholder lists or equivalent to reflect all potential stakeholders and the methods for engagement, including engaging with the public.**

The AGWR (Section 2.1.4) recommends that the recycled water policy should provide a basis for developing more detailed guiding principles and implementation strategies. AGWR includes the broad issues that the recycled water policy should address including for example, intention to adopt best-practice management and a multiple-barrier approach.

The Recycled Water Policy⁸⁹⁴ states that Altogether will implement and maintain recycled water management system consistent with the AGWR and all managers and personnel are responsible for implementing, maintain and continuously improving the recycled water management system.

⁸⁹⁰ Recycled Water Quality Plan AG-WAT-AUS-PL-OPS-1311 Revision: 17 27 April 2021

⁸⁹¹ <https://askus.altogethergroup.com.au/hc/en-us/articles/900004983283-Community-audits-management-plans> accessed 28 May 2021

⁸⁹² 2919 Altogether WICA Licences - authorised purposes matrix (Controlled COPY).pdf AG-WAT-NSW-RG-OPS-2918

⁸⁹³ Discovery Point - Stakeholders Emergency Contact List DP-WAT-NSW-RG-INC-3361 Revision 1.1 30 December 2020

⁸⁹⁴ Recycled Water Policy AG-WAT-AUS-PO-OPS-1310 Revision: 3 21 July 2020

During the audit, Altogether team members (Water Operations Manager 31 May 2021) responsible for implementing the preventive measures in the risk assessment indicated that there have been insufficient resources to implement some processes (for example when discussing the implementation of the *Minimising the Risk of Cross-Connection Checks Policy and Procedure*⁸⁹⁵), and the agreed compliance program (Executive Manager – Risk & Compliance 15 June 2021) with IPART has affected Altogether's ability to allocate sufficient resources to RWQP implementation.

Additionally, when gaps in implementation (for example the implementation of the risk assessment methodology) were identified during the audit, Altogether representatives (Water Quality Systems Manager 31 May 2021) indicated in some instances that external consultants had undertaken the works and could not explain how the process was implemented.

Additionally, it was indicated that in cases where recycled water is used in public spaces, that the public should have the 'common sense' to know that recycled water is in use, without signage being installed (Technical Operations Lead 9 June 2021). This approach does not appear to adequately cover protecting the most vulnerable members of the community. It is the auditor's finding that Altogether has not fully implemented its recycled water policy due to gaps in risk management, failure to implement procedures in relation to cross-connection auditing, failure to take ownership for managing risk and by not allocating adequate resources for the implementation of the RWQP and supporting programs

A recommendation has been made to improve implementation of the recycled water policy and to ensure recycled water risk is well understood.

- **REC-RW-2021-005 Implement a program to increase staff awareness of recycled water risks, improve ownership for managing risk and allocation of adequate resources to implement licence plans and meet regulatory requirements.**

Element 2

The AGWR in Section 2.2.4 indicates that recycled water suppliers should identify and document hazards and hazardous events, and estimate risk. Section 2.4 of the RWQP identifies the Risk Assessment Protocol for Water Products and Services⁸⁹⁶ (the RAP) as the documented process for undertaking risk assessments. The RAP includes consequence and likelihood descriptors that should be applied when assessing risk. The RAP states in Table 2 that 'Health risks on the sewage and recycled water risk registers are assessed using the AGWR matrix'. When reviewing the matrix, in the RAP, it was found that it was not consistent with the AGWR as the minor and negligible consequence descriptors in the RAP appear to exclude health impacts as detailed below:

- Minor ranking – Health impact minor - possible aesthetic or amenity impact, population impact small, isolated part of the scheme (zone or street)
- Insignificant ranking – Health impact negligible - undetectable impact (normal operations) population impact small, isolated part of the scheme (zone or street)

Altogether has advised verbally and in emails that these consequence categories do not exclude health impacts, however this is not clear from reading the documents. Furthermore, there are a number of health impacts identified in the risk assessment that have been assigned 'insignificant' grading, which describes a health impact as 'negligible', and 'undetectable' and 'normal operations'. It is difficult to justify how a health impact from exposure to recycled water is part of 'normal operations'.

⁸⁹⁵ Minimising the risk of cross-connection checks policy and procedure (Controlled COPY).pdf FS-ALL-AUS-PO-OPS-2544

⁸⁹⁶ Risk Assessment Protocol for Water Products and Services FS-WAT-NSW-PR-OPS-2466 Revision: 3 16 August 2020

There are a number of instances in the risk assessment⁸⁹⁷ where health risks have been assessed as insignificant for example:

- RL1.6 Human health impacts 'Pathogens present in recycled water supplied to customers, causing health impacts for customers' 'Exceedance of AGWR health guideline value'
- RD1.4 Human health impacts from on lot and network cross connections' 'Recycled water entering potable water plumbing in home' 'Pathogens present in water supplied to consumers, causing health impacts for consumers' 'Exceedance of ADWG health guideline value'

It is noted that in the live consultation register⁸⁹⁸, NSW Health provided comments on the risk assessment that do not appear to have been taken into consideration. NSW Health indicated *'Generally it is not appropriate to change the consequence in assessing risk. Controls address the likelihood; i.e. the likelihood is reduced but the consequence remains the same'* however there are many instances in the risk register where this advice has not been followed and the control measures do not appear to reduce the consequence but the residual consequence has been reduced (refer to findings of the risk assessment below).

In reviewing the risk assessment, the auditor identified the following inconsistencies in the application of the RAP when assessing risk:

- Risk SC1.4 relating to sewage overflows, leading to 'Human contact with wastewater causing public health impact'. The maximum likelihood is almost certain and moderate consequence. Moderate is described as 'Potential for some increase in disease burden'. The control measures include processes such as use of contractors, isolation of spills, complaints handling and communication. Whilst these control measures may reduce the frequency of a public health impact it is unclear how these reduce the consequence of a public health impact to minor, which is 'Possible aesthetic or amenity impact'.
- EU1.15 Risk of inadvertent connections between recycled water and potable water (e.g. public bubblers?) leading to 'Illness from ingestion of recycled water'. Preventive measures are education, communication protocols and the emergency procedures resulting in a residual risk rated minor, which is 'Minor, Possible aesthetic or amenity impact'.
- RD1.4 On-lot cross-connections residual risk is assessed as 'insignificant' which is described as an 'undetectable impact (normal operations). It is unclear how an on-lot cross-connection is part of normal operation. This risk certainty is 1 which means 'certain' however Altogether have only undertaken 3 cross-connection audits across 8 schemes with approximately 8146 recycled water customer connections in the audit period, therefore the risk level is unknown and uncertain. During the audit interviews numerous Altogether team members (Water Operations Manager 31 May 2021, Executive Manager – Sustainable Utility Services 15 June 2021) stated that cross-connections do not occur in the Altogether schemes because the houses and development are 'new'. This is contrary to industry knowledge and experience as documented in literature^{899 900 901 902}. This is considered a significant gap in understanding risk and taking responsibility for managing risk.

⁸⁹⁷ Discovery Point Scheme Risk Register P-NSW-WAT-RG-OPS-2451 V4.2 27 August 2020

⁸⁹⁸ LIVE_Register_Consultation with NSW Health

⁸⁹⁹ A. C. Hambly, R. K. Henderson, A. Baker, R. M. Stuetz & S. J. Khan (2012) Cross-connection detection in Australian dual reticulation systems by monitoring inherent fluorescent organic matter, *Environmental Technology Reviews*, 1:1, 67-80, DOI: 10.1080/09593330.2012.696724

⁹⁰⁰ Water Source <https://watersource.awa.asn.au/publications/technical-papers/third-pipe-water-recycling/>

⁹⁰¹ Risks to the long-term viability of residential non-potable water schemes: a review https://watersensitivecities.org.au/wp-content/uploads/2016/05/TMR_C3-1_RisksViabilityNonPotableWater.pdf

⁹⁰² Muston, M. H. (2012). *Changing of the water recycling paradigm in Australia*. *Water Science and Technology: Water Supply*, 12(5), 611–618. doi:10.2166/ws.2012.034

Based on the review of the scheme specific risk registers against the requirements of the RAP, it was found that the RAP was not consistently implemented in the audit period, resulting in an underestimation of health risk and there was ambiguity about the health impacts captured in the consequence descriptors. A recommendation has been made to ensure the risk assessment consistently assesses risks.

- **REC-RW-2021-006 Review the risk assessments or risk assessment methodology to ensure that consequence values align with the risk being assessed, for example, where the consequence descriptor of insignificant, aesthetic or negligible cannot be attributed to a risk that has an acute health impact. Frequencies should also be applied taking into consideration historical performance and the occurrence of incidents. Any reduction in consequence should be justified.**

Element 3

Section 2.3.2 of the AGWR indicates that a recycled water suppliers should document the critical control points (CCPs), critical limits and target criteria. To assess the CCPs and critical limits the following scheme specific documents were reviewed:

- Discovery Point Scheme Management Plan⁹⁰³
- Discovery Point - Control Points⁹⁰⁴
- Discovery Point - Log Reduction Values⁹⁰⁵
- Discovery Point Monitoring and Sampling Program⁹⁰⁶

The critical limits for each treatment process were assessed against the pathogen log reduction values (LRV's) being claimed, to confirm that they reflect the validated operational envelope for the LRV claim.

The LRVs being claimed for Discovery Point (1 LRV claimed at a dose of 39 mJ/cm² at a UVT of 50% UVT) are well above those recommended for the CCPs dose critical limit in the US EPA UV Disinfection Manual (noting that the LRV Table identifies the UASEPA as the reference for the LRV claim), which recommends a 0.5 LRV claim at 39 mJ/cm². Change notice 5⁹⁰⁷ requests a change of the Discovery Point LRV claim to 1.0 for virus and a higher dose set point for the UV CCP. As the critical limits have been revised, it has been found that there is insufficient evidence provided to demonstrate that the UV system has been validated to achieve the LRV at the proposed operational conditions and critical limits. A recommendation has been made to document the evidence that demonstrated the system has been validated to the site-specific operational conditions.

- **REC-RW-2021-007 Clearly document the UV dose calculations documenting the evidence used. This is required to validate that the UV Systems are able to achieve the LRV required for the site-specific operational conditions (flow and UVT), documented in the log reduction tables and CCP Tables. Critical limits must be set to ensure the operational range of the UV is within the validated limits.**

Section 2.3.2 of the AGWR includes requirements for monitoring CCPs and establishing mechanisms for operational control. The Discovery Point CCP Table⁹⁰⁸ identifies the monitoring of CCPs, however when reviewing the Monitoring and Sampling Program, it was noted that some of the CCP parameters were not captured, for example Contact time and RO QCP for Conductivity on the permeate line.

A recommendation has been made to ensure that the operational monitoring program is correctly documented on the MS Prog, or relevant alternative.

⁹⁰³ Discovery Point Scheme Management Plan (Scheme MP) (Controlled COPY) DP-WAT-NSW-PL-OPS-1242 Revision 9 19 April 2021

⁹⁰⁴ Discovery Point - Control Points (Controlled COPY) DP-WAT-NSW-PL-OPS-1228 Version 3 4 November 2019

⁹⁰⁵ Discovery Point - Log Reduction Values (Controlled COPY) DP-WAT-NSW-PL-OPS-2824 Version 1.2 5 November 2020

⁹⁰⁶ Discovery Point Monitoring and Sampling Program (Controlled COPY) DP-WAT-NSW-PL-OPS-2860 18/09/2020

⁹⁰⁷ 210406 Change Notice - Control Point and Log Reduction Review for CP and DP

⁹⁰⁸ Discovery Point - Control Points (Controlled COPY) DP-WAT-NSW-PL-OPS-1228 Version 3 4 November 2019

- **REC-RW-2021-008 Review the scheme specific monitoring and sampling programs to ensure they include all operational parameters or develop a separate comprehensive operational monitoring program.**

Element 4

Section 2.4.1 of the AGWR indicates that recycled water suppliers should identify procedures required for all processes and activities applied within the whole recycled water system (source to use). To determine a suitable procedure for this audit, the Discovery Point risk assessment was reviewed and a relevant hazard, cross connections between the recycled and drinking water network, was selected and the procedure for minimising cross-connections was chosen as a sample procedure for a more detailed audit. The Minimising the Risk of Cross-Connection Checks Policy and Procedure⁹⁰⁹ was provided and discussed at the audit. The document control properties indicate that the procedure was established in December 2018 and updated in June 2019. The procedure in Section 8.4.2 states that 'The risk of cross-connections and unauthorised tap-ins increases with time as plumbing and network changes are made and the number of connections increases.' Section 8.4.3 of the policy states that:

'Flow has received advice that the water industry has determined that conducting cross-connection checks of 20% of all connections annually is not effective and is moving towards a risk-based approach. Flow is committed to implementing a risk-based, prioritised, statistically significant ongoing inspection program.'

'Flow will conduct a statistically significant set of one of the following types of tests on three streets in a scheme or three units in a high rise building annually, to confirm that there are no cross-connections between potable and recycled water systems or tap-ins of potable to recycled water fittings:

1. *flow tests*
2. *electrical conductivity (EC) tests and/or*
3. *chlorine/chloramine tests, or similar.'*

When reviewing the requirements of the procedure, it was noted that the water industry advice (referenced in the policy) that Altogether has received was not documented and it was not possible to verify if the advice was documented or from where in the industry it was sourced from, for example an accepted industry standard or peer reviewed document. Altogether provided a range of emails^{910 911} written by Altogether staff, summarising what appears to be verbal advice from a consultant, however there does not appear to be verifiable evidence of the advice. It is noted that an email states '[Consultant Name] has advised us that based on his conversations with Health the "magic number is 3 – i.e. 3 streets in a scheme, 3 units in a building)" and not 20% of all connections annually as we previously targeted.' NSW Health acceptance of this advice could not be verified.

When reviewing the implementation of the Minimising the Risk of Cross-Connection Checks Policy and Procedure it was unclear what a 'statistically significant' number of tests would equate to and how this will relate to three streets or three units in a high rise. The AGWR in Table 2.8 provides examples of potential operational criteria and monitoring, suggesting an ongoing cross-connection program, rolling 6-monthly audits with all properties audited at least every 5 years. Whilst the AGWR provides an example of an acceptable cross connection program, this audit has found that the existing Minimising the Risk of Cross-Connection Checks Policy and Procedure is not clear on the

⁹⁰⁹ Minimising the risk of cross-connection checks policy and procedure (Controlled COPY).pdf FS-ALL-AUS-PO-OPS-2544

⁹¹⁰ Cross connection workshop with [Consultant Name] 28/11/2018

⁹¹¹ Proposed "Minimising the risk of cross-connection and tap-ins policy and procedure" 11/12/2018

number of audits that need to be taken for each scheme and how the properties to be audited are to be chosen to ensure they are representative.

There was no record of a cross connection audit undertaken at Discovery Point in the audit period. The Minimising the Risk of Cross-Connection Checks Policy and Procedure has not been implemented as documented. Additionally, during the audit interviews Altogether staff advised (Water Operations Manager 31 May 2021) that there are insufficient staff resources to undertake a planned cross-connection program.

A recommendation has been made to implement an ongoing cross-connection audit program that is adequate to control the risk of on-lot cross connections.

- **REC-RW-2021-009 Review the Minimising the Risk of Cross-Connection Checks Policy and Procedure to ensure that it clearly identifies the number of connections to be audited, audit procedure and the record keeping requirements. Ensure that the ongoing cross-connection audit program is adequate to control the risk of on-lot cross connections noting that the AGWR suggests a rolling 6-monthly audits with all properties audited at least every 5 years as an example of appropriate cross connection monitoring.**

Element 6

Section 2.6.2 of the AGWR indicates that a recycled water supplier should define potential incidents and emergencies, and document procedures and response plans. The Recycled Water Quality Plan⁹¹² provides a diagram in Section 6 which depicts the framework for managing recycled water incidents and emergencies. The Incident Management Plan⁹¹³ (IMP) provides the overarching framework for Altogether's incident management. The IMP in Section 5.1.3 identifies the requirements of the reporting manual and includes immediate notification to IPART, NSW Health, Department of Planning and Environment and other licenses and public water utilities.

The Water Operations Incident Management, Reporting and Investigation Procedure⁹¹⁴ provides flow diagrams that give an overview of incident management. This includes the requirement for the incident manager to assess, declare and classify the incident, make notifications, investigate, debrief and close out the incident. The flow diagram also includes responsibilities for notifying regulators.

The Incident Notification Protocol with NSW Health⁹¹⁵ was updated in February 2021 and includes the contact details of the relevant Public Health Units to be notified for each scheme.

It was noted in both documents above, that there is a recycled water event identified as 'recycled water delivered to customers below the AGWR values measured at the point of supply or point of use'. This appears to be an error and the event should be defined as recycled water delivered to customers that does not comply with the documented water quality criteria. It is noted that AGWR does not identify specific water quality criteria for recycled water and the water quality criteria are documented on the MS Progs for each scheme. A recommendation has been made to review the Water Operations Incident Management, Reporting and Investigation Procedure and Incident Notification Protocol with NSW Health to clearly define the recycled water event with reference to the documented water quality criteria.

- **REC-RW-2021-011 Review and update the Water Operations Incident Management, Reporting and Investigation Procedure and Incident Notification Protocol with NSW Health to ensure that the definition of a recycled water event refers to the documented water quality criteria for recycled water in the Water Quality Plan rather than referring to the Australian Guidelines for Water Recycling.**

⁹¹² Recycled Water Quality Plan AG-WAT-AUS-PL-OPS-1311 Revision: 17 27 April 2021

⁹¹³ Incident Management Plan (IMP) (Controlled COPY) AG-ALL-AUS-PL-INC-1266 Revision 9 25 January 2021

⁹¹⁴ Water Operations Incident Management, Reporting and Investigation Procedure (Controlled COPY) AG-WAT-NSW-PR-OPS-2561 Version 3 22 March 2021

⁹¹⁵ Incident Notification Protocol with NSW Health (Controlled COPY) AG-ALL-NSW-PR-INC-1277 Revision 9 26 February 2021

Element 9

- Refer to REC-RW-2021-007

Element 10

Document Control Policy and Procedure⁹¹⁶ states that all BMS documents are controlled using the BMS Library on SharePoint. During the site inspection at Pitt Town, the operator demonstrated the BMS system which included overarching licence plans, site-specific plans and procedures, forms and work instructions. In reviewing the documents provide in evidence, the following findings were noted:

- The footer on the LWC Control System Change Management policy⁹¹⁷ is inconsistent with the document control properties.
- The scheme management plan has errors in the fields and captions.

A recommendation has been made to improve documentation.

- **REC-RW-2021-013 Establish review processes to ensure all documents are reviewed on time and do not have typographical and hyperlink errors.**

Element 11

Section 2.11.2 of the AGWR indicates that recycled water suppliers should establish processes for internal and external audits and document and communicate audit results. Altogether has an Audit Procedure⁹¹⁸ that outlines the audit process. An Internal Audit Calendar⁹¹⁹ was shown that outlined the audits that should be undertaken. The audit procedure indicates that the outcomes of internal audits should go onto an action register. During the audit, Altogether explained that this is the Water Quality Improvement Plan, however the actions from internal audits had not been captured on the improvement plan, there was no evidence the actions had been allocated to a responsible person, progress tracked, or closed out. It is noted that some audit findings were closed out on the day of the audit, however ones that were not closed out were not captured in an action register or on the Water Quality Improvement Plan. A recommendation has been made to ensure the audit process is implemented as documented.

- **REC-RW-2021-014 Develop a process to capture and track the progress in implementing recommendations from internal audits on an action register or improvement program, as required by the procedure.**

Element 12

Section 2.12.2 of the AGWR indicates that recycled water suppliers should develop a recycled water quality management improvement plan and ensure the plan is communicated and implemented, and improvements are monitored.

The Water Quality Improvement Plan⁹²⁰ was provided and discussed in the audit. Inputs to the plan are documented on the 'Lists Ops' tab and include activities such as the risk register, Licence plan review and audit. There were many items on the register that do not have a completion date, and this makes it difficult to audit its implementation. A recommendation has been made to improve the documentation of the improvement plan to ensure that it is implemented.

- **REC-RW-2021-015 Ensure all items on the Improvement Plan have been allocated to a responsible party, communicated, and due dates for completion have been applied.**

⁹¹⁶ Document Control Policy and Procedure (Controlled COPY AG-ALL-AUS-PO-HSEQ-1234 revision 6 19/1/2021

⁹¹⁷ LWC Control System Management of Change Policy (CONTROLLED COPY) Revision 3 27 April 20120

⁹¹⁸ 2352 Audit Procedure (Controlled COPY).pdf AG-ALL-AUS-PR-R&C-1364

⁹¹⁹ Internal Audit Calendar - Water

⁹²⁰ WQP Improvement Plan

5.2. Water Quality Plans - Drinking Water

WIC Reg Sch 1 cl. 7(4) The network operator must ensure that its drinking water quality plan is fully implemented and kept under regular review and the network operator's activities are carried out in accordance with that plan.

5.2.1. Summary of Findings

The audit has identified a number of gaps in the implementation of the DWQP and its supporting programs due to inconsistent implementation of the documented risk assessment methodology leading to an underestimation of health risks. In addition, a number of minor inconsistencies in the implementation of the drinking water quality plan and the supporting documentation were identified.

Altogether did not provide sufficient verifiable evidence that its DWQP is fully implemented.

A grading of **non-compliant non-material** is awarded to WIC Reg Sch 1 cl. 7(4). The **non-compliance** is considered **non-material** as the deficiency does not impact on the Altogether's ability to assure controlled processes, public health or the environment.

Recommendations have been identified below. Opportunities for improvement have been identified in the combined audit summary and detailed findings in Appendix A.

5.2.2. Recommendations

The following recommendations have been identified to address the areas of non-compliance:

Element 1

Section 3.1.3 of the ADWG indicates that drinking water suppliers should:

- Identify all stakeholders who could affect, or be affected by, decisions or activities of the drinking water supplier.
- Develop appropriate mechanisms and documentation for stakeholder commitment and involvement.
- Regularly update the list of relevant agencies.

Altogether's Drinking Water Quality Plan⁹²¹ (DWQP) states under Component A1.3.1 that it will identify all stakeholders who could affect, or be affected by, decisions or activities of the drinking water supplier. Altogether uses the scheme specific Stakeholder & Emergency Contact Lists as its means of documenting stakeholders. The lists contain water utilities, NSW and Local government regulators, client interface (property managers) and preferred suppliers for emergencies. These lists are to be reviewed at 6 monthly intervals, however during the audit period, the stakeholder register had not been reviewed 6 monthly. A recommendation has been identified to ensure that the Stakeholder and Emergency Contact list is up to date and is under regular review in accordance with documented processes.

- **REC-DW-2021-001 Implement a process to ensure the Stakeholders Emergency Contact List is reviewed by the due date to ensure it remains current.**

⁹²¹ Drinking Water Quality Plan (DWQP) (Controlled COPY) AG-WAT-AUS-PL-OPS-1241 Revision: 13 15 March 2021

Altogether states under DWQP Component A1.3.2 that it has a range of methods for engaging with users, developers, customers, and tenants, including scheme specific community websites⁹²², bills, customer contracts⁹²³, SMS and email messages, Project Delivery Agreements, a Project Control Group, and a Homeowners Guide⁹²⁴, this last document also being available on their website⁹²⁵

It is noted that the WIC (General) Reg cl 9(a) requires all network operators to have an internet website on which the most recent auditor's report under clause 6 that applies to the Network Operator is available for inspection by members of the public. As detailed in the assessment of Element 1 for recycled water, there were times during the audit period that the website did not include the relevant audit report for public inspection. A recommendation has been made to ensure that the required information is maintained on the website.

- **REC-DW-2021-002 Where the water quality plans or legislation identify information to be included on the website, ensure that information is made available.**

Element 2

Section 3.2.3 of the ADWG indicates that once potential hazards and their sources have been identified, the level of risk associated with each hazard or hazardous event should be estimated so that priorities for risk management can be established and documented. Although there are numerous contaminants that can compromise drinking water quality, not every potential hazard will require the same degree of attention.

The level of risk for each hazard or hazardous event can be estimated by identifying the likelihood of occurrence (e.g. certain, possible, rare) and evaluating the severity of consequences if the hazard were to occur (e.g. insignificant, major, catastrophic). The aim should be to distinguish between very high and low risks.

Section 2.3 of the DWQP identifies the Risk Assessment Protocol for Water Products and Services⁹²⁶ (the RAP) as the documented process for undertaking risk assessments.

The RAP includes consequence and likelihood descriptors that should be applied when assessing risk. The RAP states that 'Health risks on the drinking water risk registers are assessed using the ADWG matrix'. When reviewing the matrix, in the RAP, it is not consistent with the ADWG as the minor and negligible consequence descriptors in the RAP appear to exclude health impacts as detailed below:

- Minor ranking – Health impact minor - possible aesthetic or amenity impact, population impact small, isolated part of the scheme (zone or street)
- Insignificant ranking – Health impact negligible - undetectable impact (normal operations) population impact small, isolated part of the scheme (zone or street)

Altogether has advised verbally and in emails that these consequence categories do not exclude health impacts, however this is not clear from reading the documents.

There are a number of instances in the risk assessment (August 2020) where health risks have been assessed as minor or insignificant including:

- Low chlorine residual leading to pathogens present in water supplied to consumers, causing health impacts for consumer and/or exceedance of ADWG health guideline value – given a minor residual consequence ranking.
- Mains Break leading to contamination of drinking water quality - given a residual consequence ranking of minor.

⁹²² <https://altogethergroup.com.au/about/communities/> accessed 28 May 2021

⁹²³ Small retail Customer Contract - Altogether Group Pty Ltd – Water REF ID 3534 12 January 2021

⁹²⁴ Homeowner's Guide (Water) AG-WAT-AUS-UG-RET-1569 Revision: 3 9 March 2021

⁹²⁵ <https://information.altogethergroup.com.au/governance/Homeowners%20Guide.pdf> accessed 27 May 2021

⁹²⁶ Risk Assessment Protocol for Water Products and Services FS-WAT-NSW-PR-OPS-2466 Revision: 3 16 August 2020

- Recycled water cross-connection in customer/building plumbing leading to consumption of recycled water - given a residual consequence ranking of minor.
- Chemical leaching into distribution system e.g. volatiles, lead, cadmium, copper from water supply infrastructure leading to chemicals present in water supplied to consumers, causing acute or chronic health impacts for consumers and or exceedance of ADWG health guideline value water - given a residual consequence ranking of minor.

The examples above have the potential to impact on a whole scheme or building, there for assigning a minor grading is not considered consistent application of the RAP.

It is noted that in the live consultation register⁹²⁷, NSW Health provided comments on the risk assessment that do not appear to have been taken into consideration. NSW Health indicated *'Generally it is not appropriate to change the consequence in assessing risk. Controls address the likelihood; i.e. the likelihood is reduced but the consequence remains the same'* however there are many instances in the risk register where this advice has not been followed and the control measures do not appear to reduce the consequence but the residual consequence has been reduced (refer to findings of the risk assessment below).

In reviewing the risk assessments for all schemes, the auditor identified the following inconsistencies in the application of the RAP when assessing risk:

- Mains break leading to contamination of drinking water, the consequence reduced from 'major' (Potential for short-term and longer-term public health impacts) to 'minor' (Possible aesthetic or amenity impact) also noting that Altogether does not have a network hygiene policy (or similar) or procedures for working on mains and repairing main breaks.
- Residual risk for hazardous event of cross connections in network and on-lot given a rare frequency with a certainty of 1 (certain), however only 3 cross-connection audits have been undertaken across over 8000 connections. The certainty ranking does not appear appropriate. The assessment appears contrary to industry knowledge and experience as documented in literature^{928 929 930 931}. This is considered a significant gap in understanding risk and taking responsibility for managing risk.

The February Risk Assessment⁹³² includes new risks that have been assessed and the consequence values appear more appropriate than the August 2020 risk registers, however the risk of cross connections have not been reassessed.

The audit found that Altogether did not consistently implement the documented risk assessment process. A recommendation has been made to review the risk assessments or methodology to ensure it is consistently applied.

- **REC-DW-2021-003 Review the risk assessments or risk assessment methodology to ensure that consequence values align with the risk being assessed, for example, where the consequence descriptor is limited to aesthetic or undetectable, these cannot be attributed to a risk that has an acute health impact. Frequencies should also be applied taking into consideration historical performance and the occurrence of incidents. Any reduction in consequence should be justified.**

Element 4

Section 3.4 of the ADWG indicates that drinking water suppliers should establish process control programs to support preventive measures by detailing the specific operational factors that ensure that all processes and activities are carried out effectively and efficiently. This includes a description

⁹²⁷ LIVE_Register_Consultation with NSW Health

⁹²⁸ A. C. Hambly , R. K. Henderson , A. Baker , R. M. Stuetz & S. J. Khan (2012) Cross-connection detection in Australian dual reticulation systems by monitoring inherent fluorescent organic matter, Environmental Technology Reviews, 1:1, 67-80, DOI: 10.1080/09593330.2012.696724

⁹²⁹ Water Source <https://watersource.awa.asn.au/publications/technical-papers/third-pipe-water-recycling/>

⁹³⁰ Risks to the long-term viability of residential non-potable water schemes: a review https://watersensitivecities.org.au/wp-content/uploads/2016/05/TMR_C3-1_RisksViabilityNonPotableWater.pdf

⁹³¹ Muston, M. H. (2012). *Changing of the water recycling paradigm in Australia*. *Water Science and Technology: Water Supply*, 12(5), 611–618. doi:10.2166/ws.2012.034

⁹³² Register of New Risks Feb2021 for Health Consultation

of all preventive measures and their functions, together with documentation of effective operational procedures, including identification of responsibilities and authorities.

Additionally, the ADWG states (p 129) that ‘Good design, management and integrity of distribution systems are essential for maintaining water quality.’

When discussing hygienic work practices when working on the drinking water network, Altogether stated that due to the design of the drinking water network, there is no need to undertake works on the drinking water network and there are no mains breaks. Additionally, if there was a need to work on the mains, Altogether uses a trusted contractor, however there do not appear to be any established procedures or policies for hygienic work practices for Altogether staff or contractors undertaking works on the mains. The Drinking Water Risk assessment⁹³³ undertaken in February 2021 has identified (Ref DW1.6) the need to ‘Formalise and document procedures around equipment use for various water products and services. This action item is noted on the Water Quality Improvement Plan⁹³⁴, however there is no target date for completion.

A recommendation has been made to establish procedures for ensuring the integrity of the drinking water network.

- **REC-DW-2021-004 Establish a policy and procedure for hygienic work practices for Altogether staff and contractors undertaking works on Altogether’s drinking water networks and develop a process for ensuring all network operators and contractors have been made aware of the requirements and establish an ongoing audit process to ensure the practices are implemented.**

Section 3.4.2 of the ADWG indicates that drinking water suppliers should develop monitoring protocols for operational performance of the water supply system, including the selection of operational parameters and criteria, and the routine analysis of results.

The Discovery Point Scheme Management Plan⁹³⁵ does not state if the drinking water supplied by Sydney Water is chlorinated or chloraminated. The Discovery Point Monitoring and Sampling Program⁹³⁶ identifies a Point of Use (PoU) target criteria of 0.2 g/L for Free Chlorine and 0.6 mg/L for total chlorine. When reviewing the PoS data, 6 out of 10 monthly samples failed with readings below the target limit of ≥ 0.2 mg/L. and no total chlorine reading were below 0.6 mg/L. When reviewing the PoU results, 8/49 total chlorine with readings below the target limit of ≥ 0.6 mg/L (84% pass) and 28 /49 samples 57%) with free chlorine readings below the target limit if ≥ 0.2 mg/L (43% pass). Most of the passes were only just above the target lower limit of ≥ 0.2 mg/L.

A recommendation has been made to ensure that options for improving chlorine residual in the network have been identified and actions taken to ensure drinking water quality does not degrade in Altogether’s distribution network.

- **REC-DW-2021-005 The Monitoring and Sampling Programs for drinking water schemes identify that a minimum target of 0.2mg/L of free chlorine should be maintained through reticulation networks, this is consistent with ADWG advice. Identify areas in reticulation where this cannot be met and raise an improvement item to improve the chlorine residual in these areas within an appropriate timeframe.**

Element 10

The Document Control Policy and Procedure⁹³⁷ The Procedures states that all BMS documents are controlled using the BMS Library on SharePoint. During the site inspection at Pitt Town, the operator demonstrated the BMS system which included overarching licence plans, site-specific plans and

⁹³³ Register of New Risks Feb2021 for Health Consultation (1)

⁹³⁴ WQP Improvement Plan

⁹³⁵ Discovery Point Scheme Management Plan (Scheme MP) (Controlled COPY) DP-WAT-NSW-PL-OPS-1242 Revision 9 19 April 2021

⁹³⁶ Discovery Point Monitoring and Sampling Program (Controlled COPY) DP-WAT-NSW-PL-OPS-2860 18/09/2020

⁹³⁷ Document Control Policy and Procedure (Controlled COPY AG-ALL-AUS-PO-HSEQ-1234 revision 6 19/1/2021

procedures, forms and work instructions. In reviewing the documents provide in evidence, the following findings were noted:

- The footer on the LWC Control System Change Management policy⁹³⁸ is inconsistent with the document control properties.
- The scheme management plan has errors in the fields and captions.

A recommendation has been made to improve documentation.

- **REC-DW-2021-007 Establish review processes to ensure all documents are reviewed on time and do not have typographical and hyperlink errors.**

Element 11

Section 3.11.2 of the ADWG states that periodic auditing of all aspects of the drinking water quality management system is needed to confirm that activities are being carried out in accordance with defined requirements and are producing the required outcomes.

Altogether has an Audit Procedure⁹³⁹ that outlines the audit process. An Internal Audit Calendar⁹⁴⁰ was shown that outlined the audits that should be undertaken. The audit procedure indicates that the outcomes of internal audits should go onto an action register. During the audit, Altogether explained that this is the Water Quality Improvement Plan, however the actions from internal audits had not been captured on the improvement plan, there was no evidence the actions had been allocated to a responsible person, progress tracked, or closed out. It is noted that some audit findings were closed out on the day of the audit, however ones that were not closed out were not captured in an action register or on the Water Quality Improvement Plan. A recommendation has been made to ensure the audit process is implemented as documented.

- **REC-DW-2021-008 Develop a process to capture and track the progress in implementing recommendations from internal audits on an action register or improvement program, as required by the procedure.**

Element 12

Section 3.12.2 of the ADWG requires that drinking water providers develop a drinking water quality management improvement plan and ensure that the plan is communicated and implemented, and that improvements are monitored for effectiveness.

The Water Quality Improvement Plan⁹⁴¹ was provided and discussed in the audit. Inputs to the plan are documented on the 'Lists Ops' tab and include activities such as the risk register, Licence plan review and audit. There were many items on the register that do not have a completion date, and this makes it difficult to audit its implementation. A recommendation has been made to improve the documentation of the improvement plan to ensure that it is implemented.

- **REC-DW-2021-009 Ensure all items on the Improvement Plan have been allocated to a responsible party, communicated, and due dates have been applied.**

5.3. Water Quality Plans - Sewage

WIC Reg Sch 1 cl. 14(3) A network operator must ensure its sewage management plan is fully implemented and kept under regular review and all its activities are carried out in accordance with the plan.

⁹³⁸ LWC Control System Management of Change Policy (CONTROLLED COPY) Revision 3 27 April 20120

⁹³⁹ 2352 Audit Procedure (Controlled COPY).pdf AG-ALL-AUS-PR-R&C-1364

⁹⁴⁰ Internal Audit Calendar - Water

⁹⁴¹ WQP Improvement Plan

5.3.1. Summary of Findings

The audit has found that Altogether has generally implemented its Sewage Management Plan, however, the risk assessment methodology, which forms the basis of the Sewage Management Plan has not been implemented consistently, resulting in an under estimation of human health risk. Preventive measures for managing risk from the sewage services are identified, implemented and considered adequate.

The **non-compliance** is considered **non-material** as the deficiency does not impact on the Altogether's ability to assure controlled processes, public health or the environment.

5.3.2. Recommendations

The following recommendation has been identified to address the areas of non-compliance:

The Sewage MP identifies the AGWR as the reference for the risk assessments, and the approach identified in the RWQP. The RWQP identifies the Risk Assessment Protocol for Water Products and Services⁹⁴² (the RAP) as the documented process for undertaking risk assessments. The RAP states that internal risk reviews will be undertaken annually, and external risk reviews will be undertaken biennially.

The risk assessment includes the assessment of health and environmental risks in relation to sewage activities. In addition to the risk assessments, the Sewage MP states that ecological assessments will be undertaken as a part of development consent. The risk register for each scheme indicates that in July 2020, an internal risk review workshop was undertaken, and a risk review workshop was undertaken with NSW Health in August 2020. The document control properties identify the new risks that were added to the risk register, and the risks that were deleted are shown as a strike through in the register. In April 2021, a recycled water and sewage risk assessment covering the eight schemes was undertaken to address new risks and audit findings. Evidence includes the briefing pack⁹⁴³, recycled water risk register⁹⁴⁴ and updated sewage risk register⁹⁴⁵.

The RAP includes consequence and likelihood descriptors that should be applied when assessing risk. The RAP states in Table 2 that 'Health risks on the sewage and recycled water risk registers are assessed using the AGWR matrix'. When reviewing the matrix, in the RAP, it was found that it was not consistent with the AGWR as the minor and negligible consequence descriptors in the RAP appear to exclude health impacts as detailed below:

- Minor ranking – Health impact minor - possible aesthetic or amenity impact, population impact small, isolated part of the scheme (zone or street)
- Insignificant ranking – Health impact negligible - undetectable impact (normal operations) population impact small, isolated part of the scheme (zone or street)

Altogether has advised verbally and in emails that these consequence categories do not exclude health impacts, however this is not clear from reading the documents.

It is noted that in the live consultation register⁹⁴⁶, NSW Health provided comments on the risk assessment that do not appear to have been taken into consideration. NSW Health indicated *'Generally it is not appropriate to change the consequence in assessing risk. Controls address the likelihood; i.e. the likelihood is reduced but the consequence remains the same'* however there are many instances in the risk register where this advice has not been followed and the control measures do not appear to reduce the consequence but the residual consequence has been reduced (refer to findings of the risk assessment below).

⁹⁴² Risk Assessment Protocol for Water Products and Services FS-WAT-NSW-PR-OPS-2466 Revision: 3 16 August 2020

⁹⁴³ Recycled Water & Sewage Risk Workshop Briefing Pack Apr2021

⁹⁴⁴ Updated risks_Recycled water risk register

⁹⁴⁵ Updated risks_Sewage risk register

⁹⁴⁶ LIVE_Register_Consultation with NSW Health

There are instances where health consequences have been reduced, when it is unclear how the control measures reduce the health impact, for example, there is one risk in the Discovery Point Risk register (SC1.4,) that include human contact with wastewater causing a *public health impact*, that is reduced from possible/ moderate to rare/minor. It is noted that the controls may reduce the instance of this occurring, but it is not clear how the controls reduce the consequence of a public health impact due to wastewater contact. Additionally, as noted in the recycled water audit findings, frequency descriptors were not consistently applied

A recommendation has been made to ensure the documented risk assessment methodology has been consistently implemented.

- **REC-Sewage-2021-001 Review the risk assessments or risk assessment methodology to ensure that consequence values align with the risk being assessed, for example, where the consequence descriptor is limited to aesthetic or undetectable, these cannot be attributed to a risk that has an acute health impact. Frequencies should also be applied taking into consideration historical performance and the occurrence of incidents. Any reduction in consequence should be justified.**

5.4. Water Quality Plans - Operational Procedures

NOL Sch A cl 2.2 The Licensee must: a) fully implement the Operational Procedures (as noted in NOL Sch A, cl 2.1); b) ensure that all of its activities are carried out in accordance with the Operational Procedures; and c) keep records to demonstrate the extent to which the Operational Procedures have been implemented and complied with.

5.4.1. Summary of Findings

Altogether provided evidence that the Operational Procedures required under the relevant clause of the NOL for each scheme have been implemented for the following activities:

- monitoring protocols
- corrective actions
- rapid communication
- inspection and maintenance.

Altogether was found to have implemented the procedures required under the relevant licence clauses and was found to be compliant with this requirement.

5.4.2. Recommendations

No recommendations have been identified for this clause of the licence.

5.5. Water Quality Plans – Monitoring and Analysis

- NOL Sch B cl.7.1 The Licensee must undertake any monitoring that is required for the purposes of this Licence, any Plan, the Act or the Regulation in accordance with this clause 7.
- NOL Sch B cl.7.2 The Licensee must keep the following records of any samples taken for monitoring purposes specified in the Water Quality Plan: a) the date on which the sample was taken; b) the time at which the sample was collected; c) the point or location at which the sample was taken; and d) the chain of custody of the sample (if applicable).
- NOL Sch B cl.7.3 The Licensee must ensure that analyses of all samples taken for the purposes of Verification Monitoring are carried out by a laboratory accredited for the specified tests by an independent body that is acceptable to NSW Health, such as the National Association of Testing Authorities or an equivalent body.

5.5.1. Summary of Findings

Altogether was found to have implemented the monitoring required under the relevant licence clauses and was found to be compliant with NOL Sch B cl.7.1

Altogether was found to have kept the records of the monitoring required under the relevant licence clauses and was found to be compliant with NOL Sch B cl.7.2.

Altogether was found to have water quality analysis undertaken by a NATA accredited laboratory required under the relevant licence clauses and was found to be compliant with NOL Sch B cl.7.3.

5.5.2. Recommendations

No recommendations have been identified for this clause of the licence.

5.6. Infrastructure Operating Plan

WIC Reg Sch 1 cl. 6(1) – Water: Before commencing to operate water infrastructure commercially, the licensed network operator for the infrastructure must prepare, and forward to IPART, an infrastructure operating plan that indicates the arrangements that the licensee has made, or proposes to make, in relation to:

- a) the design, construction, operation and maintenance of the infrastructure, including particulars as to the lifespan of the infrastructure, the system redundancy built into the infrastructure and the arrangements for the renewal of the infrastructure, and
- b) the continued safe and reliable performance of the infrastructure, and
- c) the continuity of water supply, and
- d) alternative water supplies when the infrastructure is inoperable, and
- e) the maintenance, monitoring and reporting of standards of service.

WIC Reg Sch 1 cl. 6(2) – Water: The network operator must ensure that the infrastructure operating plan is fully implemented and kept under regular review and all of the network operator's activities are carried out in accordance with that plan.

WIC Reg Sch 1 cl. 13(1) – Sewerage: Before commencing to operate sewerage infrastructure commercially, the licensed network operator for the infrastructure must prepare, and forward to IPART, an infrastructure operating plan that indicates the arrangements that the licensee has made, or proposes to make, in relation to:

- a) the design, construction, operation and maintenance of the infrastructure, including particulars as to the lifespan of the infrastructure, the system redundancy built into the infrastructure and the arrangements for the renewal of the infrastructure, and
- b) the continued safe and reliable performance of the infrastructure, and
- c) the continuity of sewerage services, and
- d) alternative sewerage services when the infrastructure is inoperable, and
- e) the maintenance, monitoring and reporting of standards of service.

WIC Reg Sch 1 cl. 13(2) – Sewerage: The infrastructure operating plan is fully implemented and kept under regular review and all of the network operator's activities are carried out in accordance with that plan.

5.6.1. Summary of Findings

Altogether was found to have prepared an IOP that meets the requirements of the licence clause and was found to be compliant with WIC Reg Sch 1 cl. 6(1).

Altogether was found to have implemented the IOP and was found to be compliant with WIC Reg Sch 1 cl. 6(2).

Altogether was found to have prepared an IOP that meets the requirements of the licence clause and was found to be compliant with WIC Reg Sch 1 cl. 13(1).

Altogether was found to have implemented the IOP and was found to be compliant with WIC Reg Sch 1 cl. 13(2).

5.6.2. Recommendations

No recommendations have been identified for this clause of the licence.

5.7. Incident Notification

WIC Reg Sch 1 cl. 1(2)(a) A network operator must immediately notify

- a) IPART, and
- b) The Minister administering the Public Health Act 2010, and
- c) the Minister administering Part 2 of the Water Industry Competition Act 2006 (NSW), and
- d) NA, and
- e) any licensed network operator or public water utility whose infrastructure is connected to the licensed network operator's infrastructure, of any incident in the conduct of its activities that threatens, or could threaten, water quality, public health or safety.

5.7.1. Summary of findings

Based on the records identified in Table 10 it was found that Altogether complied with its requirements to notify the identified stakeholders in accordance with the requirements of WIC Reg Sch 1 cl. 1(2)(a).

5.7.2. Recommendations

No recommendations have been identified for this clause of the licence.

5.8. Compliance findings to be checked

Altogether has largely closed out the previous compliance findings, the details of each non-compliance are included in Table 11.

Description	Clause Ref.	Grade	Auditor to check	Evidence
The licensee has been found to be non-compliant (material) because it did not have an adequate process to	WIC Reg Sch 1 cl 1(2)	Non-compliant (Material)	Review all verification programs to address items listed in recommendation	The Discovery Point Audit Report (Viridis October 2020) includes the following recommendations

Description	Clause Ref.	Grade	Auditor to check	Evidence
review its compliance and confirm the quality of water supplied to customers; to ensure it complied with its requirement to make immediate notification. Failure to take the required verification samples, and failure to identify non-compliant samples and failure to notify the necessary regulators could threaten, water quality, public health or safety.			in Operational Audit (Viridis, October 2020)	<ul style="list-style-type: none"> DP-REC-2020-002– Undertake a thorough review of all verification monitoring programs to ensure that: <ul style="list-style-type: none"> the program is implemented in accordance with the documentation that that there is a process to regularly check that samples are being taken at the correct frequency and to rapidly identify missed samples that there is an effective process to review and record verification monitoring data to confirm the compliance and ensure immediate reporting of non-compliant results. <p>During the audit interviews, Altogether demonstrated a new process for reviewing data and checking compliance with the monitoring program using a Power BI database that included checking the number of samples taken, the frequency of sampling, and that the results are compliant. The database extract was reviewed and the auditor confirmed that the MS Progs are being implemented and the required samples are being taken at the correct frequencies.</p> <p>Altogether was found to have closed out the non-compliance.</p>
The licensee has been assessed as non-compliant (Material) for this licence clause due to a number of deficiencies in the documentation, failure to implement the monitoring program and implement the incident procedures to make immediate notifications when non-compliant water quality verification result were received. Deficiencies include the SMP and incident management	WIC Reg Sch 1 cl 7(4)	Non-compliant (Material)	Check that Scheme MP and Incident management procedures are current and that recommendations in Operational Audit (Viridis, October 2020) are implemented	<p>The Discovery Point Audit Report (Viridis October 2020) includes the following recommendations:</p> <ul style="list-style-type: none"> DP-REC-2020-001 Review and confirm the hard coded time delays for all CCPs and document the outcomes to ensure the implementation of the CCPs is consistent and auditable. <p>Altogether advised that it had reviewed time delays but did not keep records of the review. In addition, Altogether is in the process of updating permissions to limit access to the critical limits in SCADA.</p> <ul style="list-style-type: none"> DP-REC-2020-002– Undertake a thorough review of all verification monitoring programs to ensure that:

Description	Clause Ref.	Grade	Auditor to check	Evidence
documentation being out of date, inconsistent implementation of the QCPs and lack of evidence to demonstrate time delays have been implemented, failure to implement the water quality monitoring program and the lack of process to confirm water quality compliance. The non-compliances were considered material because the auditor determined that the non-compliances had the potential to affect water quality, public health and safety or the environment.				<ul style="list-style-type: none"> the program is implemented in accordance with the documentation that that there is a process to regularly check that samples are being taken at the correct frequency and to rapidly identify missed samples that there is an effective process to review and record verification monitoring data to confirm the compliance and ensure immediate reporting of non-compliant results. <p>During the audit interviews, Altogether demonstrated a new process for reviewing data and checking compliance with the monitoring program using a Power BI database that included checking the number of samples taken, the frequency of sampling, and that the results are compliant. The database extract was reviewed and the auditor confirmed that the MS Progs are being implemented and the required samples are being taken at the correct frequencies.</p> <ul style="list-style-type: none"> DP-REC-2020-003 Review and update the Incident Management Plan and the Water Quality Incident Management, Reporting and Investigation Procedure as required (annually and in response to an incident as relevant) <p>The Incident Management Plan⁹⁴⁷ (IMP) provides the overarching framework for Altogether's incident management plan and was updated in January 2021.</p> <p>The Water Operations Incident Management, Reporting and Investigation Procedure⁹⁴⁸ provides flow diagrams that give an overview of incident management and was updated in March 2021.</p> <p>The Incident Notification Protocol with NSW Health⁹⁴⁹ was updated in February 2021.</p> <ul style="list-style-type: none"> DP-REC-2020-004 Ensure the incident response documentation provides guidance on relevant incidents including

⁹⁴⁷ Incident Management Plan (IMP) (Controlled COPY) AG-ALL-AUS-PL-INC-1266 Revision 9 25 January 2021

⁹⁴⁸ Water Operations Incident Management, Reporting and Investigation Procedure (Controlled COPY) AG-WAT-NSW-PR-OPS-2561 Version 3 22 March 2021

⁹⁴⁹ Incident Notification Protocol with NSW Health (Controlled COPY) AG-ALL-NSW-PR-INC-1277 Revision 9 26 February 2021

Description	Clause Ref.	Grade	Auditor to check	Evidence
				<p>but not limited to protozoan related water quality non-compliances.</p> <p>The out-of-specification procedure⁹⁵⁰ includes the process for investigation when an out-of-specification parameter is detected. The process includes notifying stakeholders, retesting the out-of-specification parameter, and checking treatment processes. This is considered adequate to cover protozoan risk.</p> <ul style="list-style-type: none"> DP-REC-2020-005 Review and update the Scheme Management plan in accordance with specified review cycles included in the plan. <p>The Discovery Point Scheme Management Plan⁹⁵¹ was updated on 19 April 2021.</p> <p>Altogether was found to have closed out the recommendations other than the confirmation of the time delays (CP-REC-2020-001).</p>
<p>The licensee has been found to be non-complaint (material) as it did not adequately implement its monitoring plans and take the required samples at the specified frequencies. Additionally, it did not have processes in place to review water quality data, identify non-compliant samples or missed samples. The non-compliance is considered material because it has the potential to impact</p>	NOL Sch B cl 8.1	Non-compliant (Material)	Check that Review of hardcoded time delays and verification programs have been completed and is adequate (refer to recommendation in Operational Audit Viridis, October 2020)	<p>The Discovery Point Audit Report (Viridis October 2020) includes the following recommendations</p> <ul style="list-style-type: none"> DP-REC-2020-002– Undertake a thorough review of all verification monitoring programs to ensure that: <ul style="list-style-type: none"> the program is implemented in accordance with the documentation that that there is a process to regularly check that samples are being taken at the correct frequency and to rapidly identify missed samples that there is an effective process to review and record verification monitoring data to confirm the compliance and ensure immediate reporting of non-compliant results. <p>During the audit interviews, Altogether demonstrated a new process for reviewing data and checking compliance with the monitoring program using a Power BI database that included checking the number of samples taken, the frequency of sampling,</p>

⁹⁵⁰ 3512 Discovery Point Recycled Water Out of Specification Work Instruction (Controlled COPY).pdf DP-WAT-NSW-WI-OPS-3474

⁹⁵¹ 2573 Discovery Point Scheme Management Plan (Scheme MP) (Controlled COPY).pdf DP-WAT-NSW-PL-OPS-1242

Description	Clause Ref.	Grade	Auditor to check	Evidence
on public health and water quality.				and that the results are compliant. The database extract was reviewed and the auditor confirmed that the MS Progs are being implemented and the required samples are being taken at the correct frequencies. Altogether was found to have closed out the non-compliance.
Sample taken 29/04/20, report received 5/05/20 (Flow Incident No. 167). The routine verification sample taken from one of the Discovery Point Point of Use (PoU) drinking water sample points (DP2_DW_POU) was not tested for total coliforms as required by Flow's Monitoring and Sampling Programme (M&S Prog) for Discovery Point, and as recommended by the Australian Guidelines for Water Recycling (AGWR).	NOL Sch B cl 8.1	Non-compliant (Non-material)	Self reported – Annual reporting 2020	During the audit interviews, Altogether demonstrated a new process for reviewing data and checking compliance with the monitoring program using a Power BI database that included checking the number of samples taken, the frequency of sampling, and that the results are compliant. The database extract was reviewed and the auditor confirmed that the MS Progs are being implemented and the required samples are being taken at the correct frequencies. Altogether was found to have closed out the non-compliance.
Sample taken 29/04/20, report received 5/05/20 (Flow Incident No. 167). The routine verification sample taken from one of the Discovery Point Point of Use (PoU) drinking water sample points (DP2_DW_POU) was not tested for	WIC Reg Sch 1 cl 7(4)(a)	Non-compliant (Non-material)	Self reported – Annual reporting 2020	During the audit interviews, Altogether demonstrated a new process for reviewing data and checking compliance with the monitoring program using a Power BI database that included checking the number of samples taken, the frequency of sampling, and that the results are compliant. The database extract was reviewed and the auditor confirmed that the MS Progs are being implemented and the required samples are being taken at the correct frequencies. Altogether was found to have closed out the non-compliance.

Description	Clause Ref.	Grade	Auditor to check	Evidence
total coliforms as required by Flow's Monitoring and Sampling Programme (M&S Prog) for Discovery Point, and as recommended by the Australian Guidelines for Water Recycling (AGWR).				
From 27/01/15 (commencement of operations) to 07/02/20 (date the off-spec timer was changed to 60 seconds). (Flow Incident No. 118). The MBR CCP off spec diversion delay timer was set to 360 seconds as opposed to 60 seconds. There were no positive micro analysis results for Discovery Point for this period (excluding the micro incident in 2018 which was in fact a sample of the building's rainwater system).	WIC Reg Sch 1 cl 7(4)(a)	Non-compliant (Non-material)	Self reported – Annual reporting 2020	<p>This non-compliance/incident was assessed in the previous Discovery Point Audit Report (Viridis October 2020). A subsequent recommendation was made:</p> <p>DP-REC-2020-001 Review and confirm the hard coded time delays for all CCPs and document the outcomes to ensure the implementation of the CCPs is consistent and auditable.</p> <p>Altogether advised that it had reviewed time delays but did not keep records of the review. In addition, Altogether is in the process of updating permissions to limit access to the critical limits in SCADA.</p> <p>This recommendation has not yet been closed out, however it is considered that this non-compliance has been closed out.</p>
A plan showing the nature and general location of the infrastructure was not available on the website as required by WIC Reg Sch1 Clause 12(a) and WIC Reg Sch1 Clause 16(a).	WIC Reg Sch 1 cl 12 (a) WIC Reg Sch 1 cl 16(a)	Non-compliant (Non-material)	Self reported – Annual reporting 2020	<p>The Central Park Water Service Plan was available on the website⁹⁵².</p> <p>Altogether was found to have closed out the non-compliance.</p>
Point of Supply (PoS) frequency of Clostridia and coliphage testing was at a lower	WIC Reg Sch 1 cl 7(4)(a)	Non-compliant (Non-material)	Self reported – Annual reporting 2020	During the audit interviews, Altogether demonstrated a new process for reviewing data and checking compliance with the monitoring program using a Power BI database that included checking the number





⁹⁵² https://information.altogethergroup.com.au/askus/Central_Park/Central%20Park.pdf

Description	Clause Ref.	Grade	Auditor to check	Evidence
frequency than it should have been. Sampling was being undertaken monthly not weekly as required by Flow's Monitoring and Sampling Programme (M&S Prog) for Discovery Point, and as recommended by the Australian Guidelines for Water Recycling (AGWR).				of samples taken, the frequency of sampling, and that the results are compliant. The database extract was reviewed and the auditor confirmed that the MS Progs are being implemented and the required samples are being taken at the correct frequencies. Altogether was found to have closed out the non-compliance.
Point of Supply (PoS) frequency of Clostridia and coliphage testing was at a lower frequency than it should have been. Sampling was being undertaken monthly not weekly as required by Flow's Monitoring and Sampling Programme (M&S Prog) for Discovery Point, and as recommended by the Australian Guidelines for Water Recycling (AGWR).	NOL Sch B cl 8.1	Non-compliant (Non-material)	Self reported – Annual reporting 2020	During the audit interviews, Altogether demonstrated a new process for reviewing data and checking compliance with the monitoring program using a Power BI database that included checking the number of samples taken, the frequency of sampling, and that the results are compliant. The database extract was reviewed and the auditor confirmed that the MS Progs are being implemented and the required samples are being taken at the correct frequencies. Altogether was found to have closed out the non-compliance.

APPENDIX D SUMMARY OF FINDINGS GREEN SQUARE WATER

6. OVERALL SUMMARY

This section provides a summary of the findings, detailed findings and discussions are in Appendix A. The table below provides an overview of the level of compliance for the Green Square Water. Green Square Water (Altogether) is the licensee.

Compliance Grades	Number of Findings	
	Compliant	9
	Non-compliant (non-material)	0
	Non-compliant (material)	1
	No requirement	2

Audit findings are summarised by obligation in the sections below.

6.1. Water Quality Plans - Recycled Water

WIC Reg Sch 1 cl. 7(4) The network operator must ensure that its recycled water quality plan is fully implemented and kept under regular review and the network operator's activities are carried out in accordance with that plan.

6.1.1. Summary of Findings

The audit has identified a number of gaps in the implementation of the Recycled Water Quality Plan⁹⁵³ (RWQP) and its supporting programs due to inconsistent implementation the documented risk assessment methodology leading to an underestimation of health risks, inadequacy of the current cross-connection audit, and failure to implement the current program for cross-connection auditing. In addition, a number of minor inconsistencies in the implementation of the recycled water quality plan and the supporting documentation were identified.

Altogether did not provide sufficient verifiable evidence that its RWQP is fully implemented, and it is the auditor's finding that the deficiency adversely affects Altogether's ability to assure controlled processes, products and outcomes and protect public health.

A grading of **non-compliant material** is awarded to WIC Reg Sch 1 cl. 7(4).

Recommendations have been identified below. Opportunities for improvement have been identified in the combined audit summary and detailed findings in Appendix A.

6.1.2. Recommendations

The following recommendations have been identified to address the areas of non-compliance:

Element 1

⁹⁵³ Recycled Water Quality Plan AG-WAT-AUS-PL-OPS-1311 Revision: 17 27 April 2021

The AGWR in Section 2.1.3 indicates that recycled water suppliers should identify all stakeholders (including the public) affecting, or affected by, decisions or activities related to the use of recycled water and engage users of recycled water; ensure responsibilities are identified and understood.

Section A1.3.3 of the RWQP states that the Stakeholder and Emergency contact list⁹⁵⁴ includes the public. Section A1.3.4 of the RWQP identifies scheme specific community website, bills, customer contract, SMS and email messages, project delivery agreements, Project Control Group and Homeowners Guide as methods for engaging with developers, customers and tenants. The Altogether Flow WICA Licences - Authorised Purposes Matrix⁹⁵⁵ identifies irrigation, water features and car washing as authorised purposes for the Green Square Scheme. When reviewing the scheme specific list⁹⁵⁶, 'Public Stakeholders' are listed however the list is silent on how Altogether communicates with members of the public who are not residents and who access areas with recycled water in use to ensure responsibilities are understood by the public (for example signage in irrigation areas warning that recycled water is in use).

During the site inspection, the public open space adjoining the LWC was currently under irrigation with recycled water and a number of sprinklers were spraying water on the grass. There were a number of dog walkers and people utilising the park area, and there were no visible signs that indicate to the public that recycled water was in use. Whilst a very high quality of water produced by the scheme, it is considered that the public should be made aware of the potential risks of exposure to non-potable water and signage should be included as a standard preventive measure in areas where the public may be exposed to recycled water. The City of Sydney operates the irrigation system, and would ultimately be responsible for educating the public, however it is considered that Altogether should also put in place processes to ensure the public are made aware of the use of non-potable water. Altogether provided evidence of a meeting^{957 958} with City of Sydney undertaken in February 2020 (outside the audit period) that included *'Signage Appropriate warning signage should be in place where using recycled water which can come into contact with persons. A recommendation has been made to establish a process to identify all potential recycled water users and ensure there is a process for communicating responsibilities to all identified recycled water users. It is considered that appropriate mechanisms have not been developed and effectively employed for members of the public (end users) accessing areas where they may be exposed to recycled water. It is noted that the Stakeholder and Emergency Contact list may not be the most appropriate mechanism for identifying and engaging with the public.*

- **REC-RW-2021-003 Review and update stakeholder lists or equivalent to reflect all potential stakeholders and the methods for engagement, including engaging with the public.**

The AGWR (Section 2.1.4) recommends that the recycled water policy should provide a basis for developing more detailed guiding principles and implementation strategies. AGWR includes the broad issues that the recycled water policy should address including for example, intention to adopt best-practice management and a multiple-barrier approach.

The Recycled Water Policy⁹⁵⁹ states that Altogether will implement and maintain recycled water management system consistent with the AGWR and all managers and personnel are responsible for implementing, maintain and continuously improving the recycled water management system.

⁹⁵⁴ Green Square - Stakeholders Emergency Contact List GS-WAT-NSW-RG-INC-3363 Revision 1.1 30 December 2020

⁹⁵⁵ 2919 Altogether WICA Licences - authorised purposes matrix (Controlled COPY).pdf AG-WAT-NSW-RG-OPS-2918

⁹⁵⁶ Discovery Point - Stakeholders Emergency Contact List DP-WAT-NSW-RG-INC-3361 Revision 1.1 30 December 2020

⁹⁵⁷ Standpipe Training Material - Prepared by Flow Systems

⁹⁵⁸ Standpipe Training by Flow Systems dated 26 Feb 2020

⁹⁵⁹ Recycled Water Policy AG-WAT-AUS-PO-OPS-1310 Revision: 3 21 July 2020

During the audit, Altogether team members (Water Operations Manager 31 May 2021) responsible for implementing the preventive measures in the risk assessment indicated that there have been insufficient resources to implement some processes (for example when discussing the implementation of the *Minimising the Risk of Cross-Connection Checks Policy and Procedure*⁹⁶⁰), and the agreed compliance program (Executive Manager – Risk & Compliance 15 June 2021) with IPART has affected Altogether's ability to allocate sufficient resources to RWQP implementation.

Additionally, when gaps in implementation (for example the implementation of the risk assessment methodology) were identified during the audit, Altogether representatives (Water Quality Systems Manager 31 May 2021) indicated in some instances that external consultants had undertaken the works and could not explain how the process was implemented.

Additionally, it was indicated that in cases where recycled water is used in public spaces, that the public should have the 'common sense' to know that recycled water is in use, without signage being installed (Technical Operations Lead 9 June 2021). This approach does not appear to adequately cover protecting the most vulnerable members of the community. It is the auditor's finding that Altogether has not fully implemented its recycled water policy due to gaps in risk management, failure to implement procedures in relation to cross-connection auditing, failure to take ownership for managing risk and by not allocating adequate resources for the implementation of the RWQP and supporting programs

A recommendation has been made to improve implementation of the recycled water policy and to ensure recycled water risk is well understood.

- **REC-RW-2021-005 Implement a program to increase staff awareness of recycled water risks, improve ownership for managing risk and allocation of adequate resources to implement licence plans and meet regulatory requirements.**

Element 2

The AGWR indicates that water providers to Identify and document hazards and hazardous events and estimate risk. Section 2.4 of the RWQP identifies the Risk Assessment Protocol for Water Products and Services⁹⁶¹ (the RAP) as the documented process for undertaking risk assessments. The RAP includes consequence and likelihood descriptors that should be applied when assessing risk. The RAP states in Table 2 that 'Health risks on the sewage and recycled water risk registers are assessed using the AGWR matrix'. When reviewing the matrix, in the RAP, it was found that it was not consistent with the AGWR as the minor and negligible consequence descriptors in the RAP appear to exclude health impacts as detailed below:

- Minor ranking – Health impact minor - possible aesthetic or amenity impact, population impact small, isolated part of the scheme (zone or street)
- Insignificant ranking – Health impact negligible - undetectable impact (normal operations) population impact small, isolated part of the scheme (zone or street)

Altogether has advised verbally and in emails that these consequence categories do not exclude health impacts, however this is not clear from reading the documents. Furthermore, there are a number of health impacts identified in the risk assessment that have been assigned 'insignificant' grading, which describes a health impact as 'negligible', and 'undetectable' and 'normal operations'. It is difficult to justify how a health impact from exposure to recycled water is part of 'normal operations'.

⁹⁶⁰ Minimising the risk of cross-connection checks policy and procedure (Controlled COPY).pdf FS-ALL-AUS-PO-OPS-2544

⁹⁶¹ Risk Assessment Protocol for Water Products and Services FS-WAT-NSW-PR-OPS-2466 Revision: 3 16 August 2020

There are a number of instances in the risk assessment⁹⁶² where health risks have been assessed as insignificant for example:

- RL1.6 Human health impacts 'Pathogens present in recycled water supplied to customers, causing health impacts for customers' 'Exceedance of AGWR health guideline value'
- RD1.4 Human health impacts from on lot and network cross connections' 'Recycled water entering potable water plumbing in home' 'Pathogens present in water supplied to consumers, causing health impacts for consumers' 'Exceedance of ADWG health guideline value'

It is noted that in the live consultation register⁹⁶³, NSW Health provided comments on the risk assessment that do not appear to have been taken into consideration. NSW Health indicated *'Generally it is not appropriate to change the consequence in assessing risk. Controls address the likelihood; i.e. the likelihood is reduced but the consequence remains the same'* however there are many instances in the risk register where this advice has not been followed and the control measures do not appear to reduce the consequence but the residual consequence has been reduced (refer to findings of the risk assessment below).

In reviewing the risk assessments for all schemes, the auditor identified the following inconsistencies in the application of the RAP when assessing risk:

- EU1.15 Risk of inadvertent connections between recycled water and potable water (e.g. public bubblers?) leading to 'Illness from ingestion of recycled water'. Preventive measures are education, communication protocols and the emergency procedures resulting in a residual risk rated minor, which is 'Minor, Possible aesthetic or amenity impact'.
- RD1.4 On-lot cross-connections residual risk is assessed as 'insignificant' which is described as an 'undetected impact (normal operations). It is unclear how an on-lot cross-connection is part of normal operation. This risk certainty is 1 which means 'certain' however Altogether have only undertaken 3 cross-connection audits across 8 schemes with approximately 8146 recycled water customer connections in the audit period, therefore the risk level is unknown and uncertain. During the audit interviews numerous Altogether team members (Water Operations Manager 31 May 2021, Executive Manager – Sustainable Utility Services 15 June 2021) stated that cross-connections do not occur in the Altogether schemes because the houses and development are 'new'. This is contrary to industry knowledge and experience as documented in literature^{964 965 966}. This is considered a significant gap in understanding risk and taking responsibility for managing risk.

Based on the review of the scheme specific risk register against the requirements of the RAP, it was found that the RAP was not consistently implemented in the audit period, resulting in an underestimation of health risk and there was ambiguity about the health impacts captured in the consequence descriptors. A recommendation has been made to ensure the risk assessment consistently assesses risks.

⁹⁶² Green Square Scheme Risk Register GP-WAT-NSW-RG-OPS-2649 V8.2 27 August 2020

⁹⁶³ LIVE_Register_Consultation with NSW Health

⁹⁶⁴ A. C. Hambly, R. K. Henderson, A. Baker, R. M. Stuetz & S. J. Khan (2012) Cross-connection detection in Australian dual reticulation systems by monitoring inherent fluorescent organic matter, *Environmental Technology Reviews*, 1:1, 67-80, DOI: 10.1080/09593330.2012.696724

⁹⁶⁵ Water Source <https://watersource.awa.asn.au/publications/technical-papers/third-pipe-water-recycling/>

⁹⁶⁶ Risks to the long-term viability of residential non-potable water schemes: a review https://watersensitivecities.org.au/wp-content/uploads/2016/05/TMR_C3-1_RisksViabilityNonPotableWater.pdf

⁹⁶⁷ Muston, M. H. (2012). *Changing of the water recycling paradigm in Australia. Water Science and Technology: Water Supply*, 12(5), 611–618. doi:10.2166/ws.2012.034

- **REC-RW-2021-006** Review the risk assessments or risk assessment methodology to ensure that consequence values align with the risk being assessed, for example, where the consequence descriptor of insignificant, aesthetic or negligible cannot be attributed to a risk that has an acute health impact. Frequencies should also be applied taking into consideration historical performance and the occurrence of incidents. Any reduction in consequence should be justified.

Element 3

Section 2.3.2 of the AGWR indicates that a recycled water supplier should document the critical control points (CCPs), critical limits and target criteria. To assess the CCPs and critical limits the following scheme specific documents were reviewed:

- Green Square Scheme Management Plan⁹⁶⁸
- Green Square - Log Reduction Values⁹⁶⁹
- Green Square - Control Points⁹⁷⁰
- Green Square Monitoring and Sampling Program⁹⁷¹

Section 2.3.2 of the AGWR includes requirements for monitoring CCPs and establishing mechanisms for operational control. The Green Square CCP Table identifies the monitoring of CCPs, however when reviewing the Monitoring and Sampling Program, it was noted that some of the CCP parameters were not captured, for example Contact time and RO QCP of Conductivity on the permeate line.

A recommendation has been made to ensure that the operational monitoring program is correctly documented on the MS Prog, or relevant alternative.

- **REC-RW-2021-008** Review the scheme specific monitoring and sampling programs to ensure they include all operational parameters or develop a separate comprehensive operational monitoring program.

Element 4

Section 2.4.1 of the AGWR indicates that recycled water suppliers should identify procedures required for all processes and activities applied within the whole recycled water system (source to use). To determine a suitable procedure for this audit, the Green Square risk assessment was reviewed and a relevant hazard, cross connections between the recycled and drinking water network, was selected and the procedure for minimising cross-connections was chosen as a sample procedure for a more detailed audit. The Minimising the Risk of Cross-Connection Checks Policy and Procedure⁹⁷² was provided and discussed at the audit. The document control properties indicate that the procedure was established in December 2018 and updated in June 2019. The procedure in Section 8.4.2 states that 'The risk of cross-connections and unauthorised tap-ins increases with time as plumbing and network changes are made and the number of connections increases.' Section 8.4.3 of the policy states that:

'Flow has received advice that the water industry has determined that conducting cross-connection checks of 20% of all connections annually is not effective and is moving towards a risk-based approach. Flow is committed to implementing a risk-based, prioritised, statistically significant ongoing inspection program.'

'Flow will conduct a statistically significant set of one of the following types of tests on three streets in a scheme or three units in a high rise building annually, to confirm that there are no cross-

⁹⁶⁸ Green Square Scheme Management Plan (Scheme MP) (Controlled COPY) GS-WAT-NSW-PL-OPS-1791 Version 9 19 April 2021

⁹⁶⁹ Green Square - Log Reduction Values (Controlled COPY) GS-WAT-NSW-PL-OPS-2826 Version 3 27 April 2021

⁹⁷⁰ Green Square - Control Points (Controlled COPY) GS-WAT-NSW-PL-OPS-2577 Version 3.1 20 November 2021

⁹⁷¹ Green Square Monitoring and Sampling Program (Controlled COPY GS-WAT-NSW-PL-OPS-2421 Version 2 19 March 2021

⁹⁷² Minimising the risk of cross-connection checks policy and procedure (Controlled COPY).pdf FS-ALL-AUS-PO-OPS-2544

connections between potable and recycled water systems or tap-ins of potable to recycled water fittings:

1. flow tests
2. electrical conductivity (EC) tests and/or
3. chlorine/chloramine tests, or similar.'

When reviewing the requirements of the procedure, it was noted that the water industry advice (referenced in the policy) that Altogether has received was not documented and it was not possible to verify if the advice was documented or from where in the industry it was sourced from, for example an accepted industry standard or peer reviewed document. Altogether provided a range of emails^{973 974} written by Altogether staff, summarising what appears to be verbal advice from a consultant, however there does not appear to be verifiable evidence of the advice. It is noted that an email states '*[Consultant name] has advised us that based on his conversations with Health the "magic number is 3 – i.e. 3 streets in a scheme, 3 units in a building" and not 20% of all connections annually as we previously targeted.*' NSW Health acceptance of this advice could not be verified.

When reviewing the implementation of the Minimising the Risk of Cross-Connection Checks Policy and Procedure it was unclear what a 'statistically significant' number of tests would equate to and how this will relate to three streets or three units in a high rise. The AGWR in Table 2.8 provides examples of potential operational criteria and monitoring, suggesting an ongoing cross-connection program, rolling 6-monthly audits with all properties audited at least every 5 years. Whilst the AGWR provides an example of an acceptable cross connection program, this audit has found that the existing Minimising the Risk of Cross-Connection Checks Policy and Procedure is not clear on the number of audits that need to be taken for each scheme and how the properties to be audited are to be chosen to ensure they are representative.

There was no record of a cross connection audit undertaken at Green Square in the audit period. The Minimising the Risk of Cross-Connection Checks Policy and Procedure has not been implemented as documented. Additionally, during the audit interviews Altogether staff advised (Water Operations Manager 31 May 2021) that there are insufficient staff resources to undertake a planned cross-connection program.

A recommendation has been made to implement an ongoing cross-connection audit program that is adequate to control the risk of on-lot cross connections.

- **REC-RW-2021-009 Review the Minimising the Risk of Cross-Connection Checks Policy and Procedure to ensure that it clearly identifies the number of connections to be audited, audit procedure and the record keeping requirements. Ensure that the ongoing cross-connection audit program is adequate to control the risk of on-lot cross connections noting that the AGWR suggests a rolling 6-monthly audits with all properties audited at least every 5 years as an example of appropriate cross connection monitoring.**

Element 6

Section 2.6.2 of the AGWR indicates that a recycled water supplier should define potential incidents and emergencies, and document procedures and response plans. The Recycled Water Quality Plan⁹⁷⁵ provides a diagram in Section 6 which depicts the framework for managing recycled water incidents and emergencies. The Incident Management Plan⁹⁷⁶ (IMP) provides the overarching framework for Altogether's incident management. The IMP in Section 5.1.3 identifies the requirements of the

⁹⁷³ Cross connection workshop with [Consultant Name] 28/11/2018

⁹⁷⁴ Proposed "Minimising the risk of cross-connection and tap-ins policy and procedure" 11/12/2018

⁹⁷⁵ Recycled Water Quality Plan AG-WAT-AUS-PL-OPS-1311 Revision: 17 27 April 2021

⁹⁷⁶ Incident Management Plan (IMP) (Controlled COPY) AG-ALL-AUS-PL-INC-1266 Revision 9 25 January 2021

reporting manual and includes immediate notification to IPART, NSW Health, Department of Planning and Environment and other licenses and public water utilities.

The Water Operations Incident Management, Reporting and Investigation Procedure⁹⁷⁷ provides flow diagrams that give an overview of incident management. This includes the requirement for the incident manager to assess, declare and classify the incident, make notifications, investigate, debrief and close out the incident. The flow diagram also includes responsibilities for notifying regulators.

The Incident Notification Protocol with NSW Health⁹⁷⁸ was updated in February 2021 and includes the contact details of the relevant Public Health Units to be notified for each scheme.

It was noted in both documents above, that there is a recycled water event identified as 'recycled water delivered to customers below the AGWR values measured at the point of supply or point of use'. This appears to be an error and the event should be defined as recycled water delivered to customers that does not comply with the documented water quality criteria. It is noted that AGWR does not identify specific water quality criteria for recycled water and the water quality criteria are documented on the MS Progs for each scheme. A recommendation has been made to review the Water Operations Incident Management, Reporting and Investigation Procedure and Incident Notification Protocol with NSW Health to clearly define the recycled water event with reference to the documented water quality criteria.

- **REC-RW-2021-011 Review and update the Water Operations Incident Management, Reporting and Investigation Procedure and Incident Notification Protocol with NSW Health to ensure that the definition of a recycled water event refers to the documented water quality criteria for recycled water in the Water Quality Plan rather than referring to the Australian Guidelines for Water Recycling.**

Element 10

Document Control Policy and Procedure⁹⁷⁹ states that all BMS documents are controlled using the BMS Library on SharePoint. During the site inspection at Pitt Town, the operator demonstrated the BMS system which included overarching licence plans, site-specific plans and procedures, forms and work instructions. In reviewing the documents provide in evidence, the following findings were noted:

- The footer on the LWC Control System Change Management policy⁹⁸⁰ is inconsistent with the document control properties.
- The scheme management plan has errors in the fields and captions.

A recommendation has been made to improve documentation.

- **REC-RW-2021-013 Establish review processes to ensure all documents are reviewed on time and do not have typographical and hyperlink errors.**

Element 11

Section 2.11.2 of the AGWR indicates that recycled water suppliers should establish processes for internal and external audits and Document and communicate audit results. Altogether has an Audit Procedure⁹⁸¹ that outlines the audit process. An Internal Audit Calendar⁹⁸² was shown that outlined the audits that should be undertaken. The audit procedure indicates that the outcomes of internal audits should go onto an action register. During the audit, Altogether explained that this is the Water Quality Improvement Plan, however the actions from internal audits had not been captured on the

⁹⁷⁷ Water Operations Incident Management, Reporting and Investigation Procedure (Controlled COPY) AG-WAT-NSW-PR-OPS-2561 Version 3 22 March 2021

⁹⁷⁸ Incident Notification Protocol with NSW Health (Controlled COPY) AG-ALL-NSW-PR-INC-1277 Revision 9 26 February 2021

⁹⁷⁹ Document Control Policy and Procedure (Controlled COPY AG-ALL-AUS-PO-HSEQ-1234 revision 6 19/1/2021

⁹⁸⁰ LWC Control System Management of Change Policy (CONTROLLED COPY) Revision 3 27 April 20120

⁹⁸¹ 2352 Audit Procedure (Controlled COPY).pdf AG-ALL-AUS-PR-R&C-1364

⁹⁸² Internal Audit Calendar - Water

improvement plan, there was no evidence the actions had been allocated to a responsible person, progress tracked, or closed out. It is noted that some audit findings were closed out on the day of the audit, however ones that were not closed out were not captured in an action register or on the Water Quality Improvement Plan. A recommendation has been made to ensure the audit process is implemented as documented.

- **REC-RW-2021-014 Develop a process to capture and track the progress in implementing recommendations from internal audits on an action register or improvement program, as required by the procedure.**

Element 12

Section 2.12.2 of the AGWR indicates that recycled water suppliers should develop a recycled water quality management improvement plan and ensure the plan is communicated and implemented, and improvements are monitored.

The Water Quality Improvement Plan⁹⁸³ was provided and discussed in the audit. Inputs to the plan are documented on the 'Lists Ops' tab and include activities such as the risk register, Licence plan review and audit. There were many items on the register that do not have a completion date, and this makes it difficult to audit its implementation. A recommendation has been made to improve the documentation of the improvement plan to ensure that it is implemented.

- **REC-RW-2021-015 Ensure all items on the Improvement Plan have been allocated to a responsible party, communicated, and due dates for completion have been applied.**

6.2. Water Quality Plans - Operational Procedures

NOL Sch A cl 2.2 The Licensee must: a) fully implement the Operational Procedures (as noted in NOL Sch A, cl 2.1); b) ensure that all of its activities are carried out in accordance with the Operational Procedures; and c) keep records to demonstrate the extent to which the Operational Procedures have been implemented and complied with.

6.2.1. Summary of Findings

Altogether provided evidence that the Operational Procedures required under the relevant clause of the NOL for each scheme have been implemented for the following activities:

- monitoring protocols
- corrective actions
- rapid communication
- inspection and maintenance.

Altogether was found to have implemented the procedures required under the relevant licence clauses and was found to be compliant with this requirement.

6.2.2. Recommendations

No recommendations have been identified for this clause of the licence.

6.3. Water Quality Plans – Monitoring and Analysis

- NOL Sch B cl.7.1 The Licensee must undertake any monitoring that is required for the purposes of this Licence, any Plan, the Act or the Regulation in accordance with this clause 7.

⁹⁸³ WQP Improvement Plan

- NOL Sch B cl.7.2 The Licensee must keep the following records of any samples taken for monitoring purposes specified in the Water Quality Plan: a) the date on which the sample was taken; b) the time at which the sample was collected; c) the point or location at which the sample was taken; and d) the chain of custody of the sample (if applicable).
- NOL Sch B cl.7.3 The Licensee must ensure that analyses of all samples taken for the purposes of Verification Monitoring are carried out by a laboratory accredited for the specified tests by an independent body that is acceptable to NSW Health, such as the National Association of Testing Authorities or an equivalent body.

6.3.1. Summary of Findings

Altogether was found to have implemented the monitoring required under the relevant licence clauses and was found to be compliant with NOL Sch B cl.7.1

Altogether was found to have kept the records of the monitoring required under the relevant licence clauses and was found to be compliant with NOL Sch B cl.7.2.

Altogether was found to have water quality analysis undertaken by a NATA accredited laboratory required under the relevant licence clauses and was found to be compliant with NOL Sch B cl.7.3.

6.3.2. Recommendations

No recommendations have been identified for this clause of the licence.

6.4. Infrastructure Operating Plan

WIC Reg Sch 1 cl. 6(1) – Water: Before commencing to operate water infrastructure commercially, the licensed network operator for the infrastructure must prepare, and forward to IPART, an infrastructure operating plan that indicates the arrangements that the licensee has made, or proposes to make, in relation to:

- a) the design, construction, operation and maintenance of the infrastructure, including particulars as to the lifespan of the infrastructure, the system redundancy built into the infrastructure and the arrangements for the renewal of the infrastructure, and
- b) the continued safe and reliable performance of the infrastructure, and
- c) the continuity of water supply, and
- d) alternative water supplies when the infrastructure is inoperable, and
- e) the maintenance, monitoring and reporting of standards of service.

WIC Reg Sch 1 cl. 6(2) – Water: The network operator must ensure that the infrastructure operating plan is fully implemented and kept under regular review and all of the network operator's activities are carried out in accordance with that plan.

WIC Reg Sch 1 cl. 13(1) – Sewerage: Before commencing to operate sewerage infrastructure commercially, the licensed network operator for the infrastructure must prepare, and forward to IPART, an infrastructure operating plan that indicates the arrangements that the licensee has made, or proposes to make, in relation to:

- a) the design, construction, operation and maintenance of the infrastructure, including particulars as to the lifespan of the infrastructure, the system redundancy built into the infrastructure and the arrangements for the renewal of the infrastructure, and
- b) the continued safe and reliable performance of the infrastructure, and
- c) the continuity of sewerage services, and

- d) alternative sewerage services when the infrastructure is inoperable, and
- e) the maintenance, monitoring and reporting of standards of service.

WIC Reg Sch 1 cl. 13(2) – Sewerage: The infrastructure operating plan is fully implemented and kept under regular review and all of the network operator’s activities are carried out in accordance with that plan.

6.4.1. Summary of Findings

Altogether was found to have prepared an IOP that meets the requirements of the licence clause and was found to be compliant with WIC Reg Sch 1 cl. 6(1).

Altogether was found to have implemented the IOP and was found to be compliant with WIC Reg Sch 1 cl. 6(2).

Altogether was found to have prepared an IOP that meets the requirements of the licence clause and was found to be compliant with WIC Reg Sch 1 cl. 13(1).

Altogether was found to have implemented the IOP and was found to be compliant with WIC Reg Sch 1 cl. 13(2).

6.4.2. Recommendations

No recommendations have been identified for this clause of the licence.

6.5. Incident Notification

WIC Reg Sch 1 cl. 1(2)(a) A network operator must immediately notify

- a) IPART, and
- b) The Minister administering the Public Health Act 2010, and
- c) the Minister administering Part 2 of the Water Industry Competition Act 2006 (NSW), and
- d) NA, and
- e) any licensed network operator or public water utility whose infrastructure is connected to the licensed network operator’s infrastructure, of any incident in the conduct of its activities that threatens, or could threaten, water quality, public health or safety.

6.5.1. Summary of findings

Based on the records identified in Table 10 it was found that Altogether complied with its requirements to notify the identified stakeholders in accordance with the requirements of WIC Reg Sch 1 cl. 1(2)(a).

6.5.2. Recommendations

No recommendations have been identified for this clause of the licence.

6.6. Compliance findings to be checked

Altogether has largely closed out the previous compliance findings, the details of each non-compliance are detailed below

Description	Clause Ref.	Grade	Auditor to check	Evidence
<p>The licensee has been assessed as non-compliant material for this licence clause due to the failure to implement the verification monitoring program verification monitoring and a number of minor deficiencies in the documentation. Deficiencies include the SMP and incident management documentation being out of date, lack of evidence to demonstrate time delays have been implemented and the lack of a process to confirm water quality compliance. The non-compliance is considered material because the licensee did not take microbiological samples at the required frequencies, resulting in periods of four week of time (between the monthly samples) where compliance with the water quality criteria has not been verified. Additionally, the licensee did not identify a period of one month (February 2020) where no microbiological samples were taken. The non-compliances have the potential to affect water quality, public health and safety or the environment. It is</p>	WIC Reg Sch 1 cl 7(4)(a)	Non-compliant (Material)	Check documents have been updated implemented in as per recommendations in Operational Audit (Viridis, October 2020)	<p>The Green Square Audit Report (Viridis October 2020) included the following recommendations:</p> <ul style="list-style-type: none"> GS-REC-2020-001 Review and confirm the hard-coded time delays for all CCPs and document the outcomes to ensure the implementation of the CCPs is consistent and auditable. <p>Altogether advised that it had reviewed time delays but did not keep records of the review. In addition, Altogether is in the process of updating permissions to limit access to the critical limits in SCADA.</p> <ul style="list-style-type: none"> GS-REC-2020-002 – Document the operational monitoring program for the implementation of manual operator checks using hand-held instruments (weekly CCP checks) and ensure the Monitoring and Sampling Plan and Monitoring and Sampling Program include this process. <p>This audit found that there are mechanisms for manual operator checks of hand held instruments.</p> <ul style="list-style-type: none"> GS-REC-2020-003 Implement a process to take and record the operator checks using handheld instruments (e.g. recording the weekly CCP checks through the CMMS). <p>Evidence of weekly CCP checks^{984 985} were provided which include grab sampling and checking online instrument readings.</p> <ul style="list-style-type: none"> GS-REC-2020-004 – Undertake a thorough review of all verification monitoring programs to ensure that: <ul style="list-style-type: none"> the program is implemented in accordance with the documentation that that there is a process to regularly check that samples are being taken at the correct frequency and to rapidly identify missed samples that there is an effective process to review and record verification monitoring data to confirm the compliance and ensure immediate

⁹⁸⁴ Work_Order 035765 Weekly Control Points Check GS

⁹⁸⁵ Work_Order 036702 Weekly Control Points Check GS

Description	Clause Ref.	Grade	Auditor to check	Evidence
noted that the licensee has updated the verification monitoring program to include the correct frequencies and has commenced work on updating the scheme management plan, recycled water quality plan and the incident management procedures, which are expected address some of the deficiencies once complete.				<p>reporting of non-compliant results.</p> <p>During the audit interviews, Altogether demonstrated a new process for reviewing data and checking compliance with the monitoring program using a Power BI database that included checking the number of samples taken, the frequency of sampling, and that the results are compliant. The database extract was reviewed and the auditor confirmed that the MS Progs are being implemented and the required samples are being taken at the correct frequencies</p> <ul style="list-style-type: none"> GS-REC-2020-005 Review and update the Incident Management Plan and the Water Quality Incident Management, Reporting and Investigation Procedure as required (annually and in response to an incident). <p>The Incident Management Plan⁹⁸⁶ (IMP) provides the overarching framework for Altogether's incident management plan and was updated in January 2021.</p> <p>The Water Operations Incident Management, Reporting and Investigation Procedure⁹⁸⁷ provides flow diagrams that give an overview of incident management and was updated in March 2021.</p> <p>The Incident Notification Protocol with NSW Health⁹⁸⁸ was updated in February 2021.</p> <ul style="list-style-type: none"> GS-REC-2020-006 Ensure the incident response documentation provides guidance on relevant incidents including but not limited to protozoan water quality non-compliances. <p>The out-of-specification procedure⁹⁸⁹ includes the process for investigation when an out-of-specification parameter is detected. The process includes notifying stakeholders, retesting the out-of-specification parameter, and checking treatment processes. This is considered adequate to cover protozoan risk.</p> <p>Altogether was found to have closed out the recommendations other than the confirmation of the time delays</p>

⁹⁸⁶ Incident Management Plan (IMP) (Controlled COPY) AG-ALL-AUS-PL-INC-1266 Revision 9 25 January 2021

⁹⁸⁷ Water Operations Incident Management, Reporting and Investigation Procedure (Controlled COPY) AG-WAT-NSW-PR-OPS-2561 Version 3 22 March 2021

⁹⁸⁸ Incident Notification Protocol with NSW Health (Controlled COPY) AG-ALL-NSW-PR-INC-1277 Revision 9 26 February 2021

⁹⁸⁹ 3512 Discovery Point Recycled Water Out of Specification Work Instruction (Controlled COPY).pdf DP-WAT-NSW-WI-OPS-3474

Description	Clause Ref.	Grade	Auditor to check	Evidence
The Monitoring and Sampling Plan documents the approach to operational and verification monitoring, and the MS Prog outlines the specific sampling for GSW. During the audit, the Licensee demonstrated the SCADA system including operational trends, showing that the system operates generally within the target operational range. The Licensee did not provide evidence of operator checks with handheld instruments as identified in the risk assessment as a preventive measure. The Licensee provided evidence that it implements the verification monitoring outlined in the MS Prog The licensee did not undertake the monitoring required under the water quality plan and did not have processes to ensure ongoing compliance with the Monitoring and Sampling Plan and Monitoring and Sampling Program.	NOL Sch B cl 7.1	Non-compliant (Material)	Check documents have been updated implemented in as per recommendations in Operational Audit (Viridis, October 2020)	<p>The Green Square Audit Report (Viridis October 2020) included the following recommendations:</p> <ul style="list-style-type: none"> GS-REC-2020-004 – Undertake a thorough review of all verification monitoring programs to ensure that: <ul style="list-style-type: none"> the program is implemented in accordance with the documentation that that there is a process to regularly check that samples are being taken at the correct frequency and to rapidly identify missed samples that there is an effective process to review and record verification monitoring data to confirm the compliance and ensure immediate reporting of non-compliant results. <p>During the audit interviews, Altogether demonstrated a new process for reviewing data and checking compliance with the monitoring program using a Power BI database that included checking the number of samples taken, the frequency of sampling, and that the results are compliant. The database extract was reviewed and the auditor confirmed that the MS Progs are being implemented and the required samples are being taken at the correct frequencies.</p> <p>Altogether was found to have closed out the non-compliance.</p>
A plan showing the nature and general location of the infrastructure was not available on the website as required by WIC Reg Sch1 Clause	WIC Reg Sch 1 cl 12 (a) WIC Reg Sch 1 cl 16(a)	Non-compliant (Non-material)	Self reported – Annual reporting 2020	<p>The overall Site plan for Green Square were available on the Altogether Website⁹⁹⁰</p> <p>Altogether was found to have closed out the non-compliance.</p>

⁹⁹⁰ https://information.altogethergroup.com.au/askus/Green_Square/Green%20Square%20Town%20Centre.pdf





Description	Clause Ref.	Grade	Auditor to check	Evidence
12(a) and WIC Reg Sch1 Clause 16(a). The reason for the licence non-compliance was human error. The plans were available for the Flow Systems Group licensees' land housing schemes, but were not available for the high rise schemes. The plans were made available on 6/08/2020 at: https://askus.flowsystems.com.au/hc/enus/articles/208876906-Reticulation-and-StandardDrawings .				
Point of Supply (PoS) frequency of Clostridia and coliphage testing was at a lower frequency than it should have been. Sampling was being undertaken monthly not weekly as required by Flow's Monitoring and Sampling Programme (M&S Prog) for Green Square, and as recommended by the Australian Guidelines for Water Recycling (AGWR).	WIC Reg Sch 1 cl 7(4)(a)	Non-compliant (Non-material)	Self reported – Annual reporting 2020	<p>The Green Square Audit Report (Viridis October 2020) included the following recommendations:</p> <ul style="list-style-type: none"> GS-REC-2020-004 – Undertake a thorough review of all verification monitoring programs to ensure that: <ul style="list-style-type: none"> the program is implemented in accordance with the documentation that there is a process to regularly check that samples are being taken at the correct frequency and to rapidly identify missed samples that there is an effective process to review and record verification monitoring data to confirm the compliance and ensure immediate reporting of non-compliant results. <p>During the audit interviews, Altogether demonstrated a new process for reviewing data and checking compliance with the monitoring program using a Power BI database that included checking the number of samples taken, the frequency of sampling, and that the results are compliant. The database extract was reviewed and the auditor confirmed that the MS Progs are being implemented and the required samples are being taken at the correct frequencies.</p>

Description	Clause Ref.	Grade	Auditor to check	Evidence
				Altogether was found to have closed out the non-compliance.
Point of Supply (PoS) frequency of Clostridia and coliphage testing was at a lower frequency than it should have been. Sampling was being undertaken monthly not weekly as required by Flow's Monitoring and Sampling Programme (M&S Prog) for Green Square, and as recommended by the Australian Guidelines for Water Recycling (AGWR).	NOL Sch B cl 8.1	Non-compliant (Non-material)	Self reported – Annual reporting 2020	<p>The Green Square Audit Report (Viridis October 2020) included the following recommendations:</p> <ul style="list-style-type: none"> GS-REC-2020-004 – Undertake a thorough review of all verification monitoring programs to ensure that: <ul style="list-style-type: none"> the program is implemented in accordance with the documentation that that there is a process to regularly check that samples are being taken at the correct frequency and to rapidly identify missed samples that there is an effective process to review and record verification monitoring data to confirm the compliance and ensure immediate reporting of non-compliant results. <p>During the audit interviews, Altogether demonstrated a new process for reviewing data and checking compliance with the monitoring program using a Power BI database that included checking the number of samples taken, the frequency of sampling, and that the results are compliant. The database extract was reviewed and the auditor confirmed that the MS Progs are being implemented and the required samples are being taken at the correct frequencies.</p> <p>Altogether was found to have closed out the non-compliance.</p>

APPENDIX E SUMMARY OF FINDINGS CENTRAL PARK WATER

7. OVERALL SUMMARY

This section provides a summary of the findings, detailed findings and discussions are in Appendix A. The Table below provides an overview of the level of compliance for Central Park Water. Central Park Water (Altogether) Is the licensee.

Compliance Grades	Number of Findings	
	Compliant	9
	Non-compliant (non-material)	2
	Non-compliant (material)	1
	No requirement	0

Audit findings are summarised by obligation in the sections below.

7.1. Water Quality Plans - Recycled Water

WIC Reg Sch 1 cl. 7(4) The network operator must ensure that its recycled water quality plan is fully implemented and kept under regular review and the network operator's activities are carried out in accordance with that plan.

7.1.1. Summary of Findings

The audit has identified a number of gaps in the implementation of the Recycled Water Quality Plan⁹⁹¹ (RWQP) and its supporting programs due to inconsistent implementation the documented risk assessment methodology leading to an underestimation of health risks, inadequacy of the current cross-connection audit program, and failure to implement the current program for cross-connection auditing. In addition, a number of minor inconsistencies in the implementation of the recycled water quality plan and the supporting documentation were identified.

Altogether did not provide sufficient verifiable evidence that it's RWQP is fully implemented, and it is the auditor's finding that the deficiency adversely affects Altogether's ability to assure controlled processes, products and outcomes and protect public health.

A grading of **non-compliant material** is awarded to WIC Reg Sch 1 cl. 7(4).

Recommendations have been identified below. Opportunities for improvement have been identified in the combined audit summary and detailed findings in Appendix A.

7.1.2. Recommendations

The following recommendations have been identified to address the areas of non-compliance:

Element 1

⁹⁹¹ Recycled Water Quality Plan AG-WAT-AUS-PL-OPS-1311 Revision: 17 27 April 2021

Element 1 of the AGWR indicates that a recycled water supplier should engage users of recycled water; ensure responsibilities are identified and understood. Section A1.3.2 of the RWQP⁹⁹² states that Licence Plan audit reports are provided on the Altogether website as form of customer engagement. When reviewing the website⁹⁹³, it was found that the hyperlink to the audit report linked to a different document. The Central Park Water Licence Plan Audit Report for 2021 is listed as being available on the website⁹⁹⁴, but the site initially linked to the scheme's Residential Price Fact Sheet. A subsequent search on 14/6/2021 found that the links had been corrected during the audit, after the audit period had ended. It was noted that these links were affected when Altogether rebranded its website in January 2021. It is considered that during the audit period, Altogether did not make its audit report publicly available, as required by the RWQP. A recommendation has been made to ensure that the information identified in the RWQP is available on the website.

- **REC-RW-2021-002 Where the water quality plans or legislation identify information to be included on the website, ensure that information is made available.**

The AGWR in Section 2.1.3 requires that recycled water suppliers should identify all stakeholders (including the public) affecting, or affected by, decisions or activities related to the use of recycled water and engage users of recycled water; ensure responsibilities are identified and understood.

Section A1.3.3 of the RWQP states that the Stakeholder and Emergency contact list includes the public. Section A1.3.4 of the RWQP identifies scheme specific community website, bills, customer contract, SMS and email messages, project delivery Agreements, Project Control Group and Homeowners Guide as methods for engaging with developers, customers and tenants. The Altogether Flow WICA Licences - Authorised Purposes Matrix⁹⁹⁵ identifies irrigation, water features, car washing and general washdown as authorised purposes for the Central Park Scheme. When reviewing the scheme specific list⁹⁹⁶, 'Public Stakeholders' are listed however the list is silent on how Altogether communicates with members of the public who are not residents and who access areas with recycled water in use to ensure responsibilities are understood by the public (for example signage in irrigation areas warning that recycled water is in use).

A recommendation has been made to establish a process to identify all potential recycled water users and ensure there is a process for communicating responsibilities to all identified recycled water users. It is considered that appropriate mechanisms have not been developed and effectively employed for members of the public (end users) accessing areas where they may be exposed to recycled water. It is noted that the Stakeholder and Emergency Contact list may not be the most appropriate mechanism for identifying and engaging with the public.

- **REC-RW-2021-003 Review and update stakeholder lists or equivalent to reflect all potential stakeholders and the methods for engagement, including engaging with the public.**

The AGWR (Section 2.1.4) recommends that the recycled water policy should provide a basis for developing more detailed guiding principles and implementation strategies. AGWR includes the broad issues that the recycled water policy should address including for example, intention to adopt best-practice management and a multiple-barrier approach.

⁹⁹² Recycled Water Quality Plan AG-WAT-AUS-PL-OPS-1311 Revision: 17 27 April 2021

⁹⁹³ <https://askus.altogethergroup.com.au/hc/en-us/articles/900004983283-Community-audits-management-plans> accessed 28 May 2021

⁹⁹⁴ <https://askus.altogethergroup.com.au/hc/en-us/articles/900004983283-Community-audits-management-plans> accessed 28 May 2021

⁹⁹⁵ 2919 Altogether WICA Licences - authorised purposes matrix (Controlled COPY).pdf AG-WAT-NSW-RG-OPS-2918

⁹⁹⁶ 3360 Central Park - Stakeholders Emergency Contact List (Controlled COPY).pdf CP-WAT-NSW-RG-INC-3359

The Recycled Water Policy⁹⁹⁷ states that Altogether will implement and maintain recycled water management system consistent with the AGWR and all managers and personnel are responsible for implementing, maintain and continuously improving the recycled water management system.

During the audit, Altogether team members (Water Operations Manager 31 May 2021) responsible for implementing the preventive measures in the risk assessment indicated that there have been insufficient resources to implement some processes (for example when discussing the implementation of the *Minimising the Risk of Cross-Connection Checks Policy and Procedure*⁹⁹⁸), and the agreed compliance program (Executive Manager – Risk & Compliance 15 June 2021) with IPART has affected Altogether's ability to allocate sufficient resources to RWQP implementation.

Additionally, when gaps in implementation (for example the implementation of the risk assessment methodology) were identified during the audit, Altogether representatives (Water Quality Systems Manager 31 May 2021) indicated in some instances that external consultants had undertaken the works and could not explain how the process was implemented.

Additionally, it was indicated that in cases where recycled water is used in public spaces, that the public should have the 'common sense' to know that recycled water is in use, without signage being installed (Technical Operations Lead 9 June 2021). This approach does not appear to adequately cover protecting the most vulnerable members of the community. It is the auditor's finding that Altogether has not fully implemented its recycled water policy due to gaps in risk management, failure to implement procedures in relation to cross-connection auditing, failure to take ownership for managing risk and by not allocating adequate resources for the implementation of the RWQP and supporting programs

A recommendation has been made to improve implementation of the recycled water policy and to ensure recycled water risk is well understood.

- **REC-RW-2021-005 Implement a program to increase staff awareness of recycled water risks, improve ownership for managing risk and allocation of adequate resources to implement licence plans and meet regulatory requirements.**

Element 2

The AGWR indicates that water providers should identify and document hazards and hazardous events, and estimate risk. Section 2.4 of the RWQP identifies the Risk Assessment Protocol for Water Products and Services⁹⁹⁹ (the RAP) as the documented process for undertaking risk assessments. The RAP includes consequence and likelihood descriptors that should be applied when assessing risk. The RAP states in Table 2 that 'Health risks on the sewage and recycled water risk registers are assessed using the AGWR matrix'. When reviewing the matrix, in the RAP, it was found that it was not consistent with the AGWR as the minor and negligible consequence descriptors in the RAP appear to exclude health impacts as detailed below:

- Minor ranking – Health impact minor - possible aesthetic or amenity impact, population impact small, isolated part of the scheme (zone or street)
- Insignificant ranking – Health impact negligible - undetectable impact (normal operations) population impact small, isolated part of the scheme (zone or street)

Altogether has advised verbally and in emails that these consequence categories do not exclude health impacts, however this is not clear from reading the documents. Furthermore, there are a number of health impacts identified in the risk assessment that have been assigned 'insignificant'

⁹⁹⁷ Recycled Water Policy AG-WAT-AUS-PO-OPS-1310 Revision: 3 21 July 2020

⁹⁹⁸ Minimising the risk of cross-connection checks policy and procedure (Controlled COPY).pdf FS-ALL-AUS-PO-OPS-2544

⁹⁹⁹ Risk Assessment Protocol for Water Products and Services FS-WAT-NSW-PR-OPS-2466 Revision: 3 16 August 2020

grading, which describes a health impact as 'negligible', and 'undetectable' and 'normal operations'. It is difficult to justify how a health impact from exposure to recycled water is part of 'normal operations'.

There are a number of instances in the risk assessment¹⁰⁰⁰ where health risks have been assessed as insignificant for example:

- RL1.6 Human health impacts 'Pathogens present in recycled water supplied to customers, causing health impacts for customers' 'Exceedance of AGWR health guideline value'
- RD1.4 Human health impacts from on lot and network cross connections' 'Recycled water entering potable water plumbing in home' 'Pathogens present in water supplied to consumers, causing health impacts for consumers' 'Exceedance of ADWG health guideline value'

It is noted that in the live consultation register¹⁰⁰¹, NSW Health provided comments on the risk assessment that do not appear to have been taken into consideration. NSW Health indicated *'Generally it is not appropriate to change the consequence in assessing risk. Controls address the likelihood; i.e. the likelihood is reduced but the consequence remains the same'* however there are many instances in the risk register where this advice has not been followed and the control measures do not appear to reduce the consequence but the residual consequence has been reduced (refer to findings of the risk assessment below).

In reviewing the risk assessments for all schemes, the auditor identified the following inconsistencies in the application of the RAP when assessing risk:

- Risk SC1.4 relating to sewage overflows, leading to 'Human contact with wastewater causing public health impact'. The maximum likelihood is almost certain and moderate consequence. Moderate is described as 'Potential for some increase in disease burden'. The control measures include processes such as use of contractors, isolation of spills, complaints handling and communication. Whilst these control measures may reduce the frequency of a public health impact it is unclear how these reduce the consequence of a public health impact to minor, which is 'Possible aesthetic or amenity impact'.
- EU1.15 Risk of inadvertent connections between recycled water and potable water (e.g. public bubblers?) leading to 'Illness from ingestion of recycled water'. Preventive measures are education, communication protocols and the emergency procedures resulting in a residual risk rated minor, which is 'Minor, Possible aesthetic or amenity impact'.
- RD1.4 On-lot cross-connections residual risk is assessed as 'insignificant' which is described as an 'undetectable impact (normal operations). It is unclear how an on-lot cross-connection is part of normal operation. This risk certainty is 1 which means 'certain' however Altogether have only undertaken 3 cross-connection audits across 8 schemes with approximately 8146 recycled water customer connections in the audit period, therefore the risk level is unknown and uncertain. During the audit interviews numerous Altogether team members (Water Operations Manager 31 May 2021, Executive Manager – Sustainable Utility Services 15 June 2021) stated that cross-connections do not occur in the Altogether schemes because the houses and development are 'new'. This is contrary to industry knowledge and experience as documented in literature^{1002 1003}

¹⁰⁰⁰ 2480 Central Park Scheme Risk Register (Controlled COPY) CP-WAT-NSW-RG-OPS-2480.pdf CP-WAT-NSW-RG-OPS-2480

¹⁰⁰¹ LIVE_Register_Consultation with NSW Health

¹⁰⁰² A. C. Hambly, R. K. Henderson, A. Baker, R. M. Stuetz & S. J. Khan (2012) Cross-connection detection in Australian dual reticulation systems by monitoring inherent fluorescent organic matter, Environmental Technology Reviews, 1:1, 67-80, DOI: 10.1080/09593330.2012.696724

¹⁰⁰³ Water Source <https://watersource.awa.asn.au/publications/technical-papers/third-pipe-water-recycling/>

¹⁰⁰⁴ ¹⁰⁰⁵. This is considered a significant gap in understanding risk and taking responsibility for managing risk.

Based on the review of the scheme specific risk registers against the requirements of the RAP, it was found that the RAP was not consistently implemented in the audit period, resulting in an underestimation of health risk and there was ambiguity about the health impacts captured in the consequence descriptors. A recommendation has been made to ensure the risk assessment consistently assesses risks.

- **REC-RW-2021-006 Review the risk assessments or risk assessment methodology to ensure that consequence values align with the risk being assessed, for example, where the consequence descriptor of insignificant, aesthetic or negligible cannot be attributed to a risk that has an acute health impact. Frequencies should also be applied taking into consideration historical performance and the occurrence of incidents. Any reduction in consequence should be justified.**

Element 3

Section 2.3.2 of the AGWR indicates that a recycled water supplier should document the critical control points (CCPs), critical limits and target criteria. To assess the CCPs and critical limits the following scheme specific documents were reviewed:

- Central Park Scheme Management Plan¹⁰⁰⁶
- Central Park - Control Points¹⁰⁰⁷
- Central Park - Log Reduction Values¹⁰⁰⁸
- Central Park Monitoring and Sampling Program¹⁰⁰⁹ (MS Prog)

Section 2.3.2 of the AGWR includes requirements for monitoring CCPs and establishing mechanisms for operational control. The Central Park CCP Table identifies the monitoring of CCPs, however when reviewing the Monitoring and Sampling Program, it was noted that some of the CCP parameters were not captured, for example Contact time which is a CCP.

A recommendation has been made to ensure that the operational monitoring program is correctly documented on the MS Prog, or relevant alternative.

- REC-RW-2021-008 Review the scheme specific monitoring and sampling programs to ensure they include all operational parameters or develop a separate comprehensive operational monitoring program.

Element 4

Section 2.4.1 of the AGWR indicates that recycled water supplier should identify procedures required for all processes and activities applied within the whole recycled water system (source to use). To determine a suitable procedure for this audit, the Central Park risk assessment was reviewed and a relevant hazard, cross connections between the recycled and drinking water network, was selected and the procedure for minimising cross-connections was chosen as a sample procedure for a more detailed audit. The Minimising the Risk of Cross-Connection Checks Policy and Procedure¹⁰¹⁰ was provided and discussed at the audit. The document control properties indicate that the procedure was established in December 2018 and updated in June 2019. The procedure in Section 8.4.2 states that 'The risk of cross-connections and unauthorised tap-ins increases with time

¹⁰⁰⁴ Risks to the long-term viability of residential non-potable water schemes: a review https://watersensitivecities.org.au/wp-content/uploads/2016/05/TMR_C3-1_RisksViabilityNonPotableWater.pdf

¹⁰⁰⁵ Muston, M. H. (2012). *Changing of the water recycling paradigm in Australia*. *Water Science and Technology: Water Supply*, 12(5), 611–618. doi:10.2166/ws.2012.034

¹⁰⁰⁶ Central Park Scheme Management Plan (Scheme MP) (Controlled COPY) CP-WAT-NSW-PL-OPS-1344 V7 16 April 2020

¹⁰⁰⁷ Central Park - Control Points (Controlled COPY) CP-WAT-NSW-PL-OPS-1208 Version 3 4 November 2019

¹⁰⁰⁸ Central Park - Log Reduction Values (Controlled COPY) CP-WAT-NSW-PL-OPS-2822 Version 2 19 November 2020

¹⁰⁰⁹ Central Park Monitoring and Sampling Program (Controlled COPY) CP-WAT-AUS-PL-OPS-2859 19 March 2021

¹⁰¹⁰ Minimising the risk of cross-connection checks policy and procedure (Controlled COPY).pdf FS-ALL-AUS-PO-OPS-2544

as plumbing and network changes are made and the number of connections increases.’ Section 8.4.3 of the policy states that:

‘Flow has received advice that the water industry has determined that conducting cross-connection checks of 20% of all connections annually is not effective and is moving towards a risk-based approach. Flow is committed to implementing a risk-based, prioritised, statistically significant ongoing inspection program.’

‘Flow will conduct a statistically significant set of one of the following types of tests on three streets in a scheme or three units in a high rise building annually, to confirm that there are no cross-connections between potable and recycled water systems or tap-ins of potable to recycled water fittings:

1. flow tests
2. electrical conductivity (EC) tests and/or
3. chlorine/chloramine tests, or similar.’

When reviewing the requirements of the procedure, it was noted that the water industry advice (referenced in the policy) that Altogether has received was not documented and it was not possible to verify if the advice was documented or from where in the industry it was sourced from, for example an accepted industry standard or peer reviewed document. Altogether provided a range of emails^{1011 1012} written by Altogether staff, summarising what appears to be verbal advice from a consultant, however there does not appear to be verifiable evidence of the advice. It is noted that an email states *‘[Consultant name] has advised us that based on his conversations with Health the “magic number is 3 – i.e. 3 streets in a scheme, 3 units in a building)” and not 20% of all connections annually as we previously targeted.’* NSW Health acceptance of this advice could not be verified.

When reviewing the implementation of the Minimising the Risk of Cross-Connection Checks Policy and Procedure it was unclear what a ‘statistically significant’ number of tests would equate to and how this will relate to three streets or three units in a high rise. The AGWR in Table 2.8 provides examples of potential operational criteria and monitoring, suggesting an ongoing cross-connection program, rolling 6-monthly audits with all properties audited at least every 5 years. Whilst the AGWR provides an example of an acceptable cross connection program, this audit has found that the existing Minimising the Risk of Cross-Connection Checks Policy and Procedure is not clear on the number of audits that need to be taken for each scheme and how the properties to be audited are to be chosen to ensure they are representative.

There was no record of a cross connection audit undertaken at Central Park in the audit period. The Minimising the Risk of Cross-Connection Checks Policy and Procedure has not been implemented as documented. Additionally, during the audit interviews Altogether staff advised (Water Operations Manager 31 May 2021) that there are insufficient staff resources to undertake a planned cross-connection program.

A recommendation has been made to implement an ongoing cross-connection audit program that is adequate to control the risk of on-lot cross connections.

- **REC-RW-2021-009 Review the Minimising the Risk of Cross-Connection Checks Policy and Procedure to ensure that it clearly identifies the number of connections to be audited, audit procedure and the record keeping requirements. Ensure that the ongoing cross-connection audit program is adequate to control the risk of on-lot cross connections noting that the AGWR suggests a rolling 6-monthly audits with all properties audited at least every 5 years as an example of appropriate cross connection monitoring.**

¹⁰¹¹ Cross connection workshop with [Consultant Name] 28/11/2018

¹⁰¹² Proposed "Minimising the risk of cross-connection and tap-ins policy and procedure" 11/12/2018

Element 6

Section 2.6.2 of the AGWR indicates that a recycled water supplier should define potential incidents and emergencies, and document procedures and response plans. The Recycled Water Quality Plan¹⁰¹³ provides a diagram in Section 6 which depicts the framework for managing recycled water incidents and emergencies. The Incident Management Plan¹⁰¹⁴ (IMP) provides the overarching framework for Altogether's incident management. The IMP in Section 5.1.3 identifies the requirements of the reporting manual and includes immediate notification to IPART, NSW Health, Department of Planning and Environment and other licenses and public water utilities.

The Water Operations Incident Management, Reporting and Investigation Procedure¹⁰¹⁵ provides flow diagrams that give an overview of incident management. This includes the requirement for the incident manager to assess, declare and classify the incident, make notifications, investigate, debrief and close out the incident. The flow diagram also includes responsibilities for notifying regulators.

The Incident Notification Protocol with NSW Health¹⁰¹⁶ was updated in February 2021 and includes the contact details of the relevant Public Health Units to be notified for each scheme.

It was noted in both documents above, that there is a recycled water event identified as 'recycled water delivered to customers below the AGWR values measured at the point of supply or point of use'. This appears to be an error and the event should be defined as recycled water delivered to customers that does not comply with the documented water quality criteria. It is noted that AGWR does not identify specific water quality criteria for recycled water and the water quality criteria are documented on the MS Progs for each scheme. A recommendation has been made to review the Water Operations Incident Management, Reporting and Investigation Procedure and Incident Notification Protocol with NSW Health to clearly define the recycled water event with reference to the documented water quality criteria.

- **REC-RW-2021-011 Review and update the Water Operations Incident Management, Reporting and Investigation Procedure and Incident Notification Protocol with NSW Health to ensure that the definition of a recycled water event refers to the documented water quality criteria for recycled water in the Water Quality Plan rather than referring to the Australian Guidelines for Water Recycling.**

Element 9

- Refer to REC-RW-2021-007

Element 10

Document Control Policy and Procedure¹⁰¹⁷ states that all BMS documents are controlled using the BMS Library on SharePoint. During the site inspection at Pitt Town, the operator demonstrated the BMS system which included overarching licence plans, site-specific plans and procedures, forms and work instructions. In reviewing the documents provide in evidence, the following findings were noted:

- The footer on the LWC Control System Change Management policy¹⁰¹⁸ is inconsistent with the document control properties.
- The scheme management plan has errors in the fields and captions.

A recommendation has been made to improve documentation.

¹⁰¹³ Recycled Water Quality Plan AG-WAT-AUS-PL-OPS-1311 Revision: 17 27 April 2021

¹⁰¹⁴ Incident Management Plan (IMP) (Controlled COPY) AG-ALL-AUS-PL-INC-1266 Revision 9 25 January 2021

¹⁰¹⁵ Water Operations Incident Management, Reporting and Investigation Procedure (Controlled COPY) AG-WAT-NSW-PR-OPS-2561 Version 3 22 March 2021

¹⁰¹⁶ Incident Notification Protocol with NSW Health (Controlled COPY) AG-ALL-NSW-PR-INC-1277 Revision 9 26 February 2021

¹⁰¹⁷ Document Control Policy and Procedure (Controlled COPY AG-ALL-AUS-PO-HSEQ-1234 revision 6 19/1/2021

¹⁰¹⁸ LWC Control System Management of Change Policy (CONTROLLED COPY) Revision 3 27 April 20120

- **REC-RW-2021-013 Establish review processes to ensure all documents are reviewed on time and do not have typographical and hyperlink errors.**

Element 11

Section 2.11.2 of the AGWR indicates that recycled water suppliers should establish processes for internal and external audits and Document and communicate audit results. Altogether has an Audit Procedure¹⁰¹⁹ that outlines the audit process. An Internal Audit Calendar¹⁰²⁰ was shown that outlined the audits that should be undertaken. The audit procedure indicates that the outcomes of internal audits should go onto an action register. During the audit, Altogether explained that this is the Water Quality Improvement Plan, however the actions from internal audits had not been captured on the improvement plan, there was no evidence the actions had been allocated to a responsible person, progress tracked, or closed out. It is noted that some audit findings were closed out on the day of the audit, however ones that were not closed out were not captured in an action register or on the Water Quality Improvement Plan. A recommendation has been made to ensure the audit process is implemented as documented.

- **REC-RW-2021-014 Develop a process to capture and track the progress in implementing recommendations from internal audits on an action register or improvement program, as required by the procedure.**

Element 12

Section 2.12.2 of the AGWR indicates that recycled water suppliers should develop a recycled water quality management improvement plan and ensure the plan is communicated and implemented, and improvements are monitored.

The Water Quality Improvement Plan¹⁰²¹ was provided and discussed in the audit. Inputs to the plan are documented on the 'Lists Ops' tab and include activities such as the risk register, Licence plan review and audit. There were many items on the register that do not have a completion date, and this makes it difficult to audit its implementation. A recommendation has been made to improve the documentation of the improvement plan to ensure that it is implemented.

- **REC-RW-2021-015 Ensure all items on the Improvement Plan have been allocated to a responsible party, communicated, and due dates for completion have been applied.**

7.2. Water Quality Plans - Drinking Water

WIC Reg Sch 1 cl. 7(4) The network operator must ensure that its drinking water quality plan is fully implemented and kept under regular review and the network operator's activities are carried out in accordance with that plan.

7.2.1. Summary of Findings

The audit has identified a number of gaps in the implementation of the DWQP and its supporting programs due to inconsistent implementation of the documented risk assessment methodology leading to an underestimation of health risks. In addition, a number of minor inconsistencies in the implementation of the drinking water quality plan and the supporting documentation were identified.

Altogether did not provide sufficient verifiable evidence that its DWQP is fully implemented.

¹⁰¹⁹ 2352 Audit Procedure (Controlled COPY).pdf AG-ALL-AUS-PR-R&C-1364

¹⁰²⁰ Internal Audit Calendar - Water

¹⁰²¹ WQP Improvement Plan

A grading of **non-compliant non-material** is awarded to WIC Reg Sch 1 cl. 7(4). The **non-compliance** is considered **non-material** as the deficiency does not impact on the Altogether's ability to assure controlled processes, public health or the environment.

Recommendations have been identified below. Opportunities for improvement have been identified in the combined audit summary and detailed findings in Appendix A.

7.2.2. Recommendations

The following recommendations have been identified to address the areas of non-compliance:

Element 1

Section 3.1.3 of the ADWG indicates that drinking water suppliers should:

- Identify all stakeholders who could affect, or be affected by, decisions or activities of the drinking water supplier.
- Develop appropriate mechanisms and documentation for stakeholder commitment and involvement.
- Regularly update the list of relevant agencies.

Altogether states under DWQP Component A1.3.2 that it has a range of methods for engaging with users, developers, customers, and tenants, including scheme specific community websites¹⁰²², bills, customer contracts¹⁰²³, SMS and email messages, Project Delivery Agreements, a Project Control, and a Homeowners Guide¹⁰²⁴, this last document also being available on their website¹⁰²⁵

It is noted that the WIC (General) Reg cl 9(a) requires all network operators to have an internet website on which the most recent auditor's report under clause 6 that applies to the Network Operator is available for inspection by members of the public. As detailed in the assessment of Element 1 for recycled water, there were times during the audit period that the website did not include the relevant audit report for public inspection. A recommendation has been made to ensure that the required information is maintained on the website.

- **REC-DW-2021-002 Where the water quality plans or legislation identify information to be included on the website, ensure that information is made available.**

Element 2

Section 3.2.3 of the ADWG indicates that once potential hazards and their sources have been identified, the level of risk associated with each hazard or hazardous event should be estimated so that priorities for risk management can be established and documented. Although there are numerous contaminants that can compromise drinking water quality, not every potential hazard will require the same degree of attention.

The level of risk for each hazard or hazardous event can be estimated by identifying the likelihood of occurrence (e.g. certain, possible, rare) and evaluating the severity of consequences if the hazard were to occur (e.g. insignificant, major, catastrophic). The aim should be to distinguish between very high and low risks.

Section 2.3 of the DWQP identifies the Risk Assessment Protocol for Water Products and Services¹⁰²⁶ (the RAP) as the documented process for undertaking risk assessments.

The RAP includes consequence and likelihood descriptors that should be applied when assessing risk. The RAP states that 'Health risks on the drinking water risk registers are assessed using the ADWG

¹⁰²² <https://altogethergroup.com.au/about/communities/> accessed 28 May 2021

¹⁰²³ Small retail Customer Contract - Altogether Group Pty Ltd – Water REF ID 3534 12 January 2021

¹⁰²⁴ Homeowner's Guide (Water) AG-WAT-AUS-UG-RET-1569 Revision: 3 9 March 2021

¹⁰²⁵ <https://information.altogethergroup.com.au/governance/Homeowners%20Guide.pdf> accessed 27 May 2021

¹⁰²⁶ Risk Assessment Protocol for Water Products and Services FS-WAT-NSW-PR-OPS-2466 Revision: 3 16 August 2020

matrix'. When reviewing the matrix, in the RAP, it is not consistent with the ADWG as the minor and negligible consequence descriptors in the RAP appear to exclude health impacts as detailed below:

- Minor ranking – Health impact minor - possible aesthetic or amenity impact, population impact small, isolated part of the scheme (zone or street)
- Insignificant ranking – Health impact negligible - undetectable impact (normal operations) population impact small, isolated part of the scheme (zone or street)

Altogether has advised verbally and in emails that these consequence categories do not exclude health impacts, however this is not clear from reading the documents.

There are a number of instances in the risk assessment (August 2020) where health risks have been assessed as minor or insignificant including:

- Low chlorine residual leading to pathogens present in water supplied to consumers, causing health impacts for consumer and/or exceedance of ADWG health guideline value – given a minor residual consequence ranking.
- Mains Break leading to contamination of drinking water quality - given a residual consequence ranking of minor.
- Recycled water cross-connection in customer/building plumbing leading to consumption of recycled water - given a residual consequence ranking of minor.
- Chemical leaching into distribution system e.g. volatiles, lead, cadmium, copper from water supply infrastructure leading to chemicals present in water supplied to consumers, causing acute or chronic health impacts for consumers and or exceedance of ADWG health guideline value water - given a residual consequence ranking of minor.

The examples above have the potential to impact on a whole scheme or building, there for assigning a minor grading is not considered consistent application of the RAP.

It is noted that in the live consultation register¹⁰²⁷, NSW Health provided comments on the risk assessment that do not appear to have been taken into consideration. NSW Health indicated *'Generally it is not appropriate to change the consequence in assessing risk. Controls address the likelihood; i.e. the likelihood is reduced but the consequence remains the same'* however there are many instances in the risk register where this advice has not been followed and the control measures do not appear to reduce the consequence but the residual consequence has been reduced (refer to findings of the risk assessment below).

In reviewing the risk assessments for all schemes, the auditor identified the following inconsistencies in the application of the RAP when assessing risk:

- Mains break leading to contamination of drinking water, the consequence reduced from 'major' (Potential for short-term and longer-term public health impacts) to 'minor (Possible aesthetic or amenity impact) also noting that Altogether does not have a network hygiene policy (or similar) or procedures for working on mains and repairing main breaks.
- Residual risk for hazardous event of cross connections in network and on-lot given a rare frequency with a certainty of 1 (certain), however only 3 cross-connection audits have been undertaken across over 8000 connections and no audits in Central Park. The certainty ranking does not appear appropriate. The assessment appears contrary to industry knowledge and

¹⁰²⁷ LIVE_Register_Consultation with NSW Health

experience as documented in literature^{1028 1029 1030 1031}. This is considered a significant gap in understanding risk and taking responsibility for managing risk.

The February Risk Assessment¹⁰³² includes new risks that have been assessed and the consequence values appear more appropriate than the August 2020 risk registers, however the risk of cross connections have not been reassessed.

The audit found that Altogether did not consistently implement the documented risk assessment process. A recommendation has been made to review the risk assessments or methodology to ensure it is consistently applied.

- **REC-DW-2021-003 Review the risk assessments or risk assessment methodology to ensure that consequence values align with the risk being assessed, for example, where the consequence descriptor is limited to aesthetic or undetectable, these cannot be attributed to a risk that has an acute health impact. Frequencies should also be applied taking into consideration historical performance and the occurrence of incidents. Any reduction in consequence should be justified.**

Element 4

Section 3.4 of the ADWG indicates that drinking water suppliers should establish process control programs to support preventive measures by detailing the specific operational factors that ensure that all processes and activities are carried out effectively and efficiently. This includes a description of all preventive measures and their functions, together with documentation of effective operational procedures, including identification of responsibilities and authorities.

Additionally, the ADWG states (p 129) that ‘Good design, management and integrity of distribution systems are essential for maintaining water quality.’

When discussing hygienic work practices when working on the drinking water network, Altogether stated that due to the design of the drinking water network, there is no need to undertake works on the drinking water network and there are no mains breaks. Additionally, if there was a need to work on the mains, Altogether uses a trusted contractor, however there do not appear to be any established procedures or policies for hygienic work practices for Altogether staff or contractors undertaking works on the mains. The Drinking Water Risk assessment¹⁰³³ undertaken in February 2021 has identified (Ref DW1.6) the need to ‘Formalise and document procedures around equipment use for various water products and services. This action item is noted on the Water Quality Improvement Plan¹⁰³⁴, however there is no target date for completion.

A recommendation has been made to establish procedures for ensuring the integrity of the drinking water network.

- **REC-DW-2021-004 Establish a policy and procedure for hygienic work practices for Altogether staff and contractors undertaking works on Altogether’s drinking water networks and develop a process for ensuring all network operators and contractors have been made aware of the requirements and establish an ongoing audit process to ensure the practices are implemented.**

¹⁰²⁸ A. C. Hambly, R. K. Henderson, A. Baker, R. M. Stuetz & S. J. Khan (2012) Cross-connection detection in Australian dual reticulation systems by monitoring inherent fluorescent organic matter, *Environmental Technology Reviews*, 1:1, 67-80, DOI: 10.1080/09593330.2012.696724

¹⁰²⁹ Water Source <https://watersource.awa.asn.au/publications/technical-papers/third-pipe-water-recycling/>

¹⁰³⁰ Risks to the long-term viability of residential non-potable water schemes: a review https://watersensitivecities.org.au/wp-content/uploads/2016/05/TMR_C3-1_RisksViabilityNonPotableWater.pdf

¹⁰³¹ Muston, M. H. (2012). *Changing of the water recycling paradigm in Australia*. *Water Science and Technology: Water Supply*, 12(5), 611–618. doi:10.2166/ws.2012.034

¹⁰³² Register of New Risks Feb2021 for Health Consultation

¹⁰³³ Register of New Risks Feb2021 for Health Consultation (1)

¹⁰³⁴ WQP Improvement Plan

Section 3.4.2 of the ADWG indicates that drinking water suppliers should develop monitoring protocols for operational performance of the water supply system, including the selection of operational parameters and criteria, and the routine analysis of results.

The Central Park Scheme Management Plan¹⁰³⁵ does not state if the drinking water supplied by Sydney Water is chlorinated or chloraminated. The Central Park Monitoring and Sampling Program¹⁰³⁶ identifies a Point of Use (PoU) target criteria of 0.2 g/L for Free Chlorine and 0.6 mg/L for total chlorine. When reviewing the PoS data, 6 out of 10 monthly samples failed with readings below the target limit of ≥ 0.2 mg/L. and no total chlorine reading were below 0.6 mg/L. When reviewing the PoU results, 8/49 total chlorine with readings below the target limit of ≥ 0.6 mg/L (84% pass) and 28 /49 samples 57%) with free chlorine readings below the target limit if ≥ 0.2 mg/L (43% pass). Most of the passes were only just above the target lower limit of ≥ 0.2 mg/L.

A recommendation has been made to ensure that options for improving chlorine residual in the network have been identified and actions taken to ensure drinking water quality does not degrade in Altogether's distribution network.

- **REC-DW-2021-005 The Monitoring and Sampling Programs for drinking water schemes identify that a minimum target of 0.2mg/L of free chlorine should be maintained through reticulation networks, this is consistent with ADWG advice. Identify areas in reticulation where this cannot be met and raise an improvement item to improve the chlorine residual in these areas within an appropriate timeframe.**

Element 10

Document Control Policy and Procedure¹⁰³⁷ The Procedures states that all BMS documents are controlled using the BMS Library on SharePoint. During the site inspection at Pitt Town, the operator demonstrated the BMS system which included overarching licence plans, site-specific plans and procedures, forms and work instructions. In reviewing the documents provide in evidence, the following findings were noted:

- The footer on the LWC Control System Change Management policy¹⁰³⁸ is inconsistent with the document control properties.
- The scheme management plan has errors in the fields and captions.

A recommendation has been made to improve documentation.

- REC-DW-2021-007 Establish review processes to ensure all documents are reviewed on time and do not have typographical and hyperlink errors.

Element 11

Section 3.11.2 o the ADWG indicates that periodic auditing of all aspects of the drinking water quality management system is needed to confirm that activities are being carried out in accordance with defined requirements and are producing the required outcomes.

Altogether has an Audit Procedure¹⁰³⁹ that outlines the audit process. An Internal Audit Calendar¹⁰⁴⁰ was shown that outlined the audits that should be undertaken. The audit procedure indicates that the outcomes of internal audits should go onto an action register. During the audit, Altogether explained that this is the Water Quality Improvement Plan, however the actions from internal audits had not been captured on the improvement plan, there was no evidence the actions had been allocated to a responsible person, progress tracked, or closed out. It is noted that some audit

¹⁰³⁵ 2571 Central Park Scheme Management Plan (Scheme MP) (Controlled COPY).pdf CP-WAT-NSW-PL-OPS-1344

¹⁰³⁶ 2859 Central Park Monitoring and Sampling Program (Controlled COPY).pdf CP-WAT-AUS-PL-OPS-2859

¹⁰³⁷ Document Control Policy and Procedure (Controlled COPY AG-ALL-AUS-PO-HSEQ-1234 revision 6 19/1/2021

¹⁰³⁸ LWC Control System Management of Change Policy (CONTROLLED COPY) Revision 3 27 April 20120

¹⁰³⁹ 2352 Audit Procedure (Controlled COPY).pdf AG-ALL-AUS-PR-R&C-1364

¹⁰⁴⁰ Internal Audit Calendar - Water

findings were closed out on the day of the audit, however ones that were not closed out were not captured in an action register or on the Water Quality Improvement Plan. A recommendation has been made to ensure the audit process is implemented as documented.

- REC-DW-2021-008 Develop a process to capture and track the progress in implementing recommendations from internal audits on an action register or improvement program, as required by the procedure.

Element 12

Section 3.12.2 of the ADWG indicates that drinking water suppliers should develop a drinking water quality management improvement plan and ensure that the plan is communicated and implemented, and that improvements are monitored for effectiveness.

The Water Quality Improvement Plan¹⁰⁴¹ was provided and discussed in the audit. Inputs to the plan are documented on the 'Lists Ops' tab and include activities such as the risk register, Licence plan review and audit. There were many items on the register that do not have a completion date, and this makes it difficult to audit its implementation. A recommendation has been made to improve the documentation of the improvement plan to ensure that it is implemented.

- **REC-DW-2021-009 Ensure all items on the Improvement Plan have been allocated to a responsible party, communicated, and due dates have been applied.**

7.3. Water Quality Plans - Sewage

WIC Reg Sch 1 cl. 14(3) A network operator must ensure its sewage management plan is fully implemented and kept under regular review and all its activities are carried out in accordance with the plan.

7.3.1. Summary of Findings

The audit has found that Altogether has generally implemented its Sewage Management Plan, however, the risk assessment methodology, which forms the basis of the Sewage Management Plan has not been implemented consistently, resulting in an under estimation of human health risk. Preventive measures for managing risk from the sewage services are identified, implemented and considered adequate.

The **non-compliance** is considered **non-material** as the deficiency does not impact on the Altogether's ability to assure controlled processes, public health or the environment.

7.3.2. Recommendations

The following recommendation has been identified to address the areas of non-compliance:

The Sewage MP identifies the AGWR as the reference for the risk assessments, and the approach identified in the RWQP. The RWQP identifies the Risk Assessment Protocol for Water Products and Services¹⁰⁴² (the RAP) as the documented process for undertaking risk assessments. The RAP states that internal risk reviews will be undertaken annually, and external risk reviews will be undertaken biennially.

The risk assessment includes the assessment of health and environmental risks in relation to sewage activities. In addition to the risk assessments, the Sewage MP states that ecological assessments will be undertaken as a part of development consent. The risk register for each scheme indicates that in July 2020, an internal risk review workshop was undertaken, and a risk review workshop was undertaken with NSW Health in August 2020. The document control properties identify the new

¹⁰⁴¹ WQP Improvement Plan

¹⁰⁴² Risk Assessment Protocol for Water Products and Services FS-WAT-NSW-PR-OPS-2466 Revision: 3 16 August 2020

risks that were added to the risk register, and the risks that were deleted are shown as a strike through in the register. In April 2021, a recycled water and sewage risk assessment covering the eight schemes was undertaken to address new risks and audit findings. Evidence includes the briefing pack¹⁰⁴³, recycled water risk register¹⁰⁴⁴ and updated sewage risk register¹⁰⁴⁵.

The RAP includes consequence and likelihood descriptors that should be applied when assessing risk. The RAP states in Table 2 that 'Health risks on the sewage and recycled water risk registers are assessed using the AGWR matrix'. When reviewing the matrix, in the RAP, it was found that it was not consistent with the AGWR as the minor and negligible consequence descriptors in the RAP appear to exclude health impacts as detailed below:

- Minor ranking – Health impact minor - possible aesthetic or amenity impact, population impact small, isolated part of the scheme (zone or street)
- Insignificant ranking – Health impact negligible - undetectable impact (normal operations) population impact small, isolated part of the scheme (zone or street)

Altogether has advised verbally and in emails that these consequence categories do not exclude health impacts, however this is not clear from reading the documents.

It is noted that in the live consultation register¹⁰⁴⁶, NSW Health provided comments on the risk assessment that do not appear to have been taken into consideration. NSW Health indicated *'Generally it is not appropriate to change the consequence in assessing risk. Controls address the likelihood; i.e. the likelihood is reduced but the consequence remains the same'* however there are many instances in the risk register where this advice has not been followed and the control measures do not appear to reduce the consequence but the residual consequence has been reduced (refer to findings of the risk assessment below).

There are instances where health consequences have been reduced, when it is unclear how the control measures reduce the health impact, for example, there is one risks in the Central Park risk register (SC1.4.) that include human contact with wastewater causing a *public health impact*, that is reduced from possible/ moderate to rare/minor. It is noted that the controls may reduce the instance of this occurring, but it is not clear how the controls reduce the consequence of a public health impact due to wastewater contact. Additionally, as noted in the recycled water audit findings, frequency descriptors were not consistently applied

A recommendation has been made to ensure the documented risk assessment methodology has been consistently implemented.

- **REC-Sewage-2021-001 Review the risk assessments or risk assessment methodology to ensure that consequence values align with the risk being assessed, for example, where the consequence descriptor is limited to aesthetic or undetectable, these cannot be attributed to a risk that has an acute health impact. Frequencies should also be applied taking into consideration historical performance and the occurrence of incidents. Any reduction in consequence should be justified.**

7.4. Water Quality Plans - Operational Procedures

NOL Sch A cl 2.2 The Licensee must: a) fully implement the Operational Procedures (as noted in NOL Sch A, cl 2.1); b) ensure that all of its activities are carried out in accordance with the Operational Procedures; and c) keep records to demonstrate the extent to which the Operational Procedures have been implemented and complied with.

¹⁰⁴³ Recycled Water & Sewage Risk Workshop Briefing Pack Apr2021

¹⁰⁴⁴ Updated risks_Recycled water risk register

¹⁰⁴⁵ Updated risks_Sewage risk register

¹⁰⁴⁶ LIVE_Register_Consultation with NSW Health

7.4.1. Summary of Findings

Altogether provided evidence that the Operational Procedures required under the relevant clause of the NOL for each scheme have been implemented for the following activities:

- monitoring protocols
- corrective actions
- rapid communication
- inspection and maintenance.

Altogether was found to have implemented the procedures required under the relevant licence clauses and was found to be compliant with this requirement.

7.4.2. Recommendations

No recommendations have been identified for this clause of the licence.

7.5. Water Quality Plans – Monitoring and Analysis

- NOL Sch B cl.7.1 The Licensee must undertake any monitoring that is required for the purposes of this Licence, any Plan, the Act or the Regulation in accordance with this clause 7.
- NOL Sch B cl.7.2 The Licensee must keep the following records of any samples taken for monitoring purposes specified in the Water Quality Plan: a) the date on which the sample was taken; b) the time at which the sample was collected; c) the point or location at which the sample was taken; and d) the chain of custody of the sample (if applicable).
- NOL Sch B cl.7.3 The Licensee must ensure that analyses of all samples taken for the purposes of Verification Monitoring are carried out by a laboratory accredited for the specified tests by an independent body that is acceptable to NSW Health, such as the National Association of Testing Authorities or an equivalent body.

7.5.1. Summary of Findings

Altogether was found to have implemented the monitoring required under the relevant licence clauses and was found to be compliant with NOL Sch B cl.7.1

Altogether was found to have kept the records of the monitoring required under the relevant licence clauses and was found to be compliant with NOL Sch B cl.7.2.

Altogether was found to have water quality analysis undertaken by a NATA accredited laboratory required under the relevant licence clauses and was found to be compliant with NOL Sch B cl.7.3.

7.5.2. Recommendations

No recommendations have been identified for this clause of the licence.

7.6. Infrastructure Operating Plan

WIC Reg Sch 1 cl. 6(1) – Water: Before commencing to operate water infrastructure commercially, the licensed network operator for the infrastructure must prepare, and forward to IPART, an infrastructure operating plan that indicates the arrangements that the licensee has made, or proposes to make, in relation to:

- a) the design, construction, operation and maintenance of the infrastructure, including particulars as to the lifespan of the infrastructure, the system redundancy built into the infrastructure and the arrangements for the renewal of the infrastructure, and

- b) the continued safe and reliable performance of the infrastructure, and
- c) the continuity of water supply, and
- d) alternative water supplies when the infrastructure is inoperable, and
- e) the maintenance, monitoring and reporting of standards of service.

WIC Reg Sch 1 cl. 6(2) – Water: The network operator must ensure that the infrastructure operating plan is fully implemented and kept under regular review and all of the network operator’s activities are carried out in accordance with that plan.

WIC Reg Sch 1 cl. 13(1) – Sewerage: Before commencing to operate sewerage infrastructure commercially, the licensed network operator for the infrastructure must prepare, and forward to IPART, an infrastructure operating plan that indicates the arrangements that the licensee has made, or proposes to make, in relation to:

- a) the design, construction, operation and maintenance of the infrastructure, including particulars as to the lifespan of the infrastructure, the system redundancy built into the infrastructure and the arrangements for the renewal of the infrastructure, and
- b) the continued safe and reliable performance of the infrastructure, and
- c) the continuity of sewerage services, and
- d) alternative sewerage services when the infrastructure is inoperable, and
- e) the maintenance, monitoring and reporting of standards of service.

WIC Reg Sch 1 cl. 13(2) – Sewerage: The infrastructure operating plan is fully implemented and kept under regular review and all of the network operator’s activities are carried out in accordance with that plan.

7.6.1. Summary of Findings

Altogether was found to have prepared an IOP that meets the requirements of the licence clause and was found to be compliant with WIC Reg Sch 1 cl. 6(1).

Altogether was found to have implemented the IOP and was found to be compliant with WIC Reg Sch 1 cl. 6(2).

Altogether was found to have prepared an IOP that meets the requirements of the licence clause and was found to be compliant with WIC Reg Sch 1 cl. 13(1).

Altogether was found to have implemented the IOP and was found to be compliant with WIC Reg Sch 1 cl. 13(2).

7.6.2. Recommendations

No recommendations have been identified for this clause of the licence.

7.7. Incident Notification

WIC Reg Sch 1 cl. 1(2)(a) A network operator must immediately notify

- a) IPART, and
- b) The Minister administering the Public Health Act 2010, and
- c) the Minister administering Part 2 of the Water Industry Competition Act 2006 (NSW), and
- d) NA, and

e) any licensed network operator or public water utility whose infrastructure is connected to the licensed network operator's infrastructure, of any incident in the conduct of its activities that threatens, or could threaten, water quality, public health or safety.

7.7.1. Summary of findings

Based on the records identified in Table 10 it was found that Altogether complied with its requirements to notify the identified stakeholders in accordance with the requirements of WIC Reg Sch 1 cl. 1(2)(a).

7.7.2. Recommendations

No recommendations have been identified for this clause of the licence.

7.8. Compliance findings to be checked

Altogether has largely closed out the previous compliance findings, the details of each non-compliance are included in Table 11.

Description	Clause Ref.	Grade	Auditor to check	Evidence
A number of minor deficiencies in the documentation. Deficiencies include the SMP and incident management documentation being out of date, inconsistent implementation of the QCPs and lack of evidence to demonstrate time delays have been implemented and the lack of process to confirm water quality compliance.	WIC Reg Sch 1 cl 7(4)(a)	Non-compliant (Non-material)	Check that Scheme MP and Incident management procedures are current, (refer to recommendation in Operational Audit Viridis, October 2020)	<p>The Central Park Audit Report (Viridis October 2020) includes the following recommendations:</p> <ul style="list-style-type: none"> CP-REC-2020-001 Review and confirm the hard-coded time delays for all CCPs and document the outcomes to ensure the implementation of the Critical Control Points (CCPs) is consistent and auditable. <p>Altogether advised that it had reviewed time delays but did not keep records of the review. In addition, Altogether is in the process of updating permissions to limit access to the critical limits in SCADA.</p> <ul style="list-style-type: none"> CP-REC-2020-002 Review the implementation of quality control points, operational monitoring and corrective actions to ensure that Quality Control Points (QCPs) are implemented and operators are aware of conditions where operation deviates from the desired range and corrective actions are triggered. <p>When reviewing the Quality Control Points (QCPs), some of the limits in SCADA were not consistent with the CCP tables, however it was discussed in the audit that the QCPs are more of an operational limit and operators need to be able to adjust them to optimise operation, for example at Box Hill, the QCP could not be implemented without affecting treatment due to the low flows coming into the plant. Altogether has reviewed the QCPs and proposed changes</p>

				<p>with rationale detailed in the change notice 7 documents¹⁰⁴⁷</p> <ul style="list-style-type: none"> CP-REC-2020-003 – Review the verification monitoring programs to ensure that there is an effective internal process to review and record verification monitoring data, confirm the compliance and ensure immediate reporting of non-compliant results. <p>During the audit interviews, Altogether demonstrated a new process for reviewing data and checking compliance with the monitoring program using a Power BI database that included checking the number of samples taken, the frequency of sampling, and that the results are compliant. The database extract was reviewed and the auditor confirmed that the MS Progs are being implemented and the required samples are being taken at the correct frequencies.</p> <ul style="list-style-type: none"> CP-REC-2020-004 Review and update the Incident Management Plan and the Water Quality Incident Management, Reporting and Investigation Procedure as required (annually and in response to an incident). <p>The Incident Management Plan¹⁰⁴⁸ (IMP) provides the overarching framework for Altogether's incident management plan and was updated in January 2021.</p> <p>The Water Operations Incident Management, Reporting and Investigation Procedure¹⁰⁴⁹ provides flow diagrams that give an overview of incident management and was updated in March 2021.</p> <p>The Incident Notification Protocol with NSW Health¹⁰⁵⁰ was updated in February 2021.</p> <ul style="list-style-type: none"> CP-REC-2020-005 Ensure the incident response documentation provides guidance on relevant incidents including but not limited to protozoan water quality non-compliances. <p>The out-of-specification procedure¹⁰⁵¹ includes the process for investigation when an out-of-specification parameter is detected. The process includes notifying stakeholders, retesting the out-of-specification parameter, and checking treatment processes. This is considered adequate to cover protozoan risk.</p>
--	--	--	--	---

¹⁰⁴⁷ CCP review workshop summary outcomes March 2021

¹⁰⁴⁸ Incident Management Plan (IMP) (Controlled COPY) AG-ALL-AUS-PL-INC-1266 Revision 9 25 January 2021

¹⁰⁴⁹ Water Operations Incident Management, Reporting and Investigation Procedure (Controlled COPY) AG-WAT-NSW-PR-OPS-2561 Version 3 22 March 2021

¹⁰⁵⁰ Incident Notification Protocol with NSW Health (Controlled COPY) AG-ALL-NSW-PR-INC-1277 Revision 9 26 February 2021

¹⁰⁵¹ Central Park Recycled Water Out of Specification Work Instruction (Controlled COPY).pdf CP-WAT-NSW-WI-OPS-3472

				<ul style="list-style-type: none"> CP-REC-2020-006 Review and update the Scheme Management Plan in accordance with specified review cycles. <p>The Central Park Scheme Management Plan¹⁰⁵² was updated in April 2020.</p> <p>Altogether was found to have closed out the recommendations other than the confirmation of the time delays (CP-REC-2020-001).</p>
<p>A plan showing the nature and general location of the infrastructure was not available on the website as required by WIC Reg Sch1 Clause 12(a) and WIC Reg Sch1 Clause 16(a). The reason for the licence non-compliance was human error. The plans were available for the Flow Systems Group licensees' land housing schemes, but were not available for the high rise schemes. The plans were made available on https://askus.flowsystems.com.au/hc/enus/articles/208876906-Reticulation-and-StandardDrawings.</p>	<p>WIC Reg Sch 1 cl 16(a)</p> <p>WIC Reg Sch 1 cl 12(a)</p>	<p>Non-compliant (Non-material)</p>	<p>Check plans are available on website</p>	<p>The Central Park Overall Water Services Plan is available on the Altogether website¹⁰⁵³.</p> <p>Altogether was found to have closed out the non-compliance.</p>





¹⁰⁵² Central Park Scheme Management Plan (Scheme MP) (Controlled COPY) CP-WAT-NSW-PL-OPS-1344 V7 16 April 2020

¹⁰⁵³ https://information.altogethergroup.com.au/askus/Central_Park/Central%20Park.pdf

APPENDIX F SUMMARY OF FINDINGS FLOW SYSTEMS SHEPHERDS BAY

8. OVERALL SUMMARY

This section provides a summary of the findings, detailed findings and discussions are in Appendix A. The Table below provides an overview of the level of compliance for Flow System Shepherds Bay. Flow Systems Shepherds Bay (Altogether) is the licensee.

Compliance Grades	Number of Findings	
	Compliant	9
	Non-compliant (non-material)	2
	Non-compliant (material)	1
	No requirement	0

Audit findings are summarised by obligation in the sections below.

8.1. Water Quality Plans - Recycled Water

WIC Reg Sch 1 cl. 7(4) The network operator must ensure that its recycled water quality plan is fully implemented and kept under regular review and the network operator's activities are carried out in accordance with that plan.

8.1.1. Summary of Findings

The audit has identified a number of gaps in the implementation of the Recycled Water Quality Plan¹⁰⁵⁴ (RWQP) and its supporting programs due to inconsistent implementation the documented risk assessment methodology leading to an underestimation of health risks, inadequacy of the current cross-connection audit program, and failure to implement the current program for cross-connection auditing. In addition, a number of minor inconsistencies in the implementation of the recycled water quality plan and the supporting documentation were identified.

Altogether did not provide sufficient verifiable evidence that its RWQP is fully implemented, and it is the auditor's finding that the deficiency adversely affects Altogether's ability to assure controlled processes, products and outcomes and protect public health.

A grading of **non-compliant material** is awarded to WIC Reg Sch 1 cl. 7(4).

Recommendations have been identified below. Opportunities for improvement have been identified in the combined audit summary and detailed findings in Appendix A.

8.1.2. Recommendations

The following recommendations have been identified to address the areas of non-compliance:

Element 1

¹⁰⁵⁴ Recycled Water Quality Plan AG-WAT-AUS-PL-OPS-1311 Revision: 17 27 April 2021

The AGWR in Section 2.1.3 indicates that recycled water suppliers should identify all stakeholders (including the public) affecting, or affected by, decisions or activities related to the use of recycled water and engage users of recycled water; ensure responsibilities are identified and understood.

Section A1.3.3 of the RWQP states that the Stakeholder and Emergency contact list includes the public. Section A1.3.4 of the RWQP identifies scheme specific community website, bills, customer contract, SMS and email messages, project delivery Agreements, Project Control Group and Homeowners Guide as methods for engaging with developers, customers and tenants. The Altogether Flow WICA Licences - Authorised Purposes Matrix¹⁰⁵⁵ identifies irrigation, water features, car washing and general washdown as authorised purposes for the Shepherds Bay Scheme. When reviewing the scheme specific list¹⁰⁵⁶, 'Public Stakeholders' are listed however the list is silent on how Altogether communicates with members of the public who are not residents and who access areas with recycled water in use to ensure responsibilities are understood by the public (for example signage in irrigation areas warning that recycled water is in use).

A recommendation has been made to establish a process to identify all potential recycled water users and ensure there is a process for communicating responsibilities to all identified recycled water users. It is considered that appropriate mechanisms have not been developed and effectively employed for members of the public (end users) accessing areas where they may be exposed to recycled water. It is noted that the Stakeholder and Emergency Contact list may not be the most appropriate mechanism for identifying and engaging with the public.

- **REC-RW-2021-003 Review and update stakeholder lists or equivalent to reflect all potential stakeholders and the methods for engagement, including engaging with the public.**

The AGWR (Section 2.1.4) recommends that the recycled water policy should provide a basis for developing more detailed guiding principles and implementation strategies. AGWR includes the broad issues that the recycled water policy should address including for example, intention to adopt best-practice management and a multiple-barrier approach.

The Recycled Water Policy¹⁰⁵⁷ states that Altogether will implement and maintain recycled water management system consistent with the AGWR and all managers and personnel are responsible for implementing, maintain and continuously improving the recycled water management system.

During the audit, Altogether team members (Water Operations Manager 31 May 2021) responsible for implementing the preventive measures in the risk assessment indicated that there have been insufficient resources to implement some processes (for example when discussing the implementation of the *Minimising the Risk of Cross-Connection Checks Policy* and Procedure¹⁰⁵⁸), and the agreed compliance program (Executive Manager – Risk & Compliance 15 June 2021) with IPART has affected Altogether's ability to allocate sufficient resources to RWQP implementation.

Additionally, when gaps in implementation (for example the implementation of the risk assessment methodology) were identified during the audit, Altogether representatives (Water Quality Systems Manager 31 May 2021) indicated in some instances that external consultants had undertaken the works and could not explain how the process was implemented.

¹⁰⁵⁵ 2919 Altogether WICA Licences - authorised purposes matrix (Controlled COPY).pdf AG-WAT-NSW-RG-OPS-2918

¹⁰⁵⁶ 3358 Shepherds Bay - Stakeholders Emergency Contact List (Controlled COPY).pdf SB-WAT-NSW-RG-INC-3357

¹⁰⁵⁷ Recycled Water Policy AG-WAT-AUS-PO-OPS-1310 Revision: 3 21 July 2020

¹⁰⁵⁸ Minimising the risk of cross-connection checks policy and procedure (Controlled COPY).pdf FS-ALL-AUS-PO-OPS-2544

Additionally, it was indicated that in cases where recycled water is used in public spaces, that the public should have the 'common sense' to know that recycled water is in use, without signage being installed (Technical Operations Lead 9 June 2021). This approach does not appear to adequately cover protecting the most vulnerable members of the community. It is the auditor's finding that Altogether has not fully implemented its recycled water policy due to gaps in risk management, failure to implement procedures in relation to cross-connection auditing, failure to take ownership for managing risk and by not allocating adequate resources for the implementation of the RWQP and supporting programs

A recommendation has been made to improve implementation of the recycled water policy and to ensure recycled water risk is well understood.

- **REC-RW-2021-005 Implement a program to increase staff awareness of recycled water risks, improve ownership for managing risk and allocation of adequate resources to implement licence plans and meet regulatory requirements.**

Element 2

The AGWR indicates that recycled water suppliers should identify and document hazards and hazardous events, and estimate risk. Section 2.4 of the RWQP identifies the Risk Assessment Protocol for Water Products and Services¹⁰⁵⁹ (the RAP) as the documented process for undertaking risk assessments. The RAP includes consequence and likelihood descriptors that should be applied when assessing risk. The RAP states in Table 2 that 'Health risks on the sewage and recycled water risk registers are assessed using the AGWR matrix'. When reviewing the matrix, in the RAP, it was found that it was not consistent with the AGWR as the minor and negligible consequence descriptors in the RAP appear to exclude health impacts as detailed below:

- Minor ranking – Health impact minor - possible aesthetic or amenity impact, population impact small, isolated part of the scheme (zone or street)
- Insignificant ranking – Health impact negligible - undetectable impact (normal operations) population impact small, isolated part of the scheme (zone or street)

Altogether has advised verbally and in emails that these consequence categories do not exclude health impacts, however this is not clear from reading the documents. Furthermore, there are a number of health impacts identified in the risk assessment that have been assigned 'insignificant' grading, which describes a health impact as 'negligible', and 'undetectable' and 'normal operations'. It is difficult to justify how a health impact from exposure to recycled water is part of 'normal operations'.

There are a number of instances in the risk assessment¹⁰⁶⁰ where health risks have been assessed as insignificant for example:

- RL1.6 Human health impacts 'Pathogens present in recycled water supplied to customers, causing health impacts for customers' 'Exceedance of AGWR health guideline value'
- RD1.4 Human health impacts from on lot and network cross connections' 'Recycled water entering potable water plumbing in home' 'Pathogens present in water supplied to consumers, causing health impacts for consumers' 'Exceedance of ADWG health guideline value'

It is noted that in the live consultation register¹⁰⁶¹, NSW Health provided comments on the risk assessment that do not appear to have been taken into consideration. NSW Health indicated '*Generally it is not appropriate to change the consequence in assessing risk. Controls address the likelihood; i.e. the likelihood is reduced but the consequence remains the same*' however there are

¹⁰⁵⁹ Risk Assessment Protocol for Water Products and Services FS-WAT-NSW-PR-OPS-2466 Revision: 3 16 August 2020

¹⁰⁶⁰ 2656 Shepherds Bay Risk Register (Controlled COPY) SB-WAT-NSW-RG-OPS-2656.pdf SB-WAT-NSW-RG-OPS-2656

¹⁰⁶¹ LIVE_Register_Consultation with NSW Health

many instances in the risk register where this advice has not been followed and the control measures do not appear to reduce the consequence but the residual consequence has been reduced (refer to findings of the risk assessment below).

In reviewing the risk assessments for all schemes, the auditor identified the following inconsistencies in the application of the RAP when assessing risk:

- Risk SC1.4 relating to sewage overflows, leading to 'Human contact with wastewater causing public health impact'. The maximum likelihood is almost certain and moderate consequence. Moderate is described as 'Potential for some increase in disease burden'. The control measures include processes such as use of contractors, isolation of spills, complaints handling and communication. Whilst these control measures may reduce the frequency of a public health impact it is unclear how these reduce the consequence of a public health impact to minor, which is 'Possible aesthetic or amenity impact'.
- EU1.15 Risk of inadvertent connections between recycled water and potable water (e.g. public bubblers?) leading to 'Illness from ingestion of recycled water'. Preventive measures are education, communication protocols and the emergency procedures resulting in a residual risk rated minor, which is 'Minor, Possible aesthetic or amenity impact'.
- RD1.4 On-lot cross-connections residual risk is assessed as 'insignificant' which is described as an 'undetectable impact (normal operations). It is unclear how an on-lot cross-connection is part of normal operation. This risk certainty is 1 which means 'certain' however Altogether have only undertaken 3 cross-connection audits across 8 schemes with approximately 8146 recycled water customer connections in the audit period, therefore the risk level is unknown and uncertain. During the audit interviews numerous Altogether team members (Water Operations Manager 31 May 2021, Executive Manager – Sustainable Utility Services 15 June 2021) stated that cross-connections do not occur in the Altogether schemes because the houses and development are 'new'. This is contrary to industry knowledge and experience as documented in literature^{1062 1063 1064 1065}. This is considered a significant gap in understanding risk and taking responsibility for managing risk.

Based on the review of the scheme specific risk registers against the requirements of the RAP, it was found that the RAP was not consistently implemented in the audit period, resulting in an underestimation of health risk and there was ambiguity about the health impacts captured in the consequence descriptors. A recommendation has been made to ensure the risk assessment consistently assesses risks.

- **REC-RW-2021-006 Review the risk assessments or risk assessment methodology to ensure that consequence values align with the risk being assessed, for example, where the consequence descriptor of insignificant, aesthetic or negligible cannot be attributed to a risk that has an acute health impact. Frequencies should also be applied taking into consideration historical performance and the occurrence of incidents. Any reduction in consequence should be justified.**

Element 4

Section 2.4.1 of the AGWR indicates that recycled water suppliers should identify procedures required for all processes and activities applied within the whole recycled water system (source to

¹⁰⁶² A. C. Hambly, R. K. Henderson, A. Baker, R. M. Stuetz & S. J. Khan (2012) Cross-connection detection in Australian dual reticulation systems by monitoring inherent fluorescent organic matter, *Environmental Technology Reviews*, 1:1, 67-80, DOI: 10.1080/09593330.2012.696724

¹⁰⁶³ Water Source <https://watersource.awa.asn.au/publications/technical-papers/third-pipe-water-recycling/>

¹⁰⁶⁴ Risks to the long-term viability of residential non-potable water schemes: a review https://watersensitivecities.org.au/wp-content/uploads/2016/05/TMR_C3-1_RisksViabilityNonPotableWater.pdf

¹⁰⁶⁵ Muston, M. H. (2012). *Changing of the water recycling paradigm in Australia. Water Science and Technology: Water Supply*, 12(5), 611–618. doi:10.2166/ws.2012.034

use). To determine a suitable procedure for this audit, the Central Park risk assessment was reviewed and a relevant hazard, cross connections between the recycled and drinking water network, was selected and the procedure for minimising cross-connections was chosen as a sample procedure for a more detailed audit. The Minimising the Risk of Cross-Connection Checks Policy and Procedure¹⁰⁶⁶ was provided and discussed at the audit. The document control properties indicate that the procedure was established in December 2018 and updated in June 2019. The procedure in Section 8.4.2 states that 'The risk of cross-connections and unauthorised tap-ins increases with time as plumbing and network changes are made and the number of connections increases.' Section 8.4.3 of the policy states that:

'Flow has received advice that the water industry has determined that conducting cross-connection checks of 20% of all connections annually is not effective and is moving towards a risk-based approach. Flow is committed to implementing a risk-based, prioritised, statistically significant ongoing inspection program.'

'Flow will conduct a statistically significant set of one of the following types of tests on three streets in a scheme or three units in a high rise building annually, to confirm that there are no cross-connections between potable and recycled water systems or tap-ins of potable to recycled water fittings:

- 1. flow tests*
- 2. electrical conductivity (EC) tests and/or*
- 3. chlorine/chloramine tests, or similar.'*

When reviewing the requirements of the procedure, it was noted that the water industry advice (referenced in the policy) that Altogether has received was not documented and it was not possible to verify if the advice was documented or from where in the industry it was sourced from, for example an accepted industry standard or peer reviewed document. Altogether provided a range of emails^{1067 1068} written by Altogether staff, summarising what appears to be verbal advice from a consultant, however there does not appear to be verifiable evidence of the advice. It is noted that an email states '[Consultant Name] has advised us that based on his conversations with Health the "magic number is 3 – i.e. 3 streets in a scheme, 3 units in a building)" and not 20% of all connections annually as we previously targeted.' NSW Health acceptance of this advice could not be verified.

When reviewing the implementation of the Minimising the Risk of Cross-Connection Checks Policy and Procedure it was unclear what a 'statistically significant' number of tests would equate to and how this will relate to three streets or three units in a high rise. The AGWR in Table 2.8 provides examples of potential operational criteria and monitoring, suggesting an ongoing cross-connection program, rolling 6-monthly audits with all properties audited at least every 5 years. Whilst the AGWR provides an example of an acceptable cross connection program, this audit has found that the existing Minimising the Risk of Cross-Connection Checks Policy and Procedure is not clear on the number of audits that need to be taken for each scheme and how the properties to be audited are to be chosen to ensure they are representative.

There was no record of a cross connection audit undertaken at Central Park in the audit period. The Minimising the Risk of Cross-Connection Checks Policy and Procedure has not been implemented as documented. Additionally, during the audit interviews Altogether staff advised (Water Operations Manager 31 May 2021) that there are insufficient staff resources to undertake a planned cross-connection program.

¹⁰⁶⁶ Minimising the risk of cross-connection checks policy and procedure (Controlled COPY).pdf FS-ALL-AUS-PO-OPS-2544

¹⁰⁶⁷ Cross connection workshop with [Consultant Name] 28/11/2018

¹⁰⁶⁸ Proposed "Minimising the risk of cross-connection and tap-ins policy and procedure" 11/12/2018

A recommendation has been made to implement an ongoing cross-connection audit program that is adequate to control the risk of on-lot cross connections.

- **REC-RW-2021-009 Review the Minimising the Risk of Cross-Connection Checks Policy and Procedure to ensure that it clearly identifies the number of connections to be audited, audit procedure and the record keeping requirements. Ensure that the ongoing cross-connection audit program is adequate to control the risk of on-lot cross connections noting that the AGWR suggests a rolling 6-monthly audits with all properties audited at least every 5 years as an example of appropriate cross connection monitoring.**

Element 6

Section 2.6.2 of the AGWR indicates that a recycled water supplier should define potential incidents and emergencies, and document procedures and response plans. The Recycled Water Quality Plan¹⁰⁶⁹ provides a diagram in Section 6 which depicts the framework for managing recycled water incidents and emergencies. The Incident Management Plan¹⁰⁷⁰ (IMP) provides the overarching framework for Altogether's incident management. The IMP in Section 5.1.3 identifies the requirements of the reporting manual and includes immediate notification to IPART, NSW Health, Department of Planning and Environment and other licenses and public water utilities.

The Water Operations Incident Management, Reporting and Investigation Procedure¹⁰⁷¹ provides flow diagrams that give an overview of incident management. This includes the requirement for the incident manager to assess, declare and classify the incident, make notifications, investigate, debrief and close out the incident. The flow diagram also includes responsibilities for notifying regulators.

The Incident Notification Protocol with NSW Health¹⁰⁷² was updated in February 2021 and includes the contact details of the relevant Public Health Units to be notified for each scheme.

It was noted in both documents above, that there is a recycled water event identified as 'recycled water delivered to customers below the AGWR values measured at the point of supply or point of use'. This appears to be an error and the event should be defined as recycled water delivered to customers that does not comply with the documented water quality criteria. It is noted that AGWR does not identify specific water quality criteria for recycled water and the water quality criteria are documented on the MS Progs for each scheme. A recommendation has been made to review the Water Operations Incident Management, Reporting and Investigation Procedure and Incident Notification Protocol with NSW Health to clearly define the recycled water event with reference to the documented water quality criteria.

- **REC-RW-2021-011 Review and update the Water Operations Incident Management, Reporting and Investigation Procedure and Incident Notification Protocol with NSW Health to ensure that the definition of a recycled water event refers to the documented water quality criteria for recycled water in the Water Quality Plan rather than referring to the Australian Guidelines for Water Recycling.**

No recycled water incidents were reported in relation to Shepherds Bay in the audit period, however there was an incident that occurred during the audit period, that was identified and reported¹⁰⁷³ outside the audit period, where recycled water was connected to a rainwater tank, that ultimately fed an interactive water play park. The recycled water network was charged with drinking water at the time.

¹⁰⁶⁹ Recycled Water Quality Plan AG-WAT-AUS-PL-OPS-1311 Revision: 17 27 April 2021

¹⁰⁷⁰ Incident Management Plan (IMP) (Controlled COPY) AG-ALL-AUS-PL-INC-1266 Revision 9 25 January 2021

¹⁰⁷¹ Water Operations Incident Management, Reporting and Investigation Procedure (Controlled COPY) AG-WAT-NSW-PR-OPS-2561 Version 3 22 March 2021

¹⁰⁷² Incident Notification Protocol with NSW Health (Controlled COPY) AG-ALL-NSW-PR-INC-1277 Revision 9 26 February 2021

¹⁰⁷³ Form A sent 19May21 Incident Notification WICA_Shepherds Bay_Connection of interactive water feature to RW network

A recommendation has been made to ensure there is a process to regularly confirm that there are no unapproved connections to recycled water.

- REC-RW-2021-012 Establish a program to regularly audit the recycled water network to ensure there are no connections to unapproved uses.

Element 10

Document Control Policy and Procedure¹⁰⁷⁴ states that all BMS documents are controlled using the BMS Library on SharePoint. During the site inspection at Pitt Town, the operator demonstrated the BMS system which included overarching licence plans, site-specific plans and procedures, forms and work instructions. In reviewing the documents provide in evidence, the following findings were noted:

- The footer on the LWC Control System Change Management policy¹⁰⁷⁵ is inconsistent with the document control properties.
- The scheme management plan has errors in the fields and captions.

A recommendation has been made to improve documentation.

- **REC-RW-2021-013 Establish review processes to ensure all documents are reviewed on time and do not have typographical and hyperlink errors.**

Element 11

Section 2.11.2 of the AGWR indicates that recycled water suppliers should establish processes for internal and external audits and Document and communicate audit results. Altogether has an Audit Procedure¹⁰⁷⁶ that outlines the audit process. An Internal Audit Calendar¹⁰⁷⁷ was shown that outlined the audits that should be undertaken. The audit procedure indicates that the outcomes of internal audits should go onto an action register. During the audit, Altogether explained that this is the Water Quality Improvement Plan, however the actions from internal audits had not been captured on the improvement plan, there was no evidence the actions had been allocated to a responsible person, progress tracked, or closed out. It is noted that some audit findings were closed out on the day of the audit, however ones that were not closed out were not captured in an action register or on the Water Quality Improvement Plan. A recommendation has been made to ensure the audit process is implemented as documented.

- **REC-RW-2021-014 Develop a process to capture and track the progress in implementing recommendations from internal audits on an action register or improvement program, as required by the procedure.**

Element 12

Section 2.12.2 of the AGWR indicates that recycled water suppliers should develop a recycled water quality management improvement plan and ensure the plan is communicated and implemented, and improvements are monitored.

The Water Quality Improvement Plan¹⁰⁷⁸ was provided and discussed in the audit. Inputs to the plan are documented on the 'Lists Ops' tab and include activities such as the risk register, Licence plan review and audit. There were many items on the register that do not have a completion date, and

¹⁰⁷⁴ Document Control Policy and Procedure (Controlled COPY AG-ALL-AUS-PO-HSEQ-1234 revision 6 19/1/2021

¹⁰⁷⁵ LWC Control System Management of Change Policy (CONTROLLED COPY) Revision 3 27 April 20120

¹⁰⁷⁶ 2352 Audit Procedure (Controlled COPY).pdf AG-ALL-AUS-PR-R&C-1364

¹⁰⁷⁷ Internal Audit Calendar - Water

¹⁰⁷⁸ WQP Improvement Plan

this makes it difficult to audit its implementation. A recommendation has been made to improve the documentation of the improvement plan to ensure that it is implemented.

- **REC-RW-2021-015 Ensure all items on the Improvement Plan have been allocated to a responsible party, communicated, and due dates for completion have been applied.**

8.2. Water Quality Plans - Drinking Water

WIC Reg Sch 1 cl. 7(4) The network operator must ensure that its drinking water quality plan is fully implemented and kept under regular review and the network operator's activities are carried out in accordance with that plan.

8.2.1. Summary of Findings

The audit has identified a number of gaps in the implementation of the DWQP and its supporting programs due to inconsistent implementation of the documented risk assessment methodology leading to an underestimation of health risks. In addition, a number of minor inconsistencies in the implementation of the drinking water quality plan and the supporting documentation were identified.

Altogether did not provide sufficient verifiable evidence that its DWQP is fully implemented.

A grading of **non-compliant non-material** is awarded to WIC Reg Sch 1 cl. 7(4). The **non-compliance** is considered **non-material** as the deficiency does not impact on the Altogether's ability to assure controlled processes, public health or the environment.

Recommendations have been identified below. Opportunities for improvement have been identified in the combined audit summary and detailed findings in Appendix A.

8.2.2. Recommendations

The following recommendations have been identified to address the areas of non-compliance:

Element 2

Section 3.2.3 of the ADWG indicates that once potential hazards and their sources have been identified, the level of risk associated with each hazard or hazardous event should be estimated so that priorities for risk management can be established and documented. Although there are numerous contaminants that can compromise drinking water quality, not every potential hazard will require the same degree of attention.

The level of risk for each hazard or hazardous event can be estimated by identifying the likelihood of occurrence (e.g. certain, possible, rare) and evaluating the severity of consequences if the hazard were to occur (e.g. insignificant, major, catastrophic). The aim should be to distinguish between very high and low risks.

Section 2.3 of the DWQP identifies the Risk Assessment Protocol for Water Products and Services¹⁰⁷⁹ (the RAP) as the documented process for undertaking risk assessments.

The RAP includes consequence and likelihood descriptors that should be applied when assessing risk. The RAP states that 'Health risks on the drinking water risk registers are assessed using the ADWG matrix'. When reviewing the matrix, in the RAP, it is not consistent with the ADWG as the minor and negligible consequence descriptors in the RAP appear to exclude health impacts as detailed below:

- Minor ranking – Health impact minor - possible aesthetic or amenity impact, population impact small, isolated part of the scheme (zone or street)

¹⁰⁷⁹ Risk Assessment Protocol for Water Products and Services FS-WAT-NSW-PR-OPS-2466 Revision: 3 16 August 2020

- Insignificant ranking – Health impact negligible - undetectable impact (normal operations) population impact small, isolated part of the scheme (zone or street)

Altogether has advised verbally and in emails that these consequence categories do not exclude health impacts, however this is not clear from reading the documents.

There are a number of instances in the risk assessment (August 2020) where health risks have been assessed as minor or insignificant including:

- Low chlorine residual leading to pathogens present in water supplied to consumers, causing health impacts for consumer and/or exceedance of ADWG health guideline value – given a minor residual consequence ranking.
- Mains Break leading to contamination of drinking water quality - given a residual consequence ranking of minor.
- Recycled water cross-connection in customer/building plumbing leading to consumption of recycled water - given a residual consequence ranking of minor.
- Chemical leaching into distribution system e.g. volatiles, lead, cadmium, copper from water supply infrastructure leading to chemicals present in water supplied to consumers, causing acute or chronic health impacts for consumers and or exceedance of ADWG health guideline value water - given a residual consequence ranking of minor.

The examples above have the potential to impact on a whole scheme or building, there for assigning a minor grading is not considered consistent application of the RAP.

It is noted that in the live consultation register¹⁰⁸⁰, NSW Health provided comments on the risk assessment that do not appear to have been taken into consideration. NSW Health indicated *'Generally it is not appropriate to change the consequence in assessing risk. Controls address the likelihood; i.e. the likelihood is reduced but the consequence remains the same'* however there are many instances in the risk register where this advice has not been followed and the control measures do not appear to reduce the consequence but the residual consequence has been reduced (refer to findings of the risk assessment below).

In reviewing the risk assessments for all schemes, the auditor identified the following inconsistencies in the application of the RAP when assessing risk:

- Mains break leading to contamination of drinking water, the consequence reduced from 'major' (Potential for short-term and longer-term public health impacts) to 'minor (Possible aesthetic or amenity impact) also noting that Altogether does not have a network hygiene policy (or similar) or procedures for working on mains and repairing main breaks.
- Residual risk for hazardous event of cross connections in network and on-lot given a rare frequency with a certainty of 1 (certain), however only 3 cross-connection audits have been undertaken across over 8000 connections and no audits in Central Park. The certainty ranking does not appear appropriate. The assessment appears contrary to industry knowledge and experience as documented in literature^{1081 1082 1083 1084}. This is considered a significant gap in understanding risk and taking responsibility for managing risk.

¹⁰⁸⁰ LIVE_Register_Consultation with NSW Health

¹⁰⁸¹ A. C. Hambly, R. K. Henderson, A. Baker, R. M. Stuetz & S. J. Khan (2012) Cross-connection detection in Australian dual reticulation systems by monitoring inherent fluorescent organic matter, Environmental Technology Reviews, 1:1, 67-80, DOI: 10.1080/09593330.2012.696724

¹⁰⁸² Water Source <https://watersource.awa.asn.au/publications/technical-papers/third-pipe-water-recycling/>

¹⁰⁸³ Risks to the long-term viability of residential non-potable water schemes: a review https://watersensitivecities.org.au/wp-content/uploads/2016/05/TMR_C3-1_RisksViabilityNonPotableWater.pdf

¹⁰⁸⁴ Muston, M. H. (2012). *Changing of the water recycling paradigm in Australia. Water Science and Technology: Water Supply*, 12(5), 611–618. doi:10.2166/ws.2012.034

The February Risk Assessment¹⁰⁸⁵ includes new risks that have been assessed and the consequence values appear more appropriate than the August 2020 risk registers, however the risk of cross connections have not been reassessed.

The audit found that Altogether did not consistently implement the documented risk assessment process. A recommendation has been made to review the risk assessments or methodology to ensure it is consistently applied.

- **REC-DW-2021-003 Review the risk assessments or risk assessment methodology to ensure that consequence values align with the risk being assessed, for example, where the consequence descriptor is limited to aesthetic or undetectable, these cannot be attributed to a risk that has an acute health impact. Frequencies should also be applied taking into consideration historical performance and the occurrence of incidents. Any reduction in consequence should be justified.**

Element 4

Section 3.4 of the ADWG indicates that drinking water suppliers should establish process control programs to support preventive measures by detailing the specific operational factors that ensure that all processes and activities are carried out effectively and efficiently. This includes a description of all preventive measures and their functions, together with documentation of effective operational procedures, including identification of responsibilities and authorities.

Additionally, the ADWG states (p 129) that 'Good design, management and integrity of distribution systems are essential for maintaining water quality.'

When discussing hygienic work practices when working on the drinking water network, Altogether stated that due to the design of the drinking water network, there is no need to undertake works on the drinking water network and there are no mains breaks. Additionally, if there was a need to work on the mains, Altogether uses a trusted contractor, however there do not appear to be any established procedures or policies for hygienic work practices for Altogether staff or contractors undertaking works on the mains. The Drinking Water Risk assessment¹⁰⁸⁶ undertaken in February 2021 has identified (Ref DW1.6) the need to 'Formalise and document procedures around equipment use for various water products and services. This action item is noted on the Water Quality Improvement Plan¹⁰⁸⁷, however there is no target date for completion.

A recommendation has been made to establish procedures for ensuring the integrity of the drinking water network.

- **REC-DW-2021-004 Establish a policy and procedure for hygienic work practices for Altogether staff and contractors undertaking works on Altogether's drinking water networks and develop a process for ensuring all network operators and contractors have been made aware of the requirements and establish an ongoing audit process to ensure the practices are implemented.**

Element 10

Document Control Policy and Procedure¹⁰⁸⁸ The Procedures states that all BMS documents are controlled using the BMS Library on SharePoint. During the site inspection at Pitt Town, the operator demonstrated the BMS system which included overarching licence plans, site-specific plans and procedures, forms and work instructions. In reviewing the documents provide in evidence, the following findings were noted:

- The footer on the LWC Control System Change Management policy¹⁰⁸⁹ is inconsistent with the document control properties.

¹⁰⁸⁵ Register of New Risks Feb2021 for Health Consultation

¹⁰⁸⁶ Register of New Risks Feb2021 for Health Consultation (1)

¹⁰⁸⁷ WQP Improvement Plan

¹⁰⁸⁸ Document Control Policy and Procedure (Controlled COPY AG-ALL-AUS-PO-HSEQ-1234 revision 6 19/1/2021

¹⁰⁸⁹ LWC Control System Management of Change Policy (CONTROLLED COPY) Revision 3 27 April 20120

- The scheme management plan has errors in the fields and captions.

A recommendation has been made to improve documentation.

- REC-DW-2021-007 Establish review processes to ensure all documents are reviewed on time and do not have typographical and hyperlink errors.

Element 11

Section 3.11.2 of the ADWG states that periodic auditing of all aspects of the drinking water quality management system is needed to confirm that activities are being carried out in accordance with defined requirements and are producing the required outcomes.

Altogether has an Audit Procedure¹⁰⁹⁰ that outlines the audit process. An Internal Audit Calendar¹⁰⁹¹ was shown that outlined the audits that should be undertaken. The audit procedure indicates that the outcomes of internal audits should go onto an action register. During the audit, Altogether explained that this is the Water Quality Improvement Plan, however the actions from internal audits had not been captured on the improvement plan, there was no evidence the actions had been allocated to a responsible person, progress tracked, or closed out. It is noted that some audit findings were closed out on the day of the audit, however ones that were not closed out were not captured in an action register or on the Water Quality Improvement Plan. A recommendation has been made to ensure the audit process is implemented as documented.

- REC-DW-2021-008 Develop a process to capture and track the progress in implementing recommendations from internal audits on an action register or improvement program, as required by the procedure.

Element 12

Section 3.12.2 of the ADWG indicates that drinking water suppliers should develop a drinking water quality management improvement plan and ensure that the plan is communicated and implemented, and that improvements are monitored for effectiveness.

The Water Quality Improvement Plan¹⁰⁹² was provided and discussed in the audit. Inputs to the plan are documented on the 'Lists Ops' tab and include activities such as the risk register, Licence plan review and audit. There were many items on the register that do not have a completion date, and this makes it difficult to audit its implementation. A recommendation has been made to improve the documentation of the improvement plan to ensure that it is implemented.

- **REC-DW-2021-009 Ensure all items on the Improvement Plan have been allocated to a responsible party, communicated, and due dates have been applied.**

8.3. Water Quality Plans - Sewage

WIC Reg Sch 1 cl. 14(3) A network operator must ensure its sewage management plan is fully implemented and kept under regular review and all its activities are carried out in accordance with the plan.

8.3.1. Summary of Findings

The audit has found that Altogether has generally implemented its Sewage Management Plan, however, the risk assessment methodology, which forms the basis of the Sewage Management Plan has not been implemented consistently, resulting in an under estimation of human health risk.

¹⁰⁹⁰ 2352 Audit Procedure (Controlled COPY).pdf AG-ALL-AUS-PR-R&C-1364

¹⁰⁹¹ Internal Audit Calendar - Water

¹⁰⁹² WQP Improvement Plan

Preventive measures for managing risk from the sewage services are identified, implemented and considered adequate.

The **non-compliance** is considered **non-material** as the deficiency does not impact on the Altogether's ability to assure controlled processes, public health or the environment.

8.3.2. Recommendations

The following recommendation has been identified to address the areas of non-compliance:

The Sewage MP identifies the AGWR as the reference for the risk assessments, and the approach identified in the RWQP. The RWQP identifies the Risk Assessment Protocol for Water Products and Services¹⁰⁹³ (the RAP) as the documented process for undertaking risk assessments. The RAP states that internal risk reviews will be undertaken annually, and external risk reviews will be undertaken biennially.

The risk assessment includes the assessment of health and environmental risks in relation to sewage activities. In addition to the risk assessments, the Sewage MP states that ecological assessments will be undertaken as a part of development consent. The risk register for each scheme indicates that in July 2020, an internal risk review workshop was undertaken, and a risk review workshop was undertaken with NSW Health in August 2020. The document control properties identify the new risks that were added to the risk register, and the risks that were deleted are shown as a strike through in the register. In April 2021, a recycled water and sewage risk assessment covering the eight schemes was undertaken to address new risks and audit findings. Evidence includes the briefing pack¹⁰⁹⁴, recycled water risk register¹⁰⁹⁵ and updated sewage risk register¹⁰⁹⁶.

The RAP includes consequence and likelihood descriptors that should be applied when assessing risk. The RAP states in Table 2 that 'Health risks on the sewage and recycled water risk registers are assessed using the AGWR matrix'. When reviewing the matrix, in the RAP, it was found that it was not consistent with the AGWR as the minor and negligible consequence descriptors in the RAP appear to exclude health impacts as detailed below:

- Minor ranking – Health impact minor - possible aesthetic or amenity impact, population impact small, isolated part of the scheme (zone or street)
- Insignificant ranking – Health impact negligible - undetectable impact (normal operations) population impact small, isolated part of the scheme (zone or street)

Altogether has advised verbally and in emails that these consequence categories do not exclude health impacts, however this is not clear from reading the documents.

It is noted that in the live consultation register¹⁰⁹⁷, NSW Health provided comments on the risk assessment that do not appear to have been taken into consideration. NSW Health indicated *'Generally it is not appropriate to change the consequence in assessing risk. Controls address the likelihood; i.e. the likelihood is reduced but the consequence remains the same'* however there are many instances in the risk register where this advice has not been followed and the control measures do not appear to reduce the consequence but the residual consequence has been reduced (refer to findings of the risk assessment below).

There are instances where health consequences have been reduced, when it is unclear how the control measures reduce the health impact, for example, there is one risks in the Shepherds Bay risk register (SC1.4.) that include human contact with wastewater causing a *public health impact*, that is reduced from possible/ moderate to rare/minor. It is noted that the controls may reduce the instance of this occurring, but it is not clear how the controls reduce the consequence of a public

¹⁰⁹³ Risk Assessment Protocol for Water Products and Services FS-WAT-NSW-PR-OPS-2466 Revision: 3 16 August 2020

¹⁰⁹⁴ Recycled Water & Sewage Risk Workshop Briefing Pack Apr2021

¹⁰⁹⁵ Updated risks_Recycled water risk register

¹⁰⁹⁶ Updated risks_Sewage risk register

¹⁰⁹⁷ LIVE_Register_Consultation with NSW Health

health impact due to wastewater contact. Additionally, as noted in the recycled water audit findings, frequency descriptors were not consistently applied

A recommendation has been made to ensure the documented risk assessment methodology has been consistently implemented.

- **REC-Sewage-2021-001 Review the risk assessments or risk assessment methodology to ensure that consequence values align with the risk being assessed, for example, where the consequence descriptor is limited to aesthetic or undetectable, these cannot be attributed to a risk that has an acute health impact. Frequencies should also be applied taking into consideration historical performance and the occurrence of incidents. Any reduction in consequence should be justified.**

8.4. Water Quality Plans - Operational Procedures

NOL Sch A cl 2.2 The Licensee must: a) fully implement the Operational Procedures (as noted in NOL Sch A, cl 2.1); b) ensure that all of its activities are carried out in accordance with the Operational Procedures; and c) keep records to demonstrate the extent to which the Operational Procedures have been implemented and complied with.

8.4.1. Summary of Findings

Altogether provided evidence that the Operational Procedures required under the relevant clause of the NOL for each scheme have been implemented for the following activities:

- monitoring protocols
- corrective actions
- rapid communication
- inspection and maintenance.

Altogether was found to have implemented the procedures required under the relevant licence clauses and was found to be compliant with this requirement.

8.4.2. Recommendations

No recommendations have been identified for this clause of the licence.

8.5. Water Quality Plans – Monitoring and Analysis

- NOL Sch B cl.7.1 The Licensee must undertake any monitoring that is required for the purposes of this Licence, any Plan, the Act or the Regulation in accordance with this clause 7.
- NOL Sch B cl.7.2 The Licensee must keep the following records of any samples taken for monitoring purposes specified in the Water Quality Plan: a) the date on which the sample was taken; b) the time at which the sample was collected; c) the point or location at which the sample was taken; and d) the chain of custody of the sample (if applicable).
- NOL Sch B cl.7.3 The Licensee must ensure that analyses of all samples taken for the purposes of Verification Monitoring are carried out by a laboratory accredited for the specified tests by an independent body that is acceptable to NSW Health, such as the National Association of Testing Authorities or an equivalent body.

8.5.1. Summary of Findings

Altogether was found to have implemented the monitoring required under the relevant licence clauses and was found to be compliant with NOL Sch B cl.7.1

Altogether was found to have kept the records of the monitoring required under the relevant licence clauses and was found to be compliant with NOL Sch B cl.7.2.

Altogether was found to have water quality analysis undertaken by a NATA accredited laboratory required under the relevant licence clauses and was found to be compliant with NOL Sch B cl.7.3.

8.5.2. Recommendations

No recommendations have been identified for this clause of the licence.

8.6. Infrastructure Operating Plan

WIC Reg Sch 1 cl. 6(1) – Water: Before commencing to operate water infrastructure commercially, the licensed network operator for the infrastructure must prepare, and forward to IPART, an infrastructure operating plan that indicates the arrangements that the licensee has made, or proposes to make, in relation to:

- a) the design, construction, operation and maintenance of the infrastructure, including particulars as to the lifespan of the infrastructure, the system redundancy built into the infrastructure and the arrangements for the renewal of the infrastructure, and
- b) the continued safe and reliable performance of the infrastructure, and
- c) the continuity of water supply, and
- d) alternative water supplies when the infrastructure is inoperable, and
- e) the maintenance, monitoring and reporting of standards of service.

WIC Reg Sch 1 cl. 6(2) – Water: The network operator must ensure that the infrastructure operating plan is fully implemented and kept under regular review and all of the network operator's activities are carried out in accordance with that plan.

WIC Reg Sch 1 cl. 13(1) – Sewerage: Before commencing to operate sewerage infrastructure commercially, the licensed network operator for the infrastructure must prepare, and forward to IPART, an infrastructure operating plan that indicates the arrangements that the licensee has made, or proposes to make, in relation to:

- a) the design, construction, operation and maintenance of the infrastructure, including particulars as to the lifespan of the infrastructure, the system redundancy built into the infrastructure and the arrangements for the renewal of the infrastructure, and
- b) the continued safe and reliable performance of the infrastructure, and
- c) the continuity of sewerage services, and
- d) alternative sewerage services when the infrastructure is inoperable, and
- e) the maintenance, monitoring and reporting of standards of service.

WIC Reg Sch 1 cl. 13(2) – Sewerage: The infrastructure operating plan is fully implemented and kept under regular review and all of the network operator's activities are carried out in accordance with that plan.

8.6.1. Summary of Findings

Altogether was found to have prepared an IOP that meets the requirements of the licence clause and was found to be compliant with WIC Reg Sch 1 cl. 6(1).

Altogether was found to have implemented the IOP and was found to be compliant with WIC Reg Sch 1 cl. 6(2).

Altogether was found to have prepared an IOP that meets the requirements of the licence clause and was found to be compliant with WIC Reg Sch 1 cl. 13(1).

Altogether was found to have implemented the IOP and was found to be compliant with WIC Reg Sch 1 cl. 13(2).

8.6.2. Recommendations

No recommendations have been identified for this clause of the licence.

8.7. Incident Notification

WIC Reg Sch 1 cl. 1(2)(a) A network operator must immediately notify

- a) IPART, and
- b) The Minister administering the Public Health Act 2010, and
- c) the Minister administering Part 2 of the Water Industry Competition Act 2006 (NSW), and
- d) NA, and
- e) any licensed network operator or public water utility whose infrastructure is connected to the licensed network operator's infrastructure, of any incident in the conduct of its activities that threatens, or could threaten, water quality, public health or safety.

8.7.1. Summary of findings

Based on the records identified in Table 10 it was found that Altogether complied with its requirements to notify the identified stakeholders in accordance with the requirements of WIC Reg Sch 1 cl. 1(2)(a).

8.7.2. Recommendations

No recommendations have been identified for this clause of the licence.

8.8. Compliance findings to be checked

Altogether has largely closed out the previous compliance findings, the details of each non-compliance are included in Table 11.

Description	Clause Ref.	Grade	Auditor to check	Evidence
Due to a number of documents including the Sewage Management Plan, Scheme Management Plan being out-dated, the licensee has been found non-compliant (nonmaterial) as it did not keep its	WIC Reg Sch 1 cl 14(3)(a)	Non-compliant (Non-material)	Check that SMP is current (refer to recommendation in Operational Audit Viridis, October 2020)	The Shepherds Bay Scheme Management Plan ¹⁰⁹⁸ was updated in April 2021. The Sewage Management Plan ¹⁰⁹⁹ (Sewage MP) was reviewed and updated in January 2021 and rebranded in March 2021. The non-compliance has been closed out.

¹⁰⁹⁸ 2509 Shepherds Bay Scheme Management Plan (Scheme MP) (Controlled COPY).pdf SB-WAT-NSW-PL-OPS-1787

¹⁰⁹⁹ Sewage Management Plan (Sewage MP) (Controlled COPY) AG-WAT-AUS-PL-OPS-1328 Revision 9 16 March 2021

Description	Clause Ref.	Grade	Auditor to check	Evidence
sewage management plan under regular review. A recommendation has been made to review and update the Sewage management plan and scheme management plan in line with the relevant review cycles.				
The licensee has been assessed as non-compliant non-material for this licence clause due to a number of minor deficiencies in the documentation. Deficiencies include the SMP and incident management documentation being out of date and the lack of a process to confirm water quality compliance.	WIC Reg Sch 1 cl 7(4)(a)	Non-compliant (Non-material)	Check that Scheme MP and Incident management procedures are current, (refer to recommendation in Operational Audit Viridis, October 2020)	<p>The Shepherds Bay Operational Audit (Viridis, October 2020) made the following recommendations:</p> <ul style="list-style-type: none"> SB-REC-2020-001 -Review the verification monitoring programs to ensure that there is an effective internal process to review and record verification monitoring data, confirm the compliance and ensure immediate reporting of non-compliant results. <p>During the audit interviews, Altogether demonstrated a new process for reviewing data and checking compliance with the monitoring program using a Power BI database that included checking the number of samples taken, the frequency of sampling, and that the results are compliant. The database extract was reviewed and the auditor confirmed that the MS Progs are being implemented and the required samples are being taken at the correct frequencies.</p> <ul style="list-style-type: none"> SB-REC-2020-002 Review and update the Incident Management Plan and the Water Quality Incident Management, Reporting and Investigation Procedure as required (annually and in response to an incident) <p>The Incident Management Plan¹¹⁰⁰ (IMP) provides the overarching framework for Altogether's incident management plan and was updated in January 2021.</p> <p>The Water Operations Incident Management, Reporting and Investigation Procedure¹¹⁰¹ provides flow diagrams that give an overview of incident management and was updated in March 2021.</p> <p>The Incident Notification Protocol with NSW Health¹¹⁰² was updated in February 2021.</p>

¹¹⁰⁰ Incident Management Plan (IMP) (Controlled COPY) AG-ALL-AUS-PL-INC-1266 Revision 9 25 January 2021

¹¹⁰¹ Water Operations Incident Management, Reporting and Investigation Procedure (Controlled COPY) AG-WAT-NSW-PR-OPS-2561 Version 3 22 March 2021

¹¹⁰² Incident Notification Protocol with NSW Health (Controlled COPY) AG-ALL-NSW-PR-INC-1277 Revision 9 26 February 2021

Description	Clause Ref.	Grade	Auditor to check	Evidence
				<ul style="list-style-type: none"> SB-REC-2020-003 Ensure the incident response documentation provides guidance on relevant incidents including but not limited to protozoan water quality non-compliances. <p>The out-of-specification procedure¹¹⁰³ includes the process for investigation when an out-of-specification parameter is detected. The process includes notifying stakeholders, retesting the out-of-specification parameter, and checking treatment processes. This is considered adequate to cover protozoan risk.</p> <p>The non-compliance has been closed out.</p> <p>Note: additional findings on the risk assessment for this audit.</p>
A plan showing the nature and general location of the infrastructure was not available on the website as required by WIC Reg Sch1 Clause 12(a) and WIC Reg Sch1 Clause 16(a). The reason for the licence non-compliance was human error. The plans were available for the Flow Systems Group licensees' land housing schemes, but were not available for the high rise schemes. The plans were made available at https://askus.flowsystems.com.au/hc/en-us/articles/208876906-Reticulation-and-StandardDrawings on 6/08/2020	WIC Reg Sch 1 cl 12 (a) WIC Reg Sch 1 cl 16(a)	Non-compliant (Non-material)	Check plan is on website [I think we can do this ourselves]	<p>A plan of the drainage services is available on the Altogether website¹¹⁰⁴.</p> <p>The non-compliance has been closed out.</p>
Sample taken on 25th February 2020 & report received 28th July 2020 (Flow Incident No. 168) The routine verification sample	NOL Sch B cl 7.1	Non-compliant (Non-material)	Auditor to check that monitoring plan is being followed [no need for separate item.	During the audit interviews, Altogether demonstrated a new process for reviewing data and checking compliance with the monitoring program using a Power BI database that included checking the number of samples taken, the frequency of sampling, and that the results are compliant. The

¹¹⁰³ 3512 Discovery Point Recycled Water Out of Specification Work Instruction (Controlled COPY).pdf DP-WAT-NSW-WI-OPS-3474

¹¹⁰⁴ https://information.altogethergroup.com.au/askus/Shepherds_Bay/Shepherds%20Bay.pdf





Description	Clause Ref.	Grade	Auditor to check	Evidence
taken from one of the Shepherds Bay drinking water sample points (SB3_RW_PoU) was not tested for total coliforms. Total coliform test was not undertaken as per monitoring and sampling plan, and as per Australian Guidelines for Water Recycling. No customer impact. Also occurred at Discovery Point 28th February and 5th May 2020. Due to a transcription error when the lab receipted the sample into their system the total coliforms test requested was not entered and so the test was not performed. This error was not identified by Eurofins' personnel until the report was being finalized, at which point the sample was out of holding time (24 hours)			It's already in scope]	database extract was reviewed and the auditor confirmed that the MS Progs are being implemented and the required samples are being taken at the correct frequencies. The non-compliance has been closed out.
Sample taken on 25th February 2020 & report received 28th July 2020 (Flow Incident No. 168) The routine verification sample taken from one of the Shepherds Bay drinking water sample points (SB3_RW_PoU) was not tested for total coliforms. Total coliform test was not undertaken as per monitoring and sampling plan, and as per Australian	WIC Reg Sch 1 cl 7(4)(a)	Non-compliant (Non-material)	Check that RA and Incident management procedures are current, and recommendations from Operational Audit (Viridis, August 2020) are implemented	During the audit interviews, Altogether demonstrated a new process for reviewing data and checking compliance with the monitoring program using a Power BI database that included checking the number of samples taken, the frequency of sampling, and that the results are compliant. The database extract was reviewed and the auditor confirmed that the MS Progs are being implemented and the required samples are being taken at the correct frequencies. The non-compliance has been closed out.

Description	Clause Ref.	Grade	Auditor to check	Evidence
<p>Guidelines for Water Recycling. No customer impact. Also occurred at Discovery Point 28th February and 5th May 2020. Due to a transcription error when the lab receipted the sample into their system the total coliforms test requested was not entered and so the test was not performed. This error was not identified by Eurofins' personnel until the report was being finalized, at which point the sample was out of holding time (24 hours)</p>				

APPENDIX G SUMMARY OF FINDINGS FLOW SYSTEMS BOX HILL

9. OVERALL SUMMARY

This section provides a summary of the findings, detailed findings and discussions are in Appendix A. The Table below provides an overview of the level of compliance for Flow System Box Hill. Flow Systems Box Hill (Altogether) is the licensee.

Compliance Grades	Number of Findings	
	Compliant	9
	Non-compliant (non-material)	1
	Non-compliant (material)	1
	No requirement	1

Audit findings are summarised by obligation in the sections below.

9.1. Water Quality Plans - Recycled Water

WIC Reg Sch 1 cl. 7(4) The network operator must ensure that its recycled water quality plan is fully implemented and kept under regular review and the network operator's activities are carried out in accordance with that plan.

9.1.1. Summary of Findings

The audit has identified a number of gaps in the implementation of the Recycled Water Quality Plan¹¹⁰⁵ (RWQP) and its supporting programs due to inconsistent implementation the documented risk assessment methodology leading to an underestimation of health risks, inadequacy of the current cross-connection audit program, and failure to implement the current program for cross-connection auditing. In addition, a number of minor inconsistencies in the implementation of the recycled water quality plan and the supporting documentation were identified.

Altogether did not provide sufficient verifiable evidence that its RWQP is fully implemented, and it is the auditor's finding that the deficiency adversely affects Altogether's ability to assure controlled processes, products and outcomes and protect public health.

A grading of **non-compliant material** is awarded to WIC Reg Sch 1 cl. 7(4).

Recommendations have been identified below. Opportunities for improvement have been identified in the combined audit summary and detailed findings in Appendix A.

9.1.2. Recommendations

The following recommendations have been identified to address the areas of non-compliance:

Element 1

Element 1

¹¹⁰⁵ Recycled Water Quality Plan AG-WAT-AUS-PL-OPS-1311 Revision: 17 27 April 2021

The Recycled Water Quality Plan¹¹⁰⁶ (RWQP) states under Component A1.3 that Altogether will identify all agencies with responsibilities for water resources and use of recycled water and regularly update the list of relevant agencies. Under RWQP Component A1.3.1 Altogether uses the scheme specific Stakeholder & Emergency Contact Lists as its means of documenting stakeholders. The lists contain water utilities, NSW and Local government regulators, client interface (property managers) and preferred suppliers for emergencies. These lists are to be reviewed at 6 monthly intervals, however during the audit period, the stakeholder register had not been reviewed 6 monthly. Box Hill - Stakeholders Emergency Contact List¹¹⁰⁷ exists and was last updated 08/10/2020. The list should have been reviewed in April 2021. A recommendation has been identified to ensure that the Stakeholder and Emergency Contact list is up to date and is under regular review in accordance with documented processes.

A recommendation has been identified to ensure that the Stakeholder and Emergency Contact list is up to date and is under regular review in accordance with documented processes.

• **REC-RW-2021-001 Implement a process to ensure the Stakeholders Emergency Contact List is reviewed by the due date to ensure it remains current.**

The AGWR in Section 2.1.3 indicates that recycled water suppliers should identify all stakeholders (including the public) affecting, or affected by, decisions or activities related to the use of recycled water and engage users of recycled water; ensure responsibilities are identified and understood.

Section A1.3.3 of the RWQP states that the Stakeholder and Emergency contact list includes the public. Section A1.3.4 of the RWQP identifies scheme specific community website, bills, customer contract, SMS and email messages, project delivery Agreements, Project Control Group and Homeowners Guide as methods for engaging with developers, customers and tenants. The Altogether Flow WICA Licences - Authorised Purposes Matrix¹¹⁰⁸ identifies unrestricted irrigation, water features, car washing and general washdown as authorised purposes for the Box Hill Scheme. When reviewing the scheme specific list, 'Public Stakeholders' are not listed and the list is silent on how Altogether communicates with members of the public who are not residents and who access areas with recycled water in use to ensure responsibilities are understood by the public (for example signage in irrigation areas warning that recycled water is in use).

A recommendation has been made to establish a process to identify all potential recycled water users and ensure there is a process for communicating responsibilities to all identified recycled water users. It is considered that appropriate mechanisms have not been developed and effectively employed for members of the public (end users) accessing areas where they may be exposed to recycled water. It is noted that the Stakeholder and Emergency Contact list may not be the most appropriate mechanism for identifying and engaging with the public.

• **REC-RW-2021-003 Review and update stakeholder lists or equivalent to reflect all potential stakeholders and the methods for engagement, including engaging with the public.**

The AGWR (Section 2.1.4) recommends that the recycled water policy should provide a basis for developing more detailed guiding principles and implementation strategies. AGWR includes the broad issues that the recycled water policy should address including for example, intention to adopt best-practice management and a multiple-barrier approach.

¹¹⁰⁶ Recycled Water Quality Plan AG-WAT-AUS-PL-OPS-1311 Revision: 17 27 April 2021

¹¹⁰⁷ Box Hill - Stakeholders Emergency Contact List BH-WAT-NSW-RG-INC-3352 Revision 1 08 October 2020

¹¹⁰⁸

The Recycled Water Policy¹¹⁰⁹ states that Altogether will implement and maintain recycled water management system consistent with the AGWR and all managers and personnel are responsible for implementing, maintain and continuously improving the recycled water management system.

During the audit, Altogether team members (Water Operations Manager 31 May 2021) responsible for implementing the preventive measures in the risk assessment indicated that there have been insufficient resources to implement some processes (for example when discussing the implementation of the *Minimising the Risk of Cross-Connection Checks Policy and Procedure*¹¹¹⁰), and the agreed compliance program (Executive Manager – Risk & Compliance 15 June 2021) with IPART has affected Altogether's ability to allocate sufficient resources to RWQP implementation.

Additionally, when gaps in implementation (for example the implementation of the risk assessment methodology) were identified during the audit, Altogether representatives (Water Quality Systems Manager 31 May 2021) indicated in some instances that external consultants had undertaken the works and could not explain how the process was implemented.

Additionally, it was indicated that in cases where recycled water is used in public spaces, that the public should have the 'common sense' to know that recycled water is in use, without signage being installed (Technical Operations Lead 9 June 2021). This approach does not appear to adequately cover protecting the most vulnerable members of the community. It is the auditor's finding that Altogether has not fully implemented its recycled water policy due to gaps in risk management, failure to implement procedures in relation to cross-connection auditing, failure to take ownership for managing risk and by not allocating adequate resources for the implementation of the RWQP and supporting programs

A recommendation has been made to improve implementation of the recycled water policy and to ensure recycled water risk is well understood.

- **REC-RW-2021-005 Implement a program to increase staff awareness of recycled water risks, improve ownership for managing risk and allocation of adequate resources to implement licence plans and meet regulatory requirements.**

Element 2

The AGWR indicates that water suppliers should identify and document hazards and hazardous events, and estimate risk. Section 2.4 of the RWQP identifies the Risk Assessment Protocol for Water Products and Services¹¹¹¹ (the RAP) as the documented process for undertaking risk assessments. The RAP includes consequence and likelihood descriptors that should be applied when assessing risk. The RAP states in Table 2 that 'Health risks on the sewage and recycled water risk registers are assessed using the AGWR matrix'. When reviewing the matrix, in the RAP, it was found that it was not consistent with the AGWR as the minor and negligible consequence descriptors in the RAP appear to exclude health impacts as detailed below:

- Minor ranking – Health impact minor - possible aesthetic or amenity impact, population impact small, isolated part of the scheme (zone or street)
- Insignificant ranking – Health impact negligible - undetectable impact (normal operations) population impact small, isolated part of the scheme (zone or street)

Altogether has advised verbally and in emails that these consequence categories do not exclude health impacts, however this is not clear from reading the documents. Furthermore, there are a number of health impacts identified in the risk assessment that have been assigned 'insignificant'

¹¹⁰⁹ Recycled Water Policy AG-WAT-AUS-PO-OPS-1310 Revision: 3 21 July 2020

¹¹¹⁰ Minimising the risk of cross-connection checks policy and procedure (Controlled COPY).pdf FS-ALL-AUS-PO-OPS-2544

¹¹¹¹ Risk Assessment Protocol for Water Products and Services FS-WAT-NSW-PR-OPS-2466 Revision: 3 16 August 2020

grading, which describes a health impact as ‘negligible’, and ‘undetectable’ and ‘normal operations’. It is difficult to justify how a health impact from exposure to recycled water is part of ‘normal operations’.

There are a number of instances in the risk assessment¹¹¹² where health risks have been assessed as insignificant for example:

- RL1.6 Human health impacts ‘Pathogens present in recycled water supplied to customers, causing health impacts for customers’ ‘Exceedance of AGWR health guideline value’
- RD1.4 Human health impacts from on lot and network cross connections’ ‘Recycled water entering potable water plumbing in home’ ‘Pathogens present in water supplied to consumers, causing health impacts for consumers’ ‘Exceedance of ADWG health guideline value’

It is noted that in the live consultation register¹¹¹³, NSW Health provided comments on the risk assessment that do not appear to have been taken into consideration. NSW Health indicated *‘Generally it is not appropriate to change the consequence in assessing risk. Controls address the likelihood; i.e. the likelihood is reduced but the consequence remains the same’* however there are many instances in the risk register where this advice has not been followed and the control measures do not appear to reduce the consequence but the residual consequence has been reduced (refer to findings of the risk assessment below).

In reviewing the risk assessments for all schemes, the auditor identified the following inconsistencies in the application of the RAP when assessing risk:

- Risk SC1.4 relating to sewage overflows, leading to ‘Human contact with wastewater causing public health impact’. The maximum likelihood is almost certain and moderate consequence. Moderate is described as ‘Potential for some increase in disease burden’. The control measures include processes such as use of contractors, isolation of spills, complaints handling and communication. Whilst these control measures may reduce the frequency of a public health impact it is unclear how these reduce the consequence of a public health impact to minor, which is ‘Possible aesthetic or amenity impact’.
- EU1.15 Risk of inadvertent connections between recycled water and potable water (e.g. public bubblers?) leading to ‘Illness from ingestion of recycled water’. Preventive measures are education, communication protocols and the emergency procedures resulting in a residual risk rated minor, which is ‘Minor, Possible aesthetic or amenity impact’.
- RD1.4 On-lot cross-connections residual risk is assessed as ‘insignificant’ which is described as an ‘undetectable impact (normal operations)’. It is unclear how an on-lot cross-connection is part of normal operation. This risk certainty is 1 which means ‘certain’ however Altogether have only undertaken 3 cross-connection audits across 8 schemes with approximately 8146 recycled water customer connections in the audit period, therefore the risk level is unknown and uncertain. During the audit interviews numerous Altogether team members (Water Operations Manager 31 May 2021, Executive Manager – Sustainable Utility Services 15 June 2021) stated that cross-connections do not occur in the Altogether schemes because the houses and development are ‘new’. This is contrary to industry knowledge and experience as documented in literature^{1114 1115}

¹¹¹² 2486 Box Hill Scheme Risk Register (Controlled COPY).pdf BH-WAT-NSW-RG-OPS-2486

¹¹¹³ LIVE_Register_Consultation with NSW Health

¹¹¹⁴ A. C. Hambly, R. K. Henderson, A. Baker, R. M. Stuetz & S. J. Khan (2012) Cross-connection detection in Australian dual reticulation systems by monitoring inherent fluorescent organic matter, Environmental Technology Reviews, 1:1, 67-80, DOI: 10.1080/09593330.2012.696724

¹¹¹⁵ Water Source <https://watersource.awa.asn.au/publications/technical-papers/third-pipe-water-recycling/>

¹¹¹⁶ ¹¹¹⁷. This is considered a significant gap in understanding risk and taking responsibility for managing risk.

Based on the review of the scheme specific risk registers against the requirements of the RAP, it was found that the RAP was not consistently implemented in the audit period, resulting in an underestimation of health risk and there was ambiguity about the health impacts captured in the consequence descriptors. A recommendation has been made to ensure the risk assessment consistently assesses risks.

- **REC-RW-2021-006 Review the risk assessments or risk assessment methodology to ensure that consequence values align with the risk being assessed, for example, where the consequence descriptor of insignificant, aesthetic or negligible cannot be attributed to a risk that has an acute health impact. Frequencies should also be applied taking into consideration historical performance and the occurrence of incidents. Any reduction in consequence should be justified.**

Element 3

Section 2.3.2 of the AGWR includes requirements for monitoring CCPs and establishing mechanisms for operational control. The Box Hill CCP Table¹¹¹⁸ identifies the monitoring of CCPs, however when reviewing the Monitoring and Sampling Program, it was noted that some of the CCP parameters were not captured, for example Contact time UV Dose which are critical limits.

A recommendation has been made to ensure that the operational monitoring program is correctly documented on the MS Prog, or relevant alternative.

REC-RW-2021-008 Review the scheme specific monitoring and sampling programs to ensure they include all operational parameters or develop a separate comprehensive operational monitoring program.

Element 4

Section 2.4.1 of the AGWR indicates that recycled water suppliers should identify procedures required for all processes and activities applied within the whole recycled water system (source to use). To determine a suitable procedure for this audit, the Central Park risk assessment was reviewed and a relevant hazard, cross connections between the recycled and drinking water network, was selected and the procedure for minimising cross-connections was chosen as a sample procedure for a more detailed audit. The Minimising the Risk of Cross-Connection Checks Policy and Procedure¹¹¹⁹ was provided and discussed at the audit. The document control properties indicate that the procedure was established in December 2018 and updated in June 2019. The procedure in Section 8.4.2 states that 'The risk of cross-connections and unauthorised tap-ins increases with time as plumbing and network changes are made and the number of connections increases.' Section 8.4.3 of the policy states that:

'Flow has received advice that the water industry has determined that conducting cross-connection checks of 20% of all connections annually is not effective and is moving towards a risk-based approach. Flow is committed to implementing a risk-based, prioritised, statistically significant ongoing inspection program.'

'Flow will conduct a statistically significant set of one of the following types of tests on three streets in a scheme or three units in a high rise building annually, to confirm that there are no cross-

¹¹¹⁶ Risks to the long-term viability of residential non-potable water schemes: a review https://watersensitivecities.org.au/wp-content/uploads/2016/05/TMR_C3-1_RisksViabilityNonPotableWater.pdf

¹¹¹⁷ Muston, M. H. (2012). *Changing of the water recycling paradigm in Australia*. *Water Science and Technology: Water Supply*, 12(5), 611–618. doi:10.2166/ws.2012.034

¹¹¹⁸ 2702 Box Hill - Control Points (Controlled COPY).pdf BH-WAT-NSW-PL-OPS-2671

¹¹¹⁹ Minimising the risk of cross-connection checks policy and procedure (Controlled COPY).pdf FS-ALL-AUS-PO-OPS-2544

connections between potable and recycled water systems or tap-ins of potable to recycled water fittings:

1. flow tests
2. electrical conductivity (EC) tests and/or
3. chlorine/chloramine tests, or similar.'

When reviewing the requirements of the procedure, it was noted that the water industry advice (referenced in the policy) that Altogether has received was not documented and it was not possible to verify if the advice was documented or from where in the industry it was sourced from, for example an accepted industry standard or peer reviewed document. Altogether provided a range of emails^{1120 1121} written by Altogether staff, summarising what appears to be verbal advice from a consultant, however there does not appear to be verifiable evidence of the advice. It is noted that an email states '[Consultant Name] has advised us that based on his conversations with Health the "magic number is 3 – i.e. 3 streets in a scheme, 3 units in a building)" and not 20% of all connections annually as we previously targeted.' NSW Health acceptance of this advice could not be verified.

When reviewing the implementation of the Minimising the Risk of Cross-Connection Checks Policy and Procedure it was unclear what a 'statistically significant' number of tests would equate to and how this will relate to three streets or three units in a high rise. The AGWR in Table 2.8 provides examples of potential operational criteria and monitoring, suggesting an ongoing cross-connection program, rolling 6-monthly audits with all properties audited at least every 5 years. Whilst the AGWR provides an example of an acceptable cross connection program, this audit has found that the existing Minimising the Risk of Cross-Connection Checks Policy and Procedure is not clear on the number of audits that need to be taken for each scheme and how the properties to be audited are to be chosen to ensure they are representative.

There was one record of one cross connection audit undertaken at Box Hill in the audit period. The Minimising the Risk of Cross-Connection Checks Policy and Procedure has not been implemented as documented. Additionally, during the audit interviews Altogether staff advised (Water Operations Manager 31 May 2021) that there are insufficient staff resources to undertake a planned cross-connection program.

A recommendation has been made to implement an ongoing cross-connection audit program that is adequate to control the risk of on-lot cross connections.

- **REC-RW-2021-009 Review the Minimising the Risk of Cross-Connection Checks Policy and Procedure to ensure that it clearly identifies the number of connections to be audited, audit procedure and the record keeping requirements. Ensure that the ongoing cross-connection audit program is adequate to control the risk of on-lot cross connections noting that the AGWR suggests a rolling 6-monthly audits with all properties audited at least every 5 years as an example of appropriate cross connection monitoring.**

Element 6

Section 2.6.2 of the AGWR indicates that a recycled water supplier should define potential incidents and emergencies, and document procedures and response plans. The Recycled Water Quality Plan¹¹²² provides a diagram in Section 6 which depicts the framework for managing recycled water incidents and emergencies. The Incident Management Plan¹¹²³ (IMP) provides the overarching framework for Altogether's incident management. The IMP in Section 5.1.3 identifies the

¹¹²⁰ Cross connection workshop with [Consultant Name] 28/11/2018

¹¹²¹ Proposed "Minimising the risk of cross-connection and tap-ins policy and procedure" 11/12/2018

¹¹²² Recycled Water Quality Plan AG-WAT-AUS-PL-OPS-1311 Revision: 17 27 April 2021

¹¹²³ Incident Management Plan (IMP) (Controlled COPY) AG-ALL-AUS-PL-INC-1266 Revision 9 25 January 2021

requirements of the reporting manual and includes immediate notification to IPART, NSW Health, Department of Planning and Environment and other licenses and public water utilities.

The Water Operations Incident Management, Reporting and Investigation Procedure¹¹²⁴ provides flow diagrams that give an overview of incident management. This includes the requirement for the incident manager to assess, declare and classify the incident, make notifications, investigate, debrief and close out the incident. The flow diagram also includes responsibilities for notifying regulators.

The Incident Notification Protocol with NSW Health¹¹²⁵ was updated in February 2021 and includes the contact details of the relevant Public Health Units to be notified for each scheme.

It was noted in both documents above, that there is a recycled water event identified as 'recycled water delivered to customers below the AGWR values measured at the point of supply or point of use'. This appears to be an error and the event should be defined as recycled water delivered to customers that does not comply with the documented water quality criteria. It is noted that AGWR does not identify specific water quality criteria for recycled water and the water quality criteria are documented on the MS Progs for each scheme. A recommendation has been made to review the Water Operations Incident Management, Reporting and Investigation Procedure and Incident Notification Protocol with NSW Health to clearly define the recycled water event with reference to the documented water quality criteria.

- **REC-RW-2021-011 Review and update the Water Operations Incident Management, Reporting and Investigation Procedure and Incident Notification Protocol with NSW Health to ensure that the definition of a recycled water event refers to the documented water quality criteria for recycled water in the Water Quality Plan rather than referring to the Australian Guidelines for Water Recycling.**

Element 10

Document Control Policy and Procedure¹¹²⁶ states that all BMS documents are controlled using the BMS Library on SharePoint. During the site inspection at Pitt Town, the operator demonstrated the BMS system which included overarching licence plans, site-specific plans and procedures, forms and work instructions. In reviewing the documents provide in evidence, the following findings were noted:

- The footer on the LWC Control System Change Management policy¹¹²⁷ is inconsistent with the document control properties.
- The Box Hill - Stakeholders Emergency Contact List¹¹²⁸ was not reviewed and updated by the due date

A recommendation has been made to improve documentation.

- **REC-RW-2021-013 Establish review processes to ensure all documents are reviewed on time and do not have typographical and hyperlink errors.**

Element 11

Section 2.11.2 of the AGWR indicates that recycled water suppliers should establish processes for internal and external audits and Document and communicate audit results. Altogether has an Audit Procedure¹¹²⁹ that outlines the audit process. An Internal Audit Calendar¹¹³⁰ was shown that outlined the audits that should be undertaken. The audit procedure indicates that the outcomes of internal

¹¹²⁴ Water Operations Incident Management, Reporting and Investigation Procedure (Controlled COPY) AG-WAT-NSW-PR-OPS-2561 Version 3 22 March 2021

¹¹²⁵ Incident Notification Protocol with NSW Health (Controlled COPY) AG-ALL-NSW-PR-INC-1277 Revision 9 26 February 2021

¹¹²⁶ Document Control Policy and Procedure (Controlled COPY AG-ALL-AUS-PO-HSEQ-1234 revision 6 19/1/2021

¹¹²⁷ LWC Control System Management of Change Policy (CONTROLLED COPY) Revision 3 27 April 20120

¹¹²⁸ 3353 Box Hill - Stakeholders Emergency Contact List (Controlled COPY).pdf BH-WAT-NSW-RG-INC-3352

¹¹²⁹ 2352 Audit Procedure (Controlled COPY).pdf AG-ALL-AUS-PR-R&C-1364

¹¹³⁰ Internal Audit Calendar - Water

audits should go onto an action register. During the audit, Altogether explained that this is the Water Quality Improvement Plan, however the actions from internal audits had not been captured on the improvement plan, there was no evidence the actions had been allocated to a responsible person, progress tracked, or closed out. It is noted that some audit findings were closed out on the day of the audit, however ones that were not closed out were not captured in an action register or on the Water Quality Improvement Plan. A recommendation has been made to ensure the audit process is implemented as documented.

- **REC-RW-2021-014 Develop a process to capture and track the progress in implementing recommendations from internal audits on an action register or improvement program, as required by the procedure.**

Element 12

Section 2.12.2 of the AGWR indicates that recycled water suppliers should develop a recycled water quality management improvement plan and ensure the plan is communicated and implemented, and improvements are monitored.

The Water Quality Improvement Plan¹¹³¹ was provided and discussed in the audit. Inputs to the plan are documented on the 'Lists Ops' tab and include activities such as the risk register, Licence plan review and audit. There were many items on the register that do not have a completion date, and this makes it difficult to audit its implementation. A recommendation has been made to improve the documentation of the improvement plan to ensure that it is implemented.

- **REC-RW-2021-015 Ensure all items on the Improvement Plan have been allocated to a responsible party, communicated, and due dates for completion have been applied.**

9.2. Water Quality Plans - Sewage

WIC Reg Sch 1 cl. 14(3) A network operator must ensure its sewage management plan is fully implemented and kept under regular review and all its activities are carried out in accordance with the plan.

9.2.1. Summary of Findings

The audit has found that Altogether has generally implemented its Sewage Management Plan, however, the risk assessment methodology, which forms the basis of the Sewage Management Plan has not been implemented consistently, resulting in an under estimation of human health risk. Preventive measures for managing risk from the sewage services are identified, implemented and considered adequate.

The **non-compliance** is considered **non-material** as the deficiency does not impact on the Altogether's ability to assure controlled processes, public health or the environment.

9.2.2. Recommendations

The following recommendation has been identified to address the areas of non-compliance:

The Sewage MP identifies the AGWR as the reference for the risk assessments, and the approach identified in the RWQP. The RWQP identifies the Risk Assessment Protocol for Water Products and Services¹¹³² (the RAP) as the documented process for undertaking risk assessments. The RAP states that internal risk reviews will be undertaken annually, and external risk reviews will be undertaken biennially.

¹¹³¹ WQP Improvement Plan

¹¹³² Risk Assessment Protocol for Water Products and Services FS-WAT-NSW-PR-OPS-2466 Revision: 3 16 August 2020

The risk assessment includes the assessment of health and environmental risks in relation to sewage activities. In addition to the risk assessments, the Sewage MP states that ecological assessments will be undertaken as a part of development consent. The risk register for each scheme indicates that in July 2020, an internal risk review workshop was undertaken, and a risk review workshop was undertaken with NSW Health in August 2020. The document control properties identify the new risks that were added to the risk register, and the risks that were deleted are shown as a strike through in the register. In April 2021, a recycled water and sewage risk assessment covering the eight schemes was undertaken to address new risks and audit findings. Evidence includes the briefing pack¹¹³³, recycled water risk register¹¹³⁴ and updated sewage risk register¹¹³⁵.

The RAP includes consequence and likelihood descriptors that should be applied when assessing risk. The RAP states in Table 2 that 'Health risks on the sewage and recycled water risk registers are assessed using the AGWR matrix'. When reviewing the matrix, in the RAP, it was found that it was not consistent with the AGWR as the minor and negligible consequence descriptors in the RAP appear to exclude health impacts as detailed below:

- Minor ranking – Health impact minor - possible aesthetic or amenity impact, population impact small, isolated part of the scheme (zone or street)
- Insignificant ranking – Health impact negligible - undetectable impact (normal operations) population impact small, isolated part of the scheme (zone or street)

Altogether has advised verbally and in emails that these consequence categories do not exclude health impacts, however this is not clear from reading the documents.

It is noted that in the live consultation register¹¹³⁶, NSW Health provided comments on the risk assessment that do not appear to have been taken into consideration. NSW Health indicated '*Generally it is not appropriate to change the consequence in assessing risk. Controls address the likelihood; i.e. the likelihood is reduced but the consequence remains the same*' however there are many instances in the risk register where this advice has not been followed and the control measures do not appear to reduce the consequence but the residual consequence has been reduced (refer to findings of the risk assessment below).

There are instances where health consequences have been reduced, when it is unclear how the control measures reduce the health impact, for example, there is one risks in the Box Hill risk register (SC1.4,) that include human contact with wastewater causing a *public health impact*, that is reduced from possible/ moderate to rare/minor. It is noted that the controls may reduce the instance of this occurring, but it is not clear how the controls reduce the consequence of a public health impact due to wastewater contact. Additionally, as noted in the recycled water audit findings, frequency descriptors were not consistently applied. For example, Box Hill Scheme Risk Register¹¹³⁷ was provided. Box Hill has had 4 uncontained sewer overflows that have occurred within the immediate local environment. SC1.1 Infiltration/inflow in private on-lot plumbing leading to overflow leading to contamination of immediate local environment and contamination of downstream water. SC1.2 and 1.3 also relate to overflows to the local environment. The frequency for the residual risk is assessed as unlikely (could occur within 20 year or in unusual circumstances). This is not consistent with the number of overflows that have occurred and have affected the immediate local environment.

A recommendation has been made to ensure the documented risk assessment methodology has been consistently implemented.

¹¹³³ Recycled Water & Sewage Risk Workshop Briefing Pack Apr2021

¹¹³⁴ Updated risks_Recycled water risk register

¹¹³⁵ Updated risks_Sewage risk register

¹¹³⁶ LIVE_Register_Consultation with NSW Health

¹¹³⁷ Box Hill Scheme Risk Register BH-WAT-NSW-RG-OPS-2486 V3.3 20 October 2020

- **REC-Sewage-2021-001** Review the risk assessments or risk assessment methodology to ensure that consequence values align with the risk being assessed, for example, where the consequence descriptor is limited to aesthetic or undetectable, these cannot be attributed to a risk that has an acute health impact. Frequencies should also be applied taking into consideration historical performance and the occurrence of incidents. Any reduction in consequence should be justified.

9.3. Water Quality Plans - Operational Procedures

NOL Sch A cl 2.2 The Licensee must: a) fully implement the Operational Procedures (as noted in NOL Sch A, cl 2.1); b) ensure that all of its activities are carried out in accordance with the Operational Procedures; and c) keep records to demonstrate the extent to which the Operational Procedures have been implemented and complied with.

9.3.1. Summary of Findings

Altogether provided evidence that the Operational Procedures required under the relevant clause of the NOL for each scheme have been implemented for the following activities:

- monitoring protocols
- corrective actions
- rapid communication
- inspection and maintenance.

Altogether was found to have implemented the procedures required under the relevant licence clauses and was found to be compliant with this requirement.

9.3.2. Recommendations

No recommendations have been identified for this clause of the licence.

9.4. Water Quality Plans – Monitoring and Analysis

- NOL Sch B cl.7.1 The Licensee must undertake any monitoring that is required for the purposes of this Licence, any Plan, the Act or the Regulation in accordance with this clause 7.
- NOL Sch B cl.7.2 The Licensee must keep the following records of any samples taken for monitoring purposes specified in the Water Quality Plan: a) the date on which the sample was taken; b) the time at which the sample was collected; c) the point or location at which the sample was taken; and d) the chain of custody of the sample (if applicable).
- NOL Sch B cl.7.3 The Licensee must ensure that analyses of all samples taken for the purposes of Verification Monitoring are carried out by a laboratory accredited for the specified tests by an independent body that is acceptable to NSW Health, such as the National Association of Testing Authorities or an equivalent body.

9.4.1. Summary of Findings

Altogether was found to have implemented the monitoring required under the relevant licence clauses and was found to be compliant with NOL Sch B cl.7.1

Altogether was found to have kept the records of the monitoring required under the relevant licence clauses and was found to be compliant with NOL Sch B cl.7.2.

Altogether was found to have water quality analysis undertaken by a NATA accredited laboratory required under the relevant licence clauses and was found to be compliant with NOL Sch B cl.7.3.

9.4.2. Recommendations

No recommendations have been identified for this clause of the licence.

9.5. Infrastructure Operating Plan

WIC Reg Sch 1 cl. 6(1) – Water: Before commencing to operate water infrastructure commercially, the licensed network operator for the infrastructure must prepare, and forward to IPART, an infrastructure operating plan that indicates the arrangements that the licensee has made, or proposes to make, in relation to:

- a) the design, construction, operation and maintenance of the infrastructure, including particulars as to the lifespan of the infrastructure, the system redundancy built into the infrastructure and the arrangements for the renewal of the infrastructure, and
- b) the continued safe and reliable performance of the infrastructure, and
- c) the continuity of water supply, and
- d) alternative water supplies when the infrastructure is inoperable, and
- e) the maintenance, monitoring and reporting of standards of service.

WIC Reg Sch 1 cl. 6(2) – Water: The network operator must ensure that the infrastructure operating plan is fully implemented and kept under regular review and all of the network operator's activities are carried out in accordance with that plan.

WIC Reg Sch 1 cl. 13(1) – Sewerage: Before commencing to operate sewerage infrastructure commercially, the licensed network operator for the infrastructure must prepare, and forward to IPART, an infrastructure operating plan that indicates the arrangements that the licensee has made, or proposes to make, in relation to:

- a) the design, construction, operation and maintenance of the infrastructure, including particulars as to the lifespan of the infrastructure, the system redundancy built into the infrastructure and the arrangements for the renewal of the infrastructure, and
- b) the continued safe and reliable performance of the infrastructure, and
- c) the continuity of sewerage services, and
- d) alternative sewerage services when the infrastructure is inoperable, and
- e) the maintenance, monitoring and reporting of standards of service.

WIC Reg Sch 1 cl. 13(2) – Sewerage: The infrastructure operating plan is fully implemented and kept under regular review and all of the network operator's activities are carried out in accordance with that plan.

9.5.1. Summary of Findings

Altogether was found to have prepared an IOP that meets the requirements of the licence clause and was found to be compliant with WIC Reg Sch 1 cl. 6(1).

Altogether was found to have implemented the IOP and was found to be compliant with WIC Reg Sch 1 cl. 6(2).

Altogether was found to have prepared an IOP that meets the requirements of the licence clause and was found to be compliant with WIC Reg Sch 1 cl. 13(1).

Altogether was found to have implemented the IOP and was found to be compliant with WIC Reg Sch 1 cl. 13(2).

9.5.2. Recommendations

No recommendations have been identified for this clause of the licence.

9.6. Incident Notification

WIC Reg Sch 1 cl. 1(2)(a) A network operator must immediately notify

- a) IPART, and
- b) The Minister administering the Public Health Act 2010, and
- c) the Minister administering Part 2 of the Water Industry Competition Act 2006 (NSW), and
- d) NA, and
- e) any licensed network operator or public water utility whose infrastructure is connected to the licensed network operator's infrastructure, of any incident in the conduct of its activities that threatens, or could threaten, water quality, public health or safety.

9.6.1. Summary of findings

Based on the records identified in Table 10 it was found that Altogether complied with its requirements to notify the identified stakeholders in accordance with the requirements of WIC Reg Sch 1 cl. 1(2)(a).

9.6.2. Recommendations

No recommendations have been identified for this clause of the licence.

9.7. Compliance findings to be checked

Altogether has largely closed out the previous compliance findings, the details of each non-compliance are included below.

Description	Clause Ref.	Grade	Auditor to check	Evidence
<p>This clause was found to be non-compliant (non-material) based on the auditor's findings:</p> <ul style="list-style-type: none"> the risk assessment had not been reviewed by the due date and did not reflect current circumstances of the scheme Incident Management Procedures do not provide corrective 	WIC Reg Sch 1 cl 7(4)(a)	Non-compliant (Non-material)	Check that RA and Incident management procedures are current, and recommendations from Operational Audit (Viridis, August 2020) are implemented	<p>The Box Hill Operational Audit (Viridis, August 2020) made the following recommendations:</p> <ul style="list-style-type: none"> BH-REC-2020-001 Review and update the risk assessment to ensure it comprehensively identified hazardous events, reflects the current circumstances of the scheme and the risk methodology has been consistently applied. <p>The Box Hill Scheme Risk Register¹¹³⁸ (drinking and recycled water) indicates that in July 2020, an internal risk review workshop was undertaken, and a risk review workshop was undertaken with NSW Health in August 2020. The document control properties identify the new risks that were added to the risk register,</p>

¹¹³⁸ Box Hill Scheme Risk Register (Controlled COPY).pdf BH-WAT-NSW-RG-OPS-2486

<p>responses for protozoan risk, and</p> <ul style="list-style-type: none"> the Incident Management Plan and Water Quality Incident Management, Reporting and Investigation Procedure had not been reviewed and updated annually or in response to an incident, as required. 				<p>and the risks that were deleted are shown as a strike through in the register.</p> <ul style="list-style-type: none"> BH-REC-2020-002 Review and update the Incident Management Plan and the Water Quality Incident Management, Reporting and Investigation Procedure as required (annually and in response to an incident) <p>The Incident Management Plan¹¹³⁹ (IMP) provides the overarching framework for Altogether's incident management plan and was updated in January 2021.</p> <p>The Water Operations Incident Management, Reporting and Investigation Procedure¹¹⁴⁰ provides flow diagrams that give an overview of incident management and was updated in March 2021.</p> <p>The Incident Notification Protocol with NSW Health¹¹⁴¹ was updated in February 2021.</p> <ul style="list-style-type: none"> BH-REC-2020-003 Ensure the incident response documentation provides guidance on relevant incidents including but not limited to protozoan water quality non-compliances. <p>The out-of-specification procedure¹¹⁴² includes the process for investigation when an out-of-specification parameter is detected. The process includes notifying stakeholders, retesting the out-of-specification parameter, and checking treatment processes. This is considered adequate to cover protozoan risk.</p> <p>The non-compliance has been closed out.</p> <p>Note: additional findings on the risk assessment for this audit.</p>
<p>This clause was found to be non-compliant (non-material) based on the auditor's findings:</p> <ul style="list-style-type: none"> the risk assessment had not been reviewed by the due date and did not reflect the current circumstances of the scheme, and 	<p>WIC Reg Sch 1 cl 14(3)(a)</p>	<p>Non-compliant (Non-material)</p>	<p>Check that RA and Incident management procedures are current, and recommendations from Operational Audit (Viridis, August 2020) are implemented</p>	<p>The Box Hill Operational Audit (Viridis, August 2020) made the following recommendations:</p> <ul style="list-style-type: none"> BH-REC-2020-001 Review and update the risk assessment to ensure it comprehensively identified hazardous events, reflects the current circumstances of the scheme and the risk methodology has been consistently applied. <p>The Box Hill Scheme Risk Register¹¹⁴³ (drinking and recycled water) indicates that in July 2020, an internal risk review workshop was undertaken, and a risk review workshop was undertaken with NSW Health in August 2020.</p>

¹¹³⁹ Incident Management Plan (IMP) (Controlled COPY) AG-ALL-AUS-PL-INC-1266 Revision 9 25 January 2021

¹¹⁴⁰ Water Operations Incident Management, Reporting and Investigation Procedure (Controlled COPY) AG-WAT-NSW-PR-OPS-2561 Version 3 22 March 2021

¹¹⁴¹ Incident Notification Protocol with NSW Health (Controlled COPY) AG-ALL-NSW-PR-INC-1277 Revision 9 26 February 2021

¹¹⁴² 3512 Discovery Point Recycled Water Out of Specification Work Instruction (Controlled COPY).pdf DP-WAT-NSW-WI-OPS-3474

¹¹⁴³ Box Hill Scheme Risk Register (Controlled COPY).pdf BH-WAT-NSW-RG-OPS-2486

<ul style="list-style-type: none"> the Incident Management Procedures (Incident Management Plan and Water Quality Incident Management, Reporting and Investigation Procedure) had not been reviewed and updated by the due date. The auditor made some recommendations. 				<p>The document control properties identify the new risks that were added to the risk register, and the risks that were deleted are shown as a strike through in the register.</p> <ul style="list-style-type: none"> BH-REC-2020-002 Review and update the Incident Management Plan and the Water Quality Incident Management, Reporting and Investigation Procedure as required (annually and in response to an incident) <p>The Incident Management Plan¹¹⁴⁴ (IMP) provides the overarching framework for Altogether's incident management plan and was updated in January 2021.</p> <p>The Water Operations Incident Management, Reporting and Investigation Procedure¹¹⁴⁵ provides flow diagrams that give an overview of incident management and was updated in March 2021.</p> <p>The Incident Notification Protocol with NSW Health¹¹⁴⁶ was updated in February 2021.</p> <ul style="list-style-type: none"> BH-REC-2020-003 Ensure the incident response documentation provides guidance on relevant incidents including but not limited to protozoan water quality non-compliances. <p>The out-of-specification procedure¹¹⁴⁷ includes the process for investigation when an out-of-specification parameter is detected. The process includes notifying stakeholders, retesting the out-of-specification parameter, and checking treatment processes. This is considered adequate to cover protozoan risk.</p> <p>The non-compliance has been closed out.</p> <p>Note: additional findings on the risk assessment for this audit.</p>
--	--	--	--	---

¹¹⁴⁴ Incident Management Plan (IMP) (Controlled COPY) AG-ALL-AUS-PL-INC-1266 Revision 9 25 January 2021

¹¹⁴⁵ Water Operations Incident Management, Reporting and Investigation Procedure (Controlled COPY) AG-WAT-NSW-PR-OPS-2561 Version 3 22 March 2021





¹¹⁴⁶ Incident Notification Protocol with NSW Health (Controlled COPY) AG-ALL-NSW-PR-INC-1277 Revision 9 26 February 2021

¹¹⁴⁷ 3512 Discovery Point Recycled Water Out of Specification Work Instruction (Controlled COPY).pdf DP-WAT-NSW-WI-OPS-3474

APPENDIX H SUMMARY OF FINDINGS PITT TOWN WATER

10. OVERALL SUMMARY

This section provides a summary of the findings, detailed findings and discussions are in Appendix A. The table below provides an overview of the level of compliance for Pitt Town Water. Pitt Town Water (Altogether) is the licensee.

Compliance Grades	Number of Findings	
	Compliant	9
	Non-compliant (non-material)	1
	Non-compliant (material)	1
	No requirement	1

Audit findings are summarised by obligation in the sections below.

10.1. Water Quality Plans - Recycled Water

WIC Reg Sch 1 cl. 7(4) The network operator must ensure that its recycled water quality plan is fully implemented and kept under regular review and the network operator's activities are carried out in accordance with that plan.

10.1.1. Summary of Findings

The audit has identified a number of gaps in the implementation of the Recycled Water Quality Plan¹¹⁴⁸ (RWQP) and its supporting programs due to inconsistent implementation the documented risk assessment methodology leading to an underestimation of health risks, inadequacy of the current cross-connection audit program, and failure to implement the current program for cross-connection auditing. In addition, a number of minor inconsistencies in the implementation of the recycled water quality plan and the supporting documentation were identified.

Altogether did not provide sufficient verifiable evidence that its RWQP is fully implemented, and it is the auditor's finding that the deficiency adversely affects Altogether's ability to assure controlled processes, products and outcomes and protect public health.

A grading of **non-compliant material** is awarded to WIC Reg Sch 1 cl. 7(4).

Recommendations have been identified below. Opportunities for improvement have been identified in the combined audit summary and detailed findings in Appendix A.

10.1.2. Recommendations

The following recommendations have been identified to address the areas of non-compliance:

Element 1

¹¹⁴⁸ Recycled Water Quality Plan AG-WAT-AUS-PL-OPS-1311 Revision: 17 27 April 2021

The AGWR in Section 2.1.3 indicates that recycled water suppliers should identify all stakeholders (including the public) affecting, or affected by, decisions or activities related to the use of recycled water and engage users of recycled water; ensure responsibilities are identified and understood.

Section A1.3.3 of the RWQP states that the Stakeholder and Emergency contact list includes the public. Section A1.3.4 of the RWQP identifies scheme specific community website, bills, customer contract, SMS and email messages, project delivery agreements, Project Control Group and Homeowners Guide as methods for engaging with developers, customers and tenants. The Altogether Flow WICA Licences - Authorised Purposes Matrix¹¹⁴⁹ identifies irrigation as an authorised purposes for the Pitt Town Scheme. When reviewing the scheme specific list, 'Public Stakeholders' are listed however the list is silent on how Altogether communicates with members of the public who are not residents and who access areas with recycled water in use to ensure responsibilities are understood by the public (for example signage in irrigation areas warning that recycled water is in use).

A recommendation has been made to establish a process to identify all potential recycled water users and ensure there is a process for communicating responsibilities to all identified recycled water users. It is considered that appropriate mechanisms have not been developed and effectively employed for members of the public (end users) accessing areas where they may be exposed to recycled water. It is noted that the Stakeholder and Emergency Contact list may not be the most appropriate mechanism for identifying and engaging with the public.

- **REC-RW-2021-003 Review and update stakeholder lists or equivalent to reflect all potential stakeholders and the methods for engagement, including engaging with the public.**

When visiting the Pitt Town LWC, interpretive signage on the treated recycled water tanks referred to recycled water as 'purified water', which has the potential to confuse visitors to the LWC, including the public, about the type of water, the risks and responsibilities for reduce exposure. A recommendation has been made to identify and remove unsuitable signage.

- **REC-RW-2021-004 Undertake an internal audit of interpretive signage at all Altogether sites and remove any references to 'purified' water and ensure all relevant signage refers to recycled water.**

The AGWR (Section 2.1.4) recommends that the recycled water policy should provide a basis for developing more detailed guiding principles and implementation strategies. AGWR includes the broad issues that the recycled water policy should address including for example, intention to adopt best-practice management and a multiple-barrier approach.

The Recycled Water Policy¹¹⁵⁰ states that Altogether will implement and maintain recycled water management system consistent with the AGWR and all managers and personnel are responsible for implementing, maintain and continuously improving the recycled water management system.

During the audit, Altogether team members (Water Operations Manager 31 May 2021) responsible for implementing the preventive measures in the risk assessment indicated that there have been insufficient resources to implement some processes (for example when discussing the implementation of the *Minimising the Risk of Cross-Connection Checks Policy and Procedure*¹¹⁵¹), and the agreed compliance program (Executive Manager – Risk & Compliance 15 June 2021) with IPART has affected Altogether's ability to allocate sufficient resources to RWQP implementation.

¹¹⁴⁹ 2919 Altogether WICA Licences - authorised purposes matrix (Controlled COPY).pdf AG-WAT-NSW-RG-OPS-2918

¹¹⁵⁰ Recycled Water Policy AG-WAT-AUS-PO-OPS-1310 Revision: 3 21 July 2020

¹¹⁵¹ Minimising the risk of cross-connection checks policy and procedure (Controlled COPY).pdf FS-ALL-AUS-PO-OPS-2544

Additionally, when gaps in implementation (for example the implementation of the risk assessment methodology) were identified during the audit, Altogether representatives (Water Quality Systems Manager 31 May 2021) indicated in some instances that external consultants had undertaken the works and could not explain how the process was implemented.

Additionally, it was indicated that in cases where recycled water is used in public spaces, that the public should have the 'common sense' to know that recycled water is in use, without signage being installed (Technical Operations Lead 9 June 2021). This approach does not appear to adequately cover protecting the most vulnerable members of the community. It is the auditor's finding that Altogether has not fully implemented its recycled water policy due to gaps in risk management, failure to implement procedures in relation to cross-connection auditing, failure to take ownership for managing risk and by not allocating adequate resources for the implementation of the RWQP and supporting programs

A recommendation has been made to improve implementation of the recycled water policy and to ensure recycled water risk is well understood.

- **REC-RW-2021-005 Implement a program to increase staff awareness of recycled water risks, improve ownership for managing risk and allocation of adequate resources to implement licence plans and meet regulatory requirements.**

Element 2

The AGWR indicates that water suppliers should identify and document hazards and hazardous events, and estimate risk. Section 2.4 of the RWQP identifies the Risk Assessment Protocol for Water Products and Services¹¹⁵² (the RAP) as the documented process for undertaking risk assessments. The RAP includes consequence and likelihood descriptors that should be applied when assessing risk. The RAP states in Table 2 that 'Health risks on the sewage and recycled water risk registers are assessed using the AGWR matrix'. When reviewing the matrix, in the RAP, it was found that it was not consistent with the AGWR as the minor and negligible consequence descriptors in the RAP appear to exclude health impacts as detailed below:

- Minor ranking – Health impact minor - possible aesthetic or amenity impact, population impact small, isolated part of the scheme (zone or street)
- Insignificant ranking – Health impact negligible - undetectable impact (normal operations) population impact small, isolated part of the scheme (zone or street)

Altogether has advised verbally and in emails that these consequence categories do not exclude health impacts, however this is not clear from reading the documents. Furthermore, there are a number of health impacts identified in the risk assessment that have been assigned 'insignificant' grading, which describes a health impact as 'negligible', and 'undetectable' and 'normal operations'. It is difficult to justify how a health impact from exposure to recycled water is part of 'normal operations'.

There are a number of instances in the risk assessment¹¹⁵³ where health risks have been assessed as insignificant for example:

- RL1.6 Human health impacts 'Pathogens present in recycled water supplied to customers, causing health impacts for customers' 'Exceedance of AGWR health guideline value'

¹¹⁵² Risk Assessment Protocol for Water Products and Services FS-WAT-NSW-PR-OPS-2466 Revision: 3 16 August 2020

¹¹⁵³ 2664 Pitt Town Scheme Risk Register (Controlled COPY) PT-WAT-NSW-RG-OPS-2664.pdf PT-WAT-NSW-RG-OPS-2664

- RD1.4 Human health impacts from on lot and network cross connections' 'Recycled water entering potable water plumbing in home' 'Pathogens present in water supplied to consumers, causing health impacts for consumers' 'Exceedance of ADWG health guideline value'

It is noted that in the live consultation register¹¹⁵⁴, NSW Health provided comments on the risk assessment that do not appear to have been taken into consideration. NSW Health indicated *'Generally it is not appropriate to change the consequence in assessing risk. Controls address the likelihood; i.e. the likelihood is reduced but the consequence remains the same'* however there are many instances in the risk register where this advice has not been followed and the control measures do not appear to reduce the consequence but the residual consequence has been reduced (refer to findings of the risk assessment below).

In reviewing the risk assessments for all schemes, the auditor identified the following inconsistencies in the application of the RAP when assessing risk:

- Risk SC1.4 a and b relating to sewage overflows, leading to 'Human contact with wastewater causing public health impact'. The maximum likelihood is almost certain and moderate consequence. Moderate is described as 'Potential for some increase in disease burden'. The control measures include processes such as use of contractors, isolation of spills, complaints handling and communication. Whilst these control measures may reduce the frequency of a public health impact it is unclear how these reduce the consequence of a public health impact to minor, which is 'Possible aesthetic or amenity impact'.
- EU1.15 Risk of inadvertent connections between recycled water and potable water (e.g. public bubblers?) leading to 'Illness from ingestion of recycled water'. Preventive measures are education, communication protocols and the emergency procedures resulting in a residual risk rated minor, which is 'Minor, Possible aesthetic or amenity impact'.
- RD1.4 On-lot cross-connections residual risk is assessed as 'insignificant' which is described as an 'undetectable impact (normal operations). It is unclear how an on-lot cross-connection is part of normal operation. This risk certainty is 1 which means 'certain' however Altogether have only undertaken 3 cross-connection audits across 8 schemes with approximately 8146 recycled water customer connections in the audit period, therefore the risk level is unknown and uncertain. During the audit interviews numerous Altogether team members (Water Operations Manager 31 May 2021, Executive Manager – Sustainable Utility Services 15 June 2021) stated that cross-connections do not occur in the Altogether schemes because the houses and development are 'new'. This is contrary to industry knowledge and experience as documented in literature^{1155 1156 1157 1158}. This is considered a significant gap in understanding risk and taking responsibility for managing risk.

Based on the review of the scheme specific risk registers against the requirements of the RAP, it was found that the RAP was not consistently implemented in the audit period, resulting in an underestimation of health risk and there was ambiguity about the health impacts captured in the consequence descriptors. A recommendation has been made to ensure the risk assessment consistently assesses risks.

¹¹⁵⁴ LIVE_Register_Consultation with NSW Health

¹¹⁵⁵ A. C. Hambly, R. K. Henderson, A. Baker, R. M. Stuetz & S. J. Khan (2012) Cross-connection detection in Australian dual reticulation systems by monitoring inherent fluorescent organic matter, *Environmental Technology Reviews*, 1:1, 67-80, DOI: 10.1080/09593330.2012.696724

¹¹⁵⁶ Water Source <https://watersource.awa.asn.au/publications/technical-papers/third-pipe-water-recycling/>

¹¹⁵⁷ Risks to the long-term viability of residential non-potable water schemes: a review https://watersensitivecities.org.au/wp-content/uploads/2016/05/TMR_C3-1_RisksViabilityNonPotableWater.pdf

¹¹⁵⁸ Muston, M. H. (2012). *Changing of the water recycling paradigm in Australia. Water Science and Technology: Water Supply*, 12(5), 611–618. doi:10.2166/ws.2012.034

- **REC-RW-2021-006 Review the risk assessments or risk assessment methodology to ensure that consequence values align with the risk being assessed, for example, where the consequence descriptor of insignificant, aesthetic or negligible cannot be attributed to a risk that has an acute health impact. Frequencies should also be applied taking into consideration historical performance and the occurrence of incidents. Any reduction in consequence should be justified.**

Element 3

Section 2.3.2 of the AGWR includes requirements for monitoring CCPs and establishing mechanisms for operational control. The Pitt Town CCP Table¹¹⁵⁹ identifies the monitoring of CCPs, however when reviewing the Monitoring and Sampling Program, it was noted that some of the CCP parameters were not captured, for example Contact time which is a critical limit.

A recommendation has been made to ensure that the operational monitoring program is correctly documented on the MS Prog, or relevant alternative.

REC-RW-2021-008 Review the scheme specific monitoring and sampling programs to ensure they include all operational parameters or develop a separate comprehensive operational monitoring program.

Element 4

Section 2.4.1 of the AGWR indicates that recycled water suppliers should identify procedures required for all processes and activities applied within the whole recycled water system (source to use). To determine a suitable procedure for this audit, the Central Park risk assessment was reviewed and a relevant hazard, cross connections between the recycled and drinking water network, was selected and the procedure for minimising cross-connections was chosen as a sample procedure for a more detailed audit. The Minimising the Risk of Cross-Connection Checks Policy and Procedure¹¹⁶⁰ was provided and discussed at the audit. The document control properties indicate that the procedure was established in December 2018 and updated in June 2019. The procedure in Section 8.4.2 states that 'The risk of cross-connections and unauthorised tap-ins increases with time as plumbing and network changes are made and the number of connections increases.' Section 8.4.3 of the policy states that:

'Flow has received advice that the water industry has determined that conducting cross-connection checks of 20% of all connections annually is not effective and is moving towards a risk-based approach. Flow is committed to implementing a risk-based, prioritised, statistically significant ongoing inspection program.'

'Flow will conduct a statistically significant set of one of the following types of tests on three streets in a scheme or three units in a high rise building annually, to confirm that there are no cross-connections between potable and recycled water systems or tap-ins of potable to recycled water fittings:

- 1. flow tests*
- 2. electrical conductivity (EC) tests and/or*
- 3. chlorine/chloramine tests, or similar.'*

When reviewing the requirements of the procedure, it was noted that the water industry advice (referenced in the policy) that Altogether has received was not documented and it was not possible to verify if the advice was documented or from where in the industry it was sourced from, for example an accepted industry standard or peer reviewed document. Altogether provided a range of

¹¹⁵⁹ 2898 Pitt Town - Control Points (CONTROLLED COPY).pdf PT-WAT-NSW-PL-OPS-1291

¹¹⁶⁰ Minimising the risk of cross-connection checks policy and procedure (Controlled COPY).pdf FS-ALL-AUS-PO-OPS-2544

emails^{1161 1162} written by Altogether staff, summarising what appears to be verbal advice from a consultant, however there does not appear to be verifiable evidence of the advice. It is noted that an email states *'[Consultant name] has advised us that based on his conversations with Health the "magic number is 3 – i.e. 3 streets in a scheme, 3 units in a building" and not 20% of all connections annually as we previously targeted.'* NSW Health acceptance of this advice could not be verified.

When reviewing the implementation of the Minimising the Risk of Cross-Connection Checks Policy and Procedure it was unclear what a 'statistically significant' number of tests would equate to and how this will relate to three streets or three units in a high rise. The AGWR in Table 2.8 provides examples of potential operational criteria and monitoring, suggesting an ongoing cross-connection program, rolling 6-monthly audits with all properties audited at least every 5 years. Whilst the AGWR provides an example of an acceptable cross connection program, this audit has found that the existing Minimising the Risk of Cross-Connection Checks Policy and Procedure is not clear on the number of audits that need to be taken for each scheme and how the properties to be audited are to be chosen to ensure they are representative.

There was one record of one cross connection audit undertaken at Pitt Town in the audit period. The Minimising the Risk of Cross-Connection Checks Policy and Procedure has not been implemented as documented. Additionally, during the audit interviews Altogether staff advised (Water Operations Manager 31 May 2021) that there are insufficient staff resources to undertake a planned cross-connection program.

A recommendation has been made to implement an ongoing cross-connection audit program that is adequate to control the risk of on-lot cross connections.

- **REC-RW-2021-009 Review the Minimising the Risk of Cross-Connection Checks Policy and Procedure to ensure that it clearly identifies the number of connections to be audited, audit procedure and the record keeping requirements. Ensure that the ongoing cross-connection audit program is adequate to control the risk of on-lot cross connections noting that the AGWR suggests a rolling 6-monthly audits with all properties audited at least every 5 years as an example of appropriate cross connection monitoring.**

Element 6

Section 2.6.2 of the AGWR indicates that a recycled water supplier should define potential incidents and emergencies, and document procedures and response plans. The Recycled Water Quality Plan¹¹⁶³ provides a diagram in Section 6 which depicts the framework for managing recycled water incidents and emergencies. The Incident Management Plan¹¹⁶⁴ (IMP) provides the overarching framework for Altogether's incident management. The IMP in Section 5.1.3 identifies the requirements of the reporting manual and includes immediate notification to IPART, NSW Health, Department of Planning and Environment and other licenses and public water utilities.

The Water Operations Incident Management, Reporting and Investigation Procedure¹¹⁶⁵ provides flow diagrams that give an overview of incident management. This includes the requirement for the incident manager to assess, declare and classify the incident, make notifications, investigate, debrief and close out the incident. The flow diagram also includes responsibilities for notifying regulators.

The Incident Notification Protocol with NSW Health¹¹⁶⁶ was updated in February 2021 and includes the contact details of the relevant Public Health Units to be notified for each scheme.

¹¹⁶¹ Cross connection workshop with [Consultant Name] 28/11/2018

¹¹⁶² Proposed "Minimising the risk of cross-connection and tap-ins policy and procedure" 11/12/2018

¹¹⁶³ Recycled Water Quality Plan AG-WAT-AUS-PL-OPS-1311 Revision: 17 27 April 2021

¹¹⁶⁴ Incident Management Plan (IMP) (Controlled COPY) AG-ALL-AUS-PL-INC-1266 Revision 9 25 January 2021

¹¹⁶⁵ Water Operations Incident Management, Reporting and Investigation Procedure (Controlled COPY) AG-WAT-NSW-PR-OPS-2561 Version 3 22 March 2021

¹¹⁶⁶ Incident Notification Protocol with NSW Health (Controlled COPY) AG-ALL-NSW-PR-INC-1277 Revision 9 26 February 2021

It was noted in both documents above, that there is a recycled water event identified as 'recycled water delivered to customers below the AGWR values measured at the point of supply or point of use'. This appears to be an error and the event should be defined as recycled water delivered to customers that does not comply with the documented water quality criteria. It is noted that AGWR does not identify specific water quality criteria for recycled water and the water quality criteria are documented on the MS Progs for each scheme. A recommendation has been made to review the Water Operations Incident Management, Reporting and Investigation Procedure and Incident Notification Protocol with NSW Health to clearly define the recycled water event with reference to the documented water quality criteria.

- **REC-RW-2021-011 Review and update the Water Operations Incident Management, Reporting and Investigation Procedure and Incident Notification Protocol with NSW Health to ensure that the definition of a recycled water event refers to the documented water quality criteria for recycled water in the Water Quality Plan rather than referring to the Australian Guidelines for Water Recycling.**

Element 10

Document Control Policy and Procedure¹¹⁶⁷ states that all BMS documents are controlled using the BMS Library on SharePoint. During the site inspection at Pitt Town, the operator demonstrated the BMS system which included overarching licence plans, site-specific plans and procedures, forms and work instructions. In reviewing the documents provide in evidence, the following findings were noted:

- The footer on the LWC Control System Change Management policy¹¹⁶⁸ is inconsistent with the document control properties.
- Hyperlinks and fields in the Scheme Management Plan¹¹⁶⁹ contained errors.

A recommendation has been made to improve documentation.

- **REC-RW-2021-013 Establish review processes to ensure all documents are reviewed on time and do not have typographical and hyperlink errors.**

Element 11

Section 2.11.2 of the AGWR indicates that recycled water suppliers should establish processes for internal and external audits and Document and communicate audit results. Altogether has an Audit Procedure¹¹⁷⁰ that outlines the audit process. An Internal Audit Calendar¹¹⁷¹ was shown that outlined the audits that should be undertaken. The audit procedure indicates that the outcomes of internal audits should go onto an action register. During the audit, Altogether explained that this is the Water Quality Improvement Plan, however the actions from internal audits had not been captured on the improvement plan, there was no evidence the actions had been allocated to a responsible person, progress tracked, or closed out. It is noted that some audit findings were closed out on the day of the audit, however ones that were not closed out were not captured in an action register or on the Water Quality Improvement Plan. A recommendation has been made to ensure the audit process is implemented as documented.

- **REC-RW-2021-014 Develop a process to capture and track the progress in implementing recommendations from internal audits on an action register or improvement program, as required by the procedure.**

¹¹⁶⁷ Document Control Policy and Procedure (Controlled COPY AG-ALL-AUS-PO-HSEQ-1234 revision 6 19/1/2021

¹¹⁶⁸ LWC Control System Management of Change Policy (CONTROLLED COPY) Revision 3 27 April 20120

¹¹⁶⁹ 2494 Pitt Town Scheme Management Plan (Controlled COPY).pdf PT-WAT-NSW-PL-OPS-1410

¹¹⁷⁰ 2352 Audit Procedure (Controlled COPY).pdf AG-ALL-AUS-PR-R&C-1364

¹¹⁷¹ Internal Audit Calendar - Water

Element 12

Section 2.12.2 of the AGWR indicates that recycled water suppliers should develop a recycled water quality management improvement plan and ensure the plan is communicated and implemented, and improvements are monitored.

The Water Quality Improvement Plan¹¹⁷² was provided and discussed in the audit. Inputs to the plan are documented on the 'Lists Ops' tab and include activities such as the risk register, Licence plan review and audit. There were many items on the register that do not have a completion date, and this makes it difficult to audit its implementation. A recommendation has been made to improve the documentation of the improvement plan to ensure that it is implemented.

- **REC-RW-2021-015 Ensure all items on the Improvement Plan have been allocated to a responsible party, communicated, and due dates for completion have been applied.**

10.2. Water Quality Plans - Sewage

WIC Reg Sch 1 cl. 14(3) A network operator must ensure its sewage management plan is fully implemented and kept under regular review and all its activities are carried out in accordance with the plan.

10.2.1. Summary of Findings

The audit has found that Altogether has generally implemented its Sewage Management Plan, however, the risk assessment methodology, which forms the basis of the Sewage Management Plan has not been implemented consistently, resulting in an under estimation of human health risk. Preventive measures for managing risk from the sewage services are identified, implemented and considered adequate.

The **non-compliance** is considered **non-material** as the deficiency does not impact on the Altogether's ability to assure controlled processes, public health or the environment.

10.2.2. Recommendations

The following recommendation has been identified to address the areas of non-compliance:

The Sewage MP identifies the AGWR as the reference for the risk assessments, and the approach identified in the RWQP. The RWQP identifies the Risk Assessment Protocol for Water Products and Services¹¹⁷³ (the RAP) as the documented process for undertaking risk assessments. The RAP states that internal risk reviews will be undertaken annually, and external risk reviews will be undertaken biennially.

The risk assessment includes the assessment of health and environmental risks in relation to sewage activities. In addition to the risk assessments, the Sewage MP states that ecological assessments will be undertaken as a part of development consent. The risk register for each scheme indicates that in July 2020, an internal risk review workshop was undertaken, and a risk review workshop was undertaken with NSW Health in August 2020. The document control properties identify the new risks that were added to the risk register, and the risks that were deleted are shown as a strike through in the register. In April 2021, a recycled water and sewage risk assessment covering the eight schemes was undertaken to address new risks and audit findings. Evidence includes the briefing pack¹¹⁷⁴, recycled water risk register¹¹⁷⁵ and updated sewage risk register¹¹⁷⁶.

¹¹⁷² WQP Improvement Plan

¹¹⁷³ Risk Assessment Protocol for Water Products and Services FS-WAT-NSW-PR-OPS-2466 Revision: 3 16 August 2020

¹¹⁷⁴ Recycled Water & Sewage Risk Workshop Briefing Pack Apr2021

¹¹⁷⁵ Updated risks_Recycled water risk register

¹¹⁷⁶ Updated risks_Sewage risk register

The RAP includes consequence and likelihood descriptors that should be applied when assessing risk. The RAP states in Table 2 that 'Health risks on the sewage and recycled water risk registers are assessed using the AGWR matrix'. When reviewing the matrix, in the RAP, it was found that it was not consistent with the AGWR as the minor and negligible consequence descriptors in the RAP appear to exclude health impacts as detailed below:

- Minor ranking – Health impact minor - possible aesthetic or amenity impact, population impact small, isolated part of the scheme (zone or street)
- Insignificant ranking – Health impact negligible - undetectable impact (normal operations) population impact small, isolated part of the scheme (zone or street)

Altogether has advised verbally and in emails that these consequence categories do not exclude health impacts, however this is not clear from reading the documents.

It is noted that in the live consultation register¹¹⁷⁷, NSW Health provided comments on the risk assessment that do not appear to have been taken into consideration. NSW Health indicated '*Generally it is not appropriate to change the consequence in assessing risk. Controls address the likelihood; i.e. the likelihood is reduced but the consequence remains the same*' however there are many instances in the risk register where this advice has not been followed and the control measures do not appear to reduce the consequence but the residual consequence has been reduced (refer to findings of the risk assessment below).

There are instances where health consequences have been reduced, when it is unclear how the control measures reduce the health impact, for example, there is one risks in the Pitt Town risk register (SC1.4,) that include human contact with wastewater causing a *public health impact*, that is reduced from possible/ moderate to rare/minor. It is noted that the controls may reduce the instance of this occurring, but it is not clear how the controls reduce the consequence of a public health impact due to wastewater contact. Additionally, as noted in the recycled water audit findings, frequency descriptors were not consistently applied.

A recommendation has been made to ensure the documented risk assessment methodology has been consistently implemented.

- **REC-Sewage-2021-001 Review the risk assessments or risk assessment methodology to ensure that consequence values align with the risk being assessed, for example, where the consequence descriptor is limited to aesthetic or undetectable, these cannot be attributed to a risk that has an acute health impact. Frequencies should also be applied taking into consideration historical performance and the occurrence of incidents. Any reduction in consequence should be justified.**

10.3. Water Quality Plans - Operational Procedures

NOL Sch A cl 2.2 The Licensee must: a) fully implement the Operational Procedures (as noted in NOL Sch A, cl 2.1); b) ensure that all of its activities are carried out in accordance with the Operational Procedures; and c) keep records to demonstrate the extent to which the Operational Procedures have been implemented and complied with.

10.3.1. Summary of Findings

Altogether provided evidence that the Operational Procedures required under the relevant clause of the NOL for each scheme have been implemented for the following activities:

- monitoring protocols
- corrective actions

¹¹⁷⁷ LIVE_Register_Consultation with NSW Health

- rapid communication
- inspection and maintenance.

Altogether was found to have implemented the procedures required under the relevant licence clauses and was found to be compliant with this requirement.

10.3.2. Recommendations

No recommendations have been identified for this clause of the licence.

10.4. Water Quality Plans – Monitoring and Analysis

- NOL Sch B cl.8.1 The Licensee must undertake any monitoring that is required for the purposes of this Licence, any Plan, the Act or the Regulation in accordance with this clause 7.
- NOL Sch B cl.8.2 The Licensee must keep the following records of any samples taken for monitoring purposes specified in the Water Quality Plan: a) the date on which the sample was taken; b) the time at which the sample was collected; c) the point or location at which the sample was taken; and d) the chain of custody of the sample (if applicable).
- NOL Sch B cl.8.3 The Licensee must ensure that analyses of all samples taken for the purposes of Verification Monitoring are carried out by a laboratory accredited for the specified tests by an independent body that is acceptable to NSW Health, such as the National Association of Testing Authorities or an equivalent body.

10.4.1. Summary of Findings

Altogether was found to have implemented the monitoring required under the relevant licence clauses and was found to be compliant with NOL Sch B cl.8.1

Altogether was found to have kept the records of the monitoring required under the relevant licence clauses and was found to be compliant with NOL Sch B cl.8.2.

Altogether was found to have water quality analysis undertaken by a NATA accredited laboratory required under the relevant licence clauses and was found to be compliant with NOL Sch B cl.8.3.

10.4.2. Recommendations

No recommendations have been identified for this clause of the licence.

10.5. Infrastructure Operating Plan

WIC Reg Sch 1 cl. 6(1) – Water: Before commencing to operate water infrastructure commercially, the licensed network operator for the infrastructure must prepare, and forward to IPART, an infrastructure operating plan that indicates the arrangements that the licensee has made, or proposes to make, in relation to:

- a) the design, construction, operation and maintenance of the infrastructure, including particulars as to the lifespan of the infrastructure, the system redundancy built into the infrastructure and the arrangements for the renewal of the infrastructure, and
- b) the continued safe and reliable performance of the infrastructure, and
- c) the continuity of water supply, and
- d) alternative water supplies when the infrastructure is inoperable, and
- e) the maintenance, monitoring and reporting of standards of service.

WIC Reg Sch 1 cl. 6(2) – Water: The network operator must ensure that the infrastructure operating plan is fully implemented and kept under regular review and all of the network operator’s activities are carried out in accordance with that plan.

WIC Reg Sch 1 cl. 13(1) – Sewerage: Before commencing to operate sewerage infrastructure commercially, the licensed network operator for the infrastructure must prepare, and forward to IPART, an infrastructure operating plan that indicates the arrangements that the licensee has made, or proposes to make, in relation to:

- a) the design, construction, operation and maintenance of the infrastructure, including particulars as to the lifespan of the infrastructure, the system redundancy built into the infrastructure and the arrangements for the renewal of the infrastructure, and
- b) the continued safe and reliable performance of the infrastructure, and
- c) the continuity of sewerage services, and
- d) alternative sewerage services when the infrastructure is inoperable, and
- e) the maintenance, monitoring and reporting of standards of service.

WIC Reg Sch 1 cl. 13(2) – Sewerage: The infrastructure operating plan is fully implemented and kept under regular review and all of the network operator’s activities are carried out in accordance with that plan.

10.5.1. Summary of Findings

Altogether was found to have prepared an IOP that meets the requirements of the licence clause and was found to be compliant with WIC Reg Sch 1 cl. 6(1).

Altogether was found to have implemented the IOP and was found to be compliant with WIC Reg Sch 1 cl. 6(2).

Altogether was found to have prepared an IOP that meets the requirements of the licence clause and was found to be compliant with WIC Reg Sch 1 cl. 13(1).

Altogether was found to have implemented the IOP and was found to be compliant with WIC Reg Sch 1 cl. 13(2).

10.5.2. Recommendations

No recommendations have been identified for this clause of the licence.

10.6. Incident Notification

WIC Reg Sch 1 cl. 1(2)(a) A network operator must immediately notify

- a) IPART, and
- b) The Minister administering the Public Health Act 2010, and
- c) the Minister administering Part 2 of the Water Industry Competition Act 2006 (NSW), and
- d) NA, and
- e) any licensed network operator or public water utility whose infrastructure is connected to the licensed network operator’s infrastructure, of any incident in the conduct of its activities that threatens, or could threaten, water quality, public health or safety.

10.6.1. Summary of findings

Based on the records identified in Table 10 it was found that Altogether complied with its requirements to notify the identified stakeholders in accordance with the requirements of WIC Reg Sch 1 cl. 1(2)(a).

10.6.2. Recommendations

No recommendations have been identified for this clause of the licence.

10.7. Compliance findings to be checked

Altogether has largely closed out the previous compliance findings, the details of each non-compliance are included below.

Description	Clause Ref.	Grade	Auditor to check	Evidence
This clause was found to be non-compliant (non-material) based on the auditor's findings: the risk assessment had not been reviewed by the due date and did not reflect the current circumstances of the scheme, in particular the likelihood of sewage overflows had been underestimated, which was not consistent with the frequency of overflows that had occurred at the scheme as recorded in the incident register. The auditor also made some recommendations.	WIC Reg Sch 1 cl 14(3)(a)	Non-compliant (Non-material)	Check that Risk Assessment (RA) and Incident management procedures are current, and recommendations from Operational Audit (Viridis, August 2020) are implemented	<p>The Pitt Town Audit Report (Viridis August 2020) includes the following recommendations:</p> <ul style="list-style-type: none"> PT-REC-2020-001 Review and update the risk assessment to ensure it comprehensively identifies hazardous events, reflects the current circumstances of the scheme and the risk methodology has been consistently applied. PT-REC-2020-002 Review and update the Incident Management Plan and the Water Quality Incident Management, Reporting and Investigation Procedure as required (annually and in response to an incident). PT-REC-2020-003 Ensure the incident response documentation provides guidance on relevant incidents including but not limited to protozoan water quality non-compliances. <p>The Sewage Management Plan¹¹⁷⁸ (Sewage MP) was reviewed and updated in January 2021 and rebranded in March 2021. The risk assessment includes the assessment of health and environmental risks in relation to sewage activities. In addition to the risk assessments, the Sewage MP states that ecological assessments will be undertaken as a part of development consent. The risk register indicates that in July 2020, an internal risk review workshop was undertaken, and a risk review workshop was undertaken with NSW Health in August 2020. Pitt Town Risk Register¹¹⁷⁹ was finalised on 26/4/2021. Pitt Town experienced 4 uncontained sewage overflows (grouped as one incident in the</p>

¹¹⁷⁸ Sewage Management Plan (Sewage MP) (Controlled COPY) AG-WAT-AUS-PL-OPS-1328 Revision 9 16 March 2021

¹¹⁷⁹ Pitt Town Risk Register PT-WAT-NSW-RG-OPS-2664 V7.5 26/4/21

				<p>briefing pack) in 2019 and a contained overflow in 2014. Altogether, as a whole, has experienced 7 uncontained sewage overflows and 2 contained sewage overflows since 2014. The risk assessment assessed the frequency as 'likely', consistent with the number of overflows for this scheme.</p> <p>The Incident Management Plan¹¹⁸⁰ (IMP) provides the overarching framework for Altogether's incident management plan updated in January 2021.</p> <p>The Water Operations Incident Management, Reporting and Investigation Procedure¹¹⁸¹ provides flow diagrams that give an overview of incident management and was updated in March 2021.</p> <p>The Incident Notification Protocol with NSW Health¹¹⁸² was updated in February 2021.</p> <p>The audit found that Altogether has closed out the requirements of the non-compliance.</p> <p>Note: additional findings have been identified in this audit in relation to the updated risk assessment and incident procedures.</p>
<p>This clause was found to be non-compliant (non-material) based on the auditor's findings:</p> <ul style="list-style-type: none"> the risk assessment had not been reviewed and updated and did not reflect current circumstances. In particular the risk register does not include assessment of the risk associated with treated water tanks, which was a recent incident that occurred at Pitt Town. the Incident Management Plan and Water Quality Incident Management, Reporting and Investigation 	<p>WIC Reg Sch 1 cl 7(4)(a)</p>	<p>Non-compliant (Non-material)</p>	<p>Check that listed documents are current and recommendations from Operational Audit (Viridis, August 2020) are implemented</p>	<p>The Pitt Town Audit Report (Viridis August 2020) includes the following recommendations:</p> <ul style="list-style-type: none"> PT-REC-2020-001 Review and update the risk assessment to ensure it comprehensively identifies hazardous events, reflects the current circumstances of the scheme and the risk methodology has been consistently applied. PT-REC-2020-002 Review and update the Incident Management Plan and the Water Quality Incident Management, Reporting and Investigation Procedure as required (annually and in response to an incident). PT-REC-2020-003 Ensure the incident response documentation provides guidance on relevant incidents including but not limited to protozoan water quality non-compliances. <p>The risk register for Pitt Town (drinking and recycled water) indicates that in July 2020, an internal risk review workshop was undertaken, and a risk review workshop was undertaken with NSW Health in August 2020. The document control properties identify the</p>

¹¹⁸⁰ Incident Management Plan (IMP) (Controlled COPY) AG-ALL-AUS-PL-INC-1266 Revision 9 25 January 2021

¹¹⁸¹ Water Operations Incident Management, Reporting and Investigation Procedure (Controlled COPY) AG-WAT-NSW-PR-OPS-2561 Version 3 22 March 2021

¹¹⁸² Incident Notification Protocol with NSW Health (Controlled COPY) AG-ALL-NSW-PR-INC-1277 Revision 9 26 February 2021

<p>Procedure had not been reviewed and updated annually or in response to an incident, as required, and did not adequately cover responses to protozoan risk. The auditor has made some recommendations.</p>				<p>new risks that were added to the risk register, and the risks that were deleted are shown as a strike through in the register. Treated water tanks have been included in the risk assessment.</p> <p>The Incident Management Plan¹¹⁸³ (IMP) provides the overarching framework for Altogether's incident management plan and was updated in January 2021.</p> <p>The Water Operations Incident Management, Reporting and Investigation Procedure¹¹⁸⁴ provides flow diagrams that give an overview of incident management and was updated in March 2021.</p> <p>The Incident Notification Protocol with NSW Health¹¹⁸⁵ was updated in February 2021. The out-of-specification procedure¹¹⁸⁶ includes the process for investigation when an out-of-specification parameter is detected. The process includes notifying stakeholders, retesting the out-of-specification parameter, and checking treatment processes. This is considered adequate to cover protozoan risk.</p> <p>The audit found that Altogether has closed out the requirements of the non-compliance.</p> <p>Note: additional findings have been identified in this audit in relation to the updated risk assessment and incident procedures.</p>
<p>During the site visit we observed that although most new assets have been appropriately tagged, three isolation switches were observed without a unique identification label. These were the main switch on the dewatering unit and the isolating switches for the disposal container. To ensure correct identification for isolations and the associated isolating plans, all isolation switches should be</p>	<p>WIC Reg Sch 1 cl 3(c)</p>	<p>Non-compliant (Non-material)</p>	<p>Check that the main switch on the dewatering unit and the isolating switches for the disposal container are tagged (refer to recommendation in Cardno's New Infrastructure Audit report, November 2020)</p>	<p>The isolation switches on the dewatering unit were observed during the audit site inspection.</p> <p>Altogether has closed out this audit recommendation.</p>

¹¹⁸³ Incident Management Plan (IMP) (Controlled COPY) AG-ALL-AUS-PL-INC-1266 Revision 9 25 January 2021

¹¹⁸⁴ Water Operations Incident Management, Reporting and Investigation Procedure (Controlled COPY) AG-WAT-NSW-PR-OPS-2561 Version 3 22 March 2021

¹¹⁸⁵ Incident Notification Protocol with NSW Health (Controlled COPY) AG-ALL-NSW-PR-INC-1277 Revision 9 26 February 2021





¹¹⁸⁶ Pitt Town Recycled Water Out of Specification Work Instruction (Controlled COPY).pdf PT-WAT-NSW-WI-OPS-3558

uniquely labelled. This reduces the risk for isolation errors for maintenance and operational tasks				
---	--	--	--	--

APPENDIX I SUMMARY OF FINDINGS HUNTLEE WATER

11. OVERALL SUMMARY

This section provides a summary of the findings, detailed findings and discussions are in Appendix A. The Table below provides an overview of the level of compliance for Huntlee Water. Huntlee Water (Altogether) is the licensee.

Compliance Grades	Number of Findings	
	Compliant	9
	Non-compliant (non-material)	2
	Non-compliant (material)	1
	No requirement	0

Audit findings are summarised by obligation in the sections below.

11.1. Water Quality Plans - Recycled Water

WIC Reg Sch 1 cl. 7(4) The network operator must ensure that its recycled water quality plan is fully implemented and kept under regular review and the network operator's activities are carried out in accordance with that plan.

11.1.1. Summary of Findings

The audit has identified a number of gaps in the implementation of the Recycled Water Quality Plan¹¹⁸⁷ (RWQP) and its supporting programs due to inconsistent implementation the documented risk assessment methodology leading to an underestimation of health risks, inadequacy of the current cross-connection audit program, and failure to implement the current program for cross-connection auditing. In addition, a number of minor inconsistencies in the implementation of the recycled water quality plan and the supporting documentation were identified.

Altogether did not provide sufficient verifiable evidence that its RWQP is fully implemented, and it is the auditor's finding that the deficiency adversely affects Altogether's ability to assure controlled processes, products and outcomes and protect public health.

A grading of **non-compliant material** is awarded to WIC Reg Sch 1 cl. 7(4).

Recommendations have been identified below. Opportunities for improvement have been identified in the combined audit summary and detailed findings in Appendix A.

11.1.2. Recommendations

The following recommendations have been identified to address the areas of non-compliance:

Element 1

¹¹⁸⁷ Recycled Water Quality Plan AG-WAT-AUS-PL-OPS-1311 Revision: 17 27 April 2021

The Recycled Water Quality Plan¹¹⁸⁸ (RWQP) states under Component A1.3 that Altogether will identify all agencies with responsibilities for water resources and use of recycled water and regularly update the list of relevant agencies. Under RWQP Component A1.3.1 Altogether uses the scheme specific Stakeholder & Emergency Contact Lists as its means of documenting stakeholders. The lists contain water utilities, NSW and Local government regulators, client interface (property managers) and preferred suppliers for emergencies. These lists are to be reviewed at 6 monthly intervals, however during the audit period, the stakeholder register had not been reviewed 6 monthly. . Huntlee - Stakeholders Emergency Contact List¹¹⁸⁹ exists, and was last updated 08/10/2020. The list should have been reviewed in April 2021. A recommendation has been identified to ensure that the Stakeholder and Emergency Contact list is up to date and is under regular review in accordance with documented processes.

A recommendation has been identified to ensure that the Stakeholder and Emergency Contact list is up to date and is under regular review in accordance with documented processes.

•REC-RW-2021-001 Implement a process to ensure the Stakeholders Emergency Contact List is reviewed by the due date to ensure it remains current.

Element 1 of the AGWR indicates that a recycled water supplier should engage users of recycled water; ensure responsibilities are identified and understood. .Section A1.3.2 of the RWQP¹¹⁹⁰ states that Licence Plan audit reports are provided on the Altogether website as form of customer engagement. When reviewing the website¹¹⁹¹, it was found that the hyperlink to the audit report linked to a different document.

The 'Huntlee Water Licence Plan Audit – Sludge Dewaterer 2020' Report was listed as being available on the website¹¹⁹², but the site instead listed a prior, 2017 audit. A subsequent search on 14/6/2021 indicated that the links had been corrected during the audit and the 2021 audit report prepared by Atom Consulting was available.

Prior audits, such as the Huntlee Water Licence Plan Audit Report 2018¹¹⁹³ and the Huntlee Licence Plan Audit – Drinking Water 2017¹¹⁹⁴ were also available on the website, however these were replaced by the Licence Plan Audit reports undertaken in 2021 whilst this audit was underway. A recommendation has been made to ensure that the information identified in the RWQP is available on the website.

• REC-RW-2021-002 Where the water quality plans or legislation identify information to be included on the website, ensure that information is made available.

The AGWR in Section 2.1.3 indicates that recycled water suppliers should identify all stakeholders (including the public) affecting, or affected by, decisions or activities related to the use of recycled water and engage users of recycled water; ensure responsibilities are identified and understood.

¹¹⁸⁸ Recycled Water Quality Plan AG-WAT-AUS-PL-OPS-1311 Revision: 17 27 April 2021

¹¹⁸⁹ Huntlee - Stakeholders Emergency Contact List HU-WAT-NSW-RG-INC-3350 Revision 1 08 October 2020

¹¹⁹⁰ Recycled Water Quality Plan AG-WAT-AUS-PL-OPS-1311 Revision: 17 27 April 2021

¹¹⁹¹ <https://askus.altogethergroup.com.au/hc/en-us/articles/900004983283-Community-audits-management-plans-> accessed 28 May 2021

¹¹⁹² <https://askus.altogethergroup.com.au/hc/en-us/articles/900004983283-Community-audits-management-plans-> accessed 28 May 2021

¹¹⁹³ https://information.altogethergroup.com.au/governance/Huntlee/Huntlee_Licence_Plan_Audit_Recycled_Water_2018.pdf accessed 28 May 2021

¹¹⁹⁴ https://information.altogethergroup.com.au/governance/Huntlee/Huntlee_Follow_Up_Licence_Plan_Audit_Drinking_Water_2017.pdf accessed 28 May 2021

Section A1.3.3 of the RWQP states that the Stakeholder and Emergency contact list includes the public. Section A1.3.4 of the RWQP identifies scheme specific community website, bills, customer contract, SMS and email messages, project delivery Agreements, Project Control Group and Homeowners Guide as methods for engaging with developers, customers and tenants. The Altogether Flow WICA Licences - Authorised Purposes Matrix¹¹⁹⁵ identifies irrigation as an authorised purposes for the Huntlee Scheme. When reviewing the scheme specific list¹¹⁹⁶, 'Public Stakeholders' are not listed and the list is silent on how Altogether communicates with members of the public who are not residents and who access areas with recycled water in use to ensure responsibilities are understood by the public (for example signage in irrigation areas warning that recycled water is in use).

A recommendation has been made to establish a process to identify all potential recycled water users and ensure there is a process for communicating responsibilities to all identified recycled water users. It is considered that appropriate mechanisms have not been developed and effectively employed for members of the public (end users) accessing areas where they may be exposed to recycled water. It is noted that the Stakeholder and Emergency Contact list may not be the most appropriate mechanism for identifying and engaging with the public.

- **REC-RW-2021-003 Review and update stakeholder lists or equivalent to reflect all potential stakeholders and the methods for engagement, including engaging with the public.**

The AGWR (Section 2.1.4) recommends that the recycled water policy should provide a basis for developing more detailed guiding principles and implementation strategies. AGWR includes the broad issues that the recycled water policy should address including for example, intention to adopt best-practice management and a multiple-barrier approach.

The Recycled Water Policy¹¹⁹⁷ states that Altogether will implement and maintain recycled water management system consistent with the AGWR and all managers and personnel are responsible for implementing, maintain and continuously improving the recycled water management system.

During the audit, Altogether team members (Water Operations Manager 31 May 2021) responsible for implementing the preventive measures in the risk assessment indicated that there have been insufficient resources to implement some processes (for example when discussing the implementation of the *Minimising the Risk of Cross-Connection Checks Policy and Procedure*¹¹⁹⁸), and the agreed compliance program (Executive Manager – Risk & Compliance 15 June 2021) with IPART has affected Altogether's ability to allocate sufficient resources to RWQP implementation.

Additionally, when gaps in implementation (for example the implementation of the risk assessment methodology) were identified during the audit, Altogether representatives (Water Quality Systems Manager 31 May 2021) indicated in some instances that external consultants had undertaken the works and could not explain how the process was implemented.

¹¹⁹⁵ 2919 Altogether WICA Licences - authorised purposes matrix (Controlled COPY).pdf AG-WAT-NSW-RG-OPS-2918

¹¹⁹⁶ 3351 Huntlee - Stakeholders Emergency Contact List (Controlled COPY).pdf HU-WAT-NSW-RG-INC-3350

¹¹⁹⁷ Recycled Water Policy AG-WAT-AUS-PO-OPS-1310 Revision: 3 21 July 2020

¹¹⁹⁸ Minimising the risk of cross-connection checks policy and procedure (Controlled COPY).pdf FS-ALL-AUS-PO-OPS-2544

Additionally, it was indicated that in cases where recycled water is used in public spaces, that the public should have the 'common sense' to know that recycled water is in use, without signage being installed (Technical Operations Lead 9 June 2021). This approach does not appear to adequately cover protecting the most vulnerable members of the community. It is the auditor's finding that Altogether has not fully implemented its recycled water policy due to gaps in risk management, failure to implement procedures in relation to cross-connection auditing, failure to take ownership for managing risk and by not allocating adequate resources for the implementation of the RWQP and supporting programs

A recommendation has been made to improve implementation of the recycled water policy and to ensure recycled water risk is well understood.

- **REC-RW-2021-005 Implement a program to increase staff awareness of recycled water risks, improve ownership for managing risk and allocation of adequate resources to implement licence plans and meet regulatory requirements.**

Element 2

The AGWR indicates that water providers to Identify and document hazards and hazardous events, and estimate risk. Section 2.4 of the RWQP identifies the Risk Assessment Protocol for Water Products and Services¹¹⁹⁹ (the RAP) as the documented process for undertaking risk assessments. The RAP includes consequence and likelihood descriptors that should be applied when assessing risk. The RAP states in Table 2 that 'Health risks on the sewage and recycled water risk registers are assessed using the AGWR matrix'. When reviewing the matrix, in the RAP, it was found that it was not consistent with the AGWR as the minor and negligible consequence descriptors in the RAP appear to exclude health impacts as detailed below:

- Minor ranking – Health impact minor - possible aesthetic or amenity impact, population impact small, isolated part of the scheme (zone or street)
- Insignificant ranking – Health impact negligible - undetectable impact (normal operations) population impact small, isolated part of the scheme (zone or street)

Altogether has advised verbally and in emails that these consequence categories do not exclude health impacts, however this is not clear from reading the documents. Furthermore, there are a number of health impacts identified in the risk assessment that have been assigned 'insignificant' grading, which describes a health impact as 'negligible', and 'undetectable' and 'normal operations'. It is difficult to justify how a health impact from exposure to recycled water is part of 'normal operations'.

There are a number of instances in the risk assessment¹²⁰⁰ where health risks have been assessed as insignificant for example:

- RL1.6 Human health impacts 'Pathogens present in recycled water supplied to customers, causing health impacts for customers' 'Exceedance of AGWR health guideline value'
- RD1.4 Human health impacts from on lot and network cross connections' 'Recycled water entering potable water plumbing in home' 'Pathogens present in water supplied to consumers, causing health impacts for consumers' 'Exceedance of ADWG health guideline value'

It is noted that in the live consultation register¹²⁰¹, NSW Health provided comments on the risk assessment that do not appear to have been taken into consideration. NSW Health indicated '*Generally it is not appropriate to change the consequence in assessing risk. Controls address the likelihood; i.e. the likelihood is reduced but the consequence remains the same*' however there are

¹¹⁹⁹ Risk Assessment Protocol for Water Products and Services FS-WAT-NSW-PR-OPS-2466 Revision: 3 16 August 2020

¹²⁰⁰ 2657 Huntlee Risk Register (Controlled COPY) HU-WAT-NSW-RG-OPS-2657.pdf HU-WAT-NSW-RG-OPS-2657

¹²⁰¹ LIVE_Register_Consultation with NSW Health

many instances in the risk register where this advice has not been followed and the control measures do not appear to reduce the consequence but the residual consequence has been reduced (refer to findings of the risk assessment below).

In reviewing the risk assessments for all schemes, the auditor identified the following inconsistencies in the application of the RAP when assessing risk:

- Risk SC1.4 relating to sewage overflows, leading to 'Human contact with wastewater causing public health impact'. The maximum likelihood is almost certain and moderate consequence. Moderate is described as 'Potential for some increase in disease burden'. The control measures include processes such as use of contractors, isolation of spills, complaints handling and communication. Whilst these control measures may reduce the frequency of a public health impact it is unclear how these reduce the consequence of a public health impact to minor, which is 'Possible aesthetic or amenity impact'.
- EU1.15 Risk of inadvertent connections between recycled water and potable water (e.g. public bubblers?) leading to 'Illness from ingestion of recycled water'. Preventive measures are education, communication protocols and the emergency procedures resulting in a residual risk rated minor, which is 'Minor, Possible aesthetic or amenity impact'.
- RD1.4 On-lot cross-connections residual risk is assessed as 'insignificant' which is described as an 'undetectable impact (normal operations). It is unclear how an on-lot cross-connection is part of normal operation. This risk certainty is 1 which means 'certain' however Altogether have only undertaken 3 cross-connection audits across 8 schemes with approximately 8146 recycled water customer connections in the audit period, therefore the risk level is unknown and uncertain. During the audit interviews numerous Altogether team members (Water Operations Manager 31 May 2021, Executive Manager – Sustainable Utility Services 15 June 2021) stated that cross-connections do not occur in the Altogether schemes because the houses and development are 'new'. This is contrary to industry knowledge and experience as documented in literature^{1202 1203 1204 1205}. This is considered a significant gap in understanding risk and taking responsibility for managing risk.

Based on the review of the scheme specific risk registers against the requirements of the RAP, it was found that the RAP was not consistently implemented in the audit period, resulting in an underestimation of health risk and there was ambiguity about the health impacts captured in the consequence descriptors. A recommendation has been made to ensure the risk assessment consistently assesses risks.

- **REC-RW-2021-006 Review the risk assessments or risk assessment methodology to ensure that consequence values align with the risk being assessed, for example, where the consequence descriptor of insignificant, aesthetic or negligible cannot be attributed to a risk that has an acute health impact. Frequencies should also be applied taking into consideration historical performance and the occurrence of incidents. Any reduction in consequence should be justified.**

Element 3

¹²⁰² A. C. Hambly, R. K. Henderson, A. Baker, R. M. Stuetz & S. J. Khan (2012) Cross-connection detection in Australian dual reticulation systems by monitoring inherent fluorescent organic matter, *Environmental Technology Reviews*, 1:1, 67-80, DOI: 10.1080/09593330.2012.696724

¹²⁰³ Water Source <https://watersource.awa.asn.au/publications/technical-papers/third-pipe-water-recycling/>

¹²⁰⁴ Risks to the long-term viability of residential non-potable water schemes: a review https://watersensitivecities.org.au/wp-content/uploads/2016/05/TMR_C3-1_RisksViabilityNonPotableWater.pdf

¹²⁰⁵ Muston, M. H. (2012). *Changing of the water recycling paradigm in Australia. Water Science and Technology: Water Supply*, 12(5), 611–618. doi:10.2166/ws.2012.034

Section 2.3.2 of the AGWR indicates that a water supplier should document the critical control points (CCPs), critical limits and target criteria. To assess the CCPs and critical limits the following scheme specific documents were reviewed:

- Huntlee - Control Points¹²⁰⁶
- Huntlee - Log Reduction Values¹²⁰⁷
- Huntlee Water Scheme Management Plan¹²⁰⁸
- Huntlee Monitoring and Sampling Program¹²⁰⁹ (MS Prog)

Section 2.3.2 of the AGWR includes requirements for monitoring CCPs and establishing mechanisms for operational control. The Huntlee CCP Table¹²¹⁰ identifies the monitoring of CCPs, however when reviewing the Monitoring and Sampling Program, it was noted that some of the CCP parameters were not captured, for example Contact time which is a critical limit.

A recommendation has been made to ensure that the operational monitoring program is correctly documented on the MS Prog, or relevant alternative.

- REC-RW-2021-008 Review the scheme specific monitoring and sampling programs to ensure they include all operational parameters or develop a separate comprehensive operational monitoring program.

Element 4

Section 2.4.1 of the AGWR indicates that a recycled water supplier should identify procedures required for all processes and activities applied within the whole recycled water system (source to use). To determine a suitable procedure for this audit, the Discovery Point risk assessment was reviewed and a relevant hazard, cross connections between the recycled and drinking water network, was selected and the procedure for minimising cross-connections was chosen as a sample procedure for a more detailed audit. The Minimising the Risk of Cross-Connection Checks Policy and Procedure¹²¹¹ was provided and discussed at the audit. The document control properties indicate that the procedure was established in December 2018 and updated in June 2019. The procedure in Section 8.4.2 states that 'The risk of cross-connections and unauthorised tap-ins increases with time as plumbing and network changes are made and the number of connections increases.' Section 8.4.3 of the policy states that:

'Flow has received advice that the water industry has determined that conducting cross-connection checks of 20% of all connections annually is not effective and is moving towards a risk-based approach. Flow is committed to implementing a risk-based, prioritised, statistically significant ongoing inspection program.'

'Flow will conduct a statistically significant set of one of the following types of tests on three streets in a scheme or three units in a high rise building annually, to confirm that there are no cross-connections between potable and recycled water systems or tap-ins of potable to recycled water fittings:

1. flow tests
2. electrical conductivity (EC) tests and/or
3. chlorine/chloramine tests, or similar.'

¹²⁰⁶ Huntlee - Control Points (Controlled COPY) HU-WAT-NSW-PL-OPS-2581 Version 2 18 March 2021

¹²⁰⁷ Huntlee - Log Reduction Values (Controlled COPY) HU-WAT-NSW-PL-OPS-2795 Revision 3 16 March 2021

¹²⁰⁸ Huntlee Water Scheme Management Plan (Controlled COPY) HU-WAT-NSW-PL-OPS-1275 Version 14 19 March 2021

¹²⁰⁹ Huntlee Monitoring and Sampling Program (Controlled COPY) HU-WAT-NSW-PL-OPS-3094 Version 2 19 March 2021

¹²¹⁰ Huntlee - Control Points (Controlled COPY) HU-WAT-NSW-PL-OPS-2581 Version 2 18 March 2021

¹²¹¹ Minimising the risk of cross-connection checks policy and procedure (Controlled COPY).pdf F5-ALL-AUS-PO-OPS-2544

When reviewing the requirements of the procedure, it was noted that the water industry advice (referenced in the policy) that Altogether has received was not documented and it was not possible to verify if the advice was documented or from where in the industry it was sourced from, for example an accepted industry standard or peer reviewed document. Altogether provided a range of emails^{1212 1213} written by Altogether staff, summarising what appears to be verbal advice from a consultant, however there does not appear to be verifiable evidence of the advice. It is noted that an email states *'[Consultant name] has advised us that based on his conversations with Health the "magic number is 3 – i.e. 3 streets in a scheme, 3 units in a building)" and not 20% of all connections annually as we previously targeted.'* NSW Health acceptance of this advice could not be verified.

When reviewing the implementation of the Minimising the Risk of Cross-Connection Checks Policy and Procedure it was unclear what a 'statistically significant' number of tests would equate to and how this will relate to three streets or three units in a high rise. The AGWR in Table 2.8 provides examples of potential operational criteria and monitoring, suggesting an ongoing cross-connection program, rolling 6-monthly audits with all properties audited at least every 5 years. Whilst the AGWR provides an example of an acceptable cross connection program, this audit has found that the existing Minimising the Risk of Cross-Connection Checks Policy and Procedure is not clear on the number of audits that need to be taken for each scheme and how the properties to be audited are to be chosen to ensure they are representative.

There was one record of a cross connection audit undertaken at Huntlee in the audit period. The Minimising the Risk of Cross-Connection Checks Policy and Procedure has not been implemented as documented. Additionally, during the audit interviews Altogether staff advised (Water Operations Manager 31 May 2021) that there are insufficient staff resources to undertake a planned cross-connection program.

A recommendation has been made to implement an ongoing cross-connection audit program that is adequate to control the risk of on-lot cross connections.

- **REC-RW-2021-009 Review the Minimising the Risk of Cross-Connection Checks Policy and Procedure to ensure that it clearly identifies the number of connections to be audited, audit procedure and the record keeping requirements. Ensure that the ongoing cross-connection audit program is adequate to control the risk of on-lot cross connections noting that the AGWR suggests a rolling 6-monthly audits with all properties audited at least every 5 years as an example of appropriate cross connection monitoring.**

Element 5

The Huntlee Environmental monitoring program¹²¹⁴ (at the Creek Downstream location) returned high microbiological values including E. coli recorded values of 360 cfu/100mL and 2200 cfu/100mL, Clostridium perfringens recorded values of 700 cfu/100mL and 100 cfu/100mL, and Somatic Coliphage recorded values of 100 cfu/100mL and <1 cfu/100mL respectively for July 2020 and March 2021 sampling. It was discussed that the results are reviewed upon receipt and the high concentrations of human sewage indicators may be due to the septic tanks on properties. When discussing the results, it was uncertain if there was an action limit or a value for the parameters that would trigger an investigation or reporting to an environmental regulator. A recommendation has been made to establish criteria for action when environment monitoring results indicate potential environmental harm.

¹²¹² Cross connection workshop with [Consultant Name] 28/11/2018

¹²¹³ Proposed "Minimising the risk of cross-connection and tap-ins policy and procedure" 11/12/2018

¹²¹⁴ Extract Altogether Group Eurofins Data

- **REC-RW-2021-010** For surface water and other environmental monitoring processes, identify appropriate limits to trigger further investigation and reporting to determine the source of human sewage indicators and to implement actions to reduce environmental harm.

Element 6

Section 2.6.2 of the AGWR indicates that a recycled water supplier should define potential incidents and emergencies, and document procedures and response plans. The Recycled Water Quality Plan¹²¹⁵ provides a diagram in Section 6 which depicts the framework for managing recycled water incidents and emergencies. The Incident Management Plan¹²¹⁶ (IMP) provides the overarching framework for Altogether's incident management. The IMP in Section 5.1.3 identifies the requirements of the reporting manual and includes immediate notification to IPART, NSW Health, Department of Planning and Environment and other licenses and public water utilities.

The Water Operations Incident Management, Reporting and Investigation Procedure¹²¹⁷ provides flow diagrams that give an overview of incident management. This includes the requirement for the incident manager to assess, declare and classify the incident, make notifications, investigate, debrief and close out the incident. The flow diagram also includes responsibilities for notifying regulators.

The Incident Notification Protocol with NSW Health¹²¹⁸ was updated in February 2021 and includes the contact details of the relevant Public Health Units to be notified for each scheme.

It was noted in both documents above, that there is a recycled water event identified as 'recycled water delivered to customers below the AGWR values measured at the point of supply or point of use'. This appears to be an error and the event should be defined as recycled water delivered to customers that does not comply with the documented water quality criteria. It is noted that AGWR does not identify specific water quality criteria for recycled water and the water quality criteria are documented on the MS Progs for each scheme. A recommendation has been made to review the Water Operations Incident Management, Reporting and Investigation Procedure and Incident Notification Protocol with NSW Health to clearly define the recycled water event with reference to the documented water quality criteria.

- **REC-RW-2021-011** Review and update the Water Operations Incident Management, Reporting and Investigation Procedure and Incident Notification Protocol with NSW Health to ensure that the definition of a recycled water event refers to the documented water quality criteria for recycled water in the Water Quality Plan rather than referring to the Australian Guidelines for Water Recycling.

Element 10

Document Control Policy and Procedure¹²¹⁹ states that all BMS documents are controlled using the BMS Library on SharePoint. During the site inspection at Pitt Town, the operator demonstrated the BMS system which included overarching licence plans, site-specific plans and procedures, forms and work instructions. In reviewing the documents provide in evidence, the following findings were noted:

- The footer on the LWC Control System Change Management policy¹²²⁰ is inconsistent with the document control properties.
- The scheme management plan has errors in the fields and captions.

¹²¹⁵ Recycled Water Quality Plan AG-WAT-AUS-PL-OPS-1311 Revision: 17 27 April 2021

¹²¹⁶ Incident Management Plan (IMP) (Controlled COPY) AG-ALL-AUS-PL-INC-1266 Revision 9 25 January 2021

¹²¹⁷ Water Operations Incident Management, Reporting and Investigation Procedure (Controlled COPY) AG-WAT-NSW-PR-OPS-2561 Version 3 22 March 2021

¹²¹⁸ Incident Notification Protocol with NSW Health (Controlled COPY) AG-ALL-NSW-PR-INC-1277 Revision 9 26 February 2021

¹²¹⁹ Document Control Policy and Procedure (Controlled COPY AG-ALL-AUS-PO-HSEQ-1234 revision 6 19/1/2021

¹²²⁰ LWC Control System Management of Change Policy (CONTROLLED COPY) Revision 3 27 April 20120

A recommendation has been made to improve documentation.

- **REC-RW-2021-013 Establish review processes to ensure all documents are reviewed on time and do not have typographical and hyperlink errors.**

Element 11

Section 2.11.2 of the AGWR indicates that recycled water supplier should establish processes for internal and external audits and Document and communicate audit results. Altogether has an Audit Procedure¹²²¹ that outlines the audit process. An Internal Audit Calendar¹²²² was shown that outlined the audits that should be undertaken. The audit procedure indicates that the outcomes of internal audits should go onto an action register. During the audit, Altogether explained that this is the Water Quality Improvement Plan, however the actions from internal audits had not been captured on the improvement plan, there was no evidence the actions had been allocated to a responsible person, progress tracked, or closed out. It is noted that some audit findings were closed out on the day of the audit, however ones that were not closed out were not captured in an action register or on the Water Quality Improvement Plan. A recommendation has been made to ensure the audit process is implemented as documented.

- **REC-RW-2021-014 Develop a process to capture and track the progress in implementing recommendations from internal audits on an action register or improvement program, as required by the procedure.**

Element 12

Section 2.12.2 of the AGWR indicates that recycled water providers to develop a recycled water quality management improvement plan and ensure the plan is communicated and implemented, and improvements are monitored.

The Water Quality Improvement Plan¹²²³ was provided and discussed in the audit. Inputs to the plan are documented on the 'Lists Ops' tab and include activities such as the risk register, Licence plan review and audit. There were many items on the register that do not have a completion date, and this makes it difficult to audit its implementation. A recommendation has been made to improve the documentation of the improvement plan to ensure that it is implemented.

- **REC-RW-2021-015 Ensure all items on the Improvement Plan have been allocated to a responsible party, communicated, and due dates for completion have been applied.**

11.2. Water Quality Plans - Drinking Water

WIC Reg Sch 1 cl. 7(4) The network operator must ensure that its drinking water quality plan is fully implemented and kept under regular review and the network operator's activities are carried out in accordance with that plan.

11.2.1. Summary of Findings

The audit has identified a number of gaps in the implementation of the DWQP and its supporting programs due to inconsistent implementation of the documented risk assessment methodology leading to an underestimation of health risks. In addition, a number of minor inconsistencies in the implementation of the drinking water quality plan and the supporting documentation were identified.

¹²²¹ 2352 Audit Procedure (Controlled COPY).pdf AG-ALL-AUS-PR-R&C-1364

¹²²² Internal Audit Calendar - Water

¹²²³ WQP Improvement Plan

Altogether did not provide sufficient verifiable evidence that its DWQP is fully implemented.

A grading of **non-compliant non-material** is awarded to WIC Reg Sch 1 cl. 7(4). The **non-compliance** is considered **non-material** as the deficiency does not impact on the Altogether's ability to assure controlled processes, public health or the environment.

Recommendations have been identified below. Opportunities for improvement have been identified in the combined audit summary and detailed findings in Appendix A.

11.2.2. Recommendations

The following recommendations have been identified to address the areas of non-compliance:

Element 1

Section 3.1.3 of the ADWG indicates that drinking water suppliers should:

- Identify all stakeholders who could affect, or be affected by, decisions or activities of the drinking water supplier.
- Develop appropriate mechanisms and documentation for stakeholder commitment and involvement.
- Regularly update the list of relevant agencies.

Altogether's Drinking Water Quality Plan¹²²⁴ (DWQP) states under Component A1.3.1 that it will identify all stakeholders who could affect, or be affected by, decisions or activities of the drinking water supplier. Altogether uses the scheme specific Stakeholder & Emergency Contact Lists as its means of documenting stakeholders. The lists contain water utilities, NSW and Local government regulators, client interface (property managers) and preferred suppliers for emergencies. These lists are to be reviewed at 6 monthly intervals, however during the audit period, the stakeholder register had not been reviewed 6 monthly. A recommendation has been identified to ensure that the Stakeholder and Emergency Contact list is up to date and is under regular review in accordance with documented processes.

- **REC-DW-2021-001 Implement a process to ensure the Stakeholders Emergency Contact List is reviewed by the due date to ensure it remains current.**

Altogether states under DWQP Component A1.3.2 that it has a range of methods for engaging with users, developers, customers, and tenants, including scheme specific community websites¹²²⁵, bills, customer contracts¹²²⁶, SMS and email messages, Project Delivery Agreements, a Project Control Group, and a Homeowners Guide¹²²⁷, this last document also being available on their website¹²²⁸

It is noted that the WIC (General) Reg cl 9(a) requires all network operators to have an internet website on which the most recent auditor's report under clause 6 that applies to the Network Operator is available for inspection by members of the public. As detailed in the assessment of Element 1 for recycled water, there were times during the audit period that the website did not include the relevant audit report for public inspection. A recommendation has been made to ensure that the required information is maintained on the website.

- **REC-DW-2021-002 Where the water quality plans or legislation identify information to be included on the website, ensure that information is made available.**

Element 2

¹²²⁴ Drinking Water Quality Plan (DWQP) (Controlled COPY) AG-WAT-AUS-PL-OPS-1241 Revision: 13 15 March 2021

¹²²⁵ <https://altogethergroup.com.au/about/communities/> accessed 28 May 2021

¹²²⁶ Small retail Customer Contract - Altogether Group Pty Ltd – Water REF ID 3534 12 January 2021

¹²²⁷ Homeowner's Guide (Water) AG-WAT-AUS-UG-RET-1569 Revision: 3 9 March 2021

¹²²⁸ <https://information.altogethergroup.com.au/governance/Homeowners%20Guide.pdf> accessed 27 May 2021

Section 3.2.3 of the ADWG indicates that once potential hazards and their sources have been identified, the level of risk associated with each hazard or hazardous event should be estimated so that priorities for risk management can be established and documented. Although there are numerous contaminants that can compromise drinking water quality, not every potential hazard will require the same degree of attention.

The level of risk for each hazard or hazardous event can be estimated by identifying the likelihood of occurrence (e.g. certain, possible, rare) and evaluating the severity of consequences if the hazard were to occur (e.g. insignificant, major, catastrophic). The aim should be to distinguish between very high and low risks.

Section 2.3 of the DWQP identifies the Risk Assessment Protocol for Water Products and Services¹²²⁹ (the RAP) as the documented process for undertaking risk assessments.

The RAP includes consequence and likelihood descriptors that should be applied when assessing risk. The RAP states that 'Health risks on the drinking water risk registers are assessed using the ADWG matrix'. When reviewing the matrix, in the RAP, it is not consistent with the ADWG as the minor and negligible consequence descriptors in the RAP appear to exclude health impacts as detailed below:

- Minor ranking – Health impact minor - possible aesthetic or amenity impact, population impact small, isolated part of the scheme (zone or street)
- Insignificant ranking – Health impact negligible - undetectable impact (normal operations) population impact small, isolated part of the scheme (zone or street)

Altogether has advised verbally and in emails that these consequence categories do not exclude health impacts, however this is not clear from reading the documents.

There are a number of instances in the risk assessment (August 2020) where health risks have been assessed as minor or insignificant including:

- Low chlorine residual leading to pathogens present in water supplied to consumers, causing health impacts for consumer and/or exceedance of ADWG health guideline value – given a minor residual consequence ranking.
- Mains Break leading to contamination of drinking water quality - given a residual consequence ranking of minor.
- Recycled water cross-connection in customer/building plumbing leading to consumption of recycled water - given a residual consequence ranking of minor.
- Chemical leaching into distribution system e.g. volatiles, lead, cadmium, copper from water supply infrastructure leading to chemicals present in water supplied to consumers, causing acute or chronic health impacts for consumers and or exceedance of ADWG health guideline value water - given a residual consequence ranking of minor.

The examples above have the potential to impact on a whole scheme or building, there for assigning a minor grading is not considered consistent application of the RAP.

It is noted that in the live consultation register¹²³⁰, NSW Health provided comments on the risk assessment that do not appear to have been taken into consideration. NSW Health indicated *'Generally it is not appropriate to change the consequence in assessing risk. Controls address the likelihood; i.e. the likelihood is reduced but the consequence remains the same'* however there are many instances in the risk register where this advice has not been followed and the control measures do not appear to reduce the consequence but the residual consequence has been reduced (refer to findings of the risk assessment below).

¹²²⁹ Risk Assessment Protocol for Water Products and Services FS-WAT-NSW-PR-OPS-2466 Revision: 3 16 August 2020

¹²³⁰ LIVE_Register_Consultation with NSW Health

In reviewing the risk assessments for all schemes, the auditor identified the following inconsistencies in the application of the RAP when assessing risk:

- Mains break leading to contamination of drinking water, the consequence reduced from 'major' (Potential for short-term and longer-term public health impacts) to 'minor (Possible aesthetic or amenity impact) also noting that Altogether does not have a network hygiene policy (or similar) or procedures for working on mains and repairing main breaks.
- Residual risk for hazardous event of cross connections in network and on-lot given a rare frequency with a certainty of 1 (certain), however only 3 cross-connection audits have been undertaken across over 8000 connections. The certainty ranking does not appear appropriate. The assessment appears contrary to industry knowledge and experience as documented in literature^{1231 1232 1233 1234}. This is considered a significant gap in understanding risk and taking responsibility for managing risk.

The February Risk Assessment¹²³⁵ includes new risks that have been assessed and the consequence values appear more appropriate than the August 2020 risk registers, however the risk of cross connections have not been reassessed.

The audit found that Altogether did not consistently implement the documented risk assessment process. A recommendation has been made to review the risk assessments or methodology to ensure it is consistently applied.

- **REC-DW-2021-003 Review the risk assessments or risk assessment methodology to ensure that consequence values align with the risk being assessed, for example, where the consequence descriptor is limited to aesthetic or undetectable, these cannot be attributed to a risk that has an acute health impact. Frequencies should also be applied taking into consideration historical performance and the occurrence of incidents. Any reduction in consequence should be justified.**

Element 4

Section 3.4 of the ADWG indicates that drinking water suppliers should establish process control programs to support preventive measures by detailing the specific operational factors that ensure that all processes and activities are carried out effectively and efficiently. This includes a description of all preventive measures and their functions, together with documentation of effective operational procedures, including identification of responsibilities and authorities.

Additionally, the ADWG states (p 129) that 'Good design, management and integrity of distribution systems are essential for maintaining water quality.'

When discussing hygienic work practices when working on the drinking water network, Altogether stated that due to the design of the drinking water network, there is no need to undertake works on the drinking water network and there are no mains breaks. Additionally, if there was a need to work on the mains, Altogether uses a trusted contractor, however there do not appear to be any established procedures of policies for hygienic work practices for Altogether staff or contractors undertaking works on the mains. The Drinking Water Risk assessment¹²³⁶ undertaken in February 2021 has identified (Ref DW1.6) the need to 'Formalise and document procedures around

¹²³¹ A. C. Hambly, R. K. Henderson, A. Baker, R. M. Stuetz & S. J. Khan (2012) Cross-connection detection in Australian dual reticulation systems by monitoring inherent fluorescent organic matter, *Environmental Technology Reviews*, 1:1, 67-80, DOI: 10.1080/09593330.2012.696724

¹²³² Water Source <https://watersource.awa.asn.au/publications/technical-papers/third-pipe-water-recycling/>

¹²³³ Risks to the long-term viability of residential non-potable water schemes: a review https://watersensitivecities.org.au/wp-content/uploads/2016/05/TMR_C3-1_RisksViabilityNonPotableWater.pdf

¹²³⁴ Muston, M. H. (2012). *Changing of the water recycling paradigm in Australia*. *Water Science and Technology: Water Supply*, 12(5), 611–618. doi:10.2166/ws.2012.034

¹²³⁵ Register of New Risks Feb2021 for Health Consultation

¹²³⁶ Register of New Risks Feb2021 for Health Consultation (1)

equipment use for various water products and services. This action item is noted on the Water Quality Improvement Plan¹²³⁷, however there is no target date for completion.

A recommendation has been made to establish procedures for ensuring the integrity of the drinking water network.

- **REC-DW-2021-004 Establish a policy and procedure for hygienic work practices for Altogether staff and contractors undertaking works on Altogether's drinking water networks and develop a process for ensuring all network operators and contractors have been made aware of the requirements and establish an ongoing audit process to ensure the practices are implemented.**

Section 3.4.2 of the ADWG indicates that drinking water suppliers should develop monitoring protocols for operational performance of the water supply system, including the selection of operational parameters and criteria, and the routine analysis of results.

The Huntlee Monitoring and Sampling Program¹²³⁸ identifies target criteria for disinfection residual in the network. When reviewing the results of chlorine residuals in the network, it was noted that 10 out of 15 monthly Total Chlorine samples failed with readings below the target limit of ≥ 0.6 mg/L. and 8 out of 16 free chlorine monthly samples failed with readings below the target limit of ≥ 0.2 mg/L. The PoU sampling locations 53/61 to total chlorine and 45/61 Free Chlorine readings failed to meet the minimum target. A recommendation has been made to ensure that options for improving chlorine residual in the network have been identified and actions taken to ensure drinking water quality does not degrade in Altogether's distribution network

A recommendation has been made to ensure that options for improving chlorine residual in the network have been identified and actions taken to ensure drinking water quality does not degrade in Altogether's distribution network.

- **REC-DW-2021-005 The Monitoring and Sampling Programs for drinking water schemes identify that a minimum target of 0.2mg/L of free chlorine should be maintained through reticulation networks, this is consistent with ADWG advice. Identify areas in reticulation where this cannot be met and raise an improvement item to improve the chlorine residual in these areas within an appropriate timeframe.**

The Huntlee CCP Table¹²³⁹ shows a QCP for Free Chlorine, with grab sample taken from the chlorine meter point at the Potable Water Tanks Outlet, the frequency is not specified. The Weekly Control Points Checklist^{1240 1241} includes QCPs and CCPs for recycled water but not for drinking water. It is unclear where the results of the grab sample are captured and there was no evidence of that monitoring provided for the audit period. A recommendation has been made to record the result of operational monitoring of the drinking water service.

REC-DW-2021-006 Include recording the operational monitoring of the drinking water system on the weekly control points checklist or equivalent.

Element 10

Document Control Policy and Procedure¹²⁴² The Procedures states that all BMS documents are controlled using the BMS Library on SharePoint. During the site inspection at Pitt Town, the operator demonstrated the BMS system which included overarching licence plans, site-specific plans and

¹²³⁷ WQP Improvement Plan

¹²³⁸ 3094 Huntlee Monitoring and Sampling Program (Controlled COPY).pdf HU-WAT-NSW-PL-OPS-3094

¹²³⁹ 2758 Huntlee - Control Points (Controlled COPY).pdf HU-WAT-NSW-PL-OPS-2581

¹²⁴⁰ Work_Order 031896 Weekly Control Points Check HT

¹²⁴¹ Work_Order 037065 Weekly Control Points Check HT

¹²⁴² Document Control Policy and Procedure (Controlled COPY AG-ALL-AUS-PO-HSEQ-1234 revision 6 19/1/2021

procedures, forms and work instructions. In reviewing the documents provide in evidence, the following findings were noted:

- The footer on the LWC Control System Change Management policy¹²⁴³ is inconsistent with the document control properties.
- The scheme management plan has errors in the fields and captions.

A recommendation has been made to improve documentation.

- REC-DW-2021-007 Establish review processes to ensure all documents are reviewed on time and do not have typographical and hyperlink errors.

Element 11

Section 3.11.2 of the ADWG states that periodic auditing of all aspects of the drinking water quality management system is needed to confirm that activities are being carried out in accordance with defined requirements and are producing the required outcomes.

Altogether has an Audit Procedure¹²⁴⁴ that outlines the audit process. An Internal Audit Calendar¹²⁴⁵ was shown that outlined the audits that should be undertaken. The audit procedure indicates that the outcomes of internal audits should go onto an action register. During the audit, Altogether explained that this is the Water Quality Improvement Plan, however the actions from internal audits had not been captured on the improvement plan, there was no evidence the actions had been allocated to a responsible person, progress tracked, or closed out. It is noted that some audit findings were closed out on the day of the audit, however ones that were not closed out were not captured in an action register or on the Water Quality Improvement Plan. A recommendation has been made to ensure the audit process is implemented as documented.

- REC-DW-2021-008 Develop a process to capture and track the progress in implementing recommendations from internal audits on an action register or improvement program, as required by the procedure.

Element 12

Section 3.12.2 of the ADWG indicates that drinking water suppliers should develop a drinking water quality management improvement plan and ensure that the plan is communicated and implemented, and that improvements are monitored for effectiveness.

The Water Quality Improvement Plan¹²⁴⁶ was provided and discussed in the audit. Inputs to the plan are documented on the 'Lists Ops' tab and include activities such as the risk register, Licence plan review and audit. There were many items on the register that do not have a completion date, and this makes it difficult to audit its implementation. A recommendation has been made to improve the documentation of the improvement plan to ensure that it is implemented.

- **REC-DW-2021-009 Ensure all items on the Improvement Plan have been allocated to a responsible party, communicated, and due dates have been applied.**

11.3. Water Quality Plans - Sewage

WIC Reg Sch 1 cl. 14(3) A network operator must ensure its sewage management plan is fully implemented and kept under regular review and all its activities are carried out in accordance with the plan.

¹²⁴³ LWC Control System Management of Change Policy (CONTROLLED COPY) Revision 3 27 April 20120

¹²⁴⁴ 2352 Audit Procedure (Controlled COPY).pdf AG-ALL-AUS-PR-R&C-1364

¹²⁴⁵ Internal Audit Calendar - Water

¹²⁴⁶ WQP Improvement Plan

11.3.1. Summary of Findings

The audit has found that Altogether has generally implemented its Sewage Management Plan, however, the risk assessment methodology, which forms the basis of the Sewage Management Plan has not been implemented consistently, resulting in an under estimation of human health risk. Preventive measures for managing risk from the sewage services are identified, implemented and considered adequate.

The **non-compliance** is considered **non-material** as the deficiency does not impact on the Altogether's ability to assure controlled processes, public health or the environment.

11.3.2. Recommendations

The following recommendation has been identified to address the areas of non-compliance:

The Sewage MP identifies the AGWR as the reference for the risk assessments, and the approach identified in the RWQP. The RWQP identifies the Risk Assessment Protocol for Water Products and Services¹²⁴⁷ (the RAP) as the documented process for undertaking risk assessments. The RAP states that internal risk reviews will be undertaken annually, and external risk reviews will be undertaken biennially.

The risk assessment includes the assessment of health and environmental risks in relation to sewage activities. In addition to the risk assessments, the Sewage MP states that ecological assessments will be undertaken as a part of development consent. The risk register for each scheme indicates that in July 2020, an internal risk review workshop was undertaken, and a risk review workshop was undertaken with NSW Health in August 2020. The document control properties identify the new risks that were added to the risk register, and the risks that were deleted are shown as a strike through in the register. In April 2021, a recycled water and sewage risk assessment covering the eight schemes was undertaken to address new risks and audit findings. Evidence includes the briefing pack¹²⁴⁸, recycled water risk register¹²⁴⁹ and updated sewage risk register¹²⁵⁰.

The RAP includes consequence and likelihood descriptors that should be applied when assessing risk. The RAP states in Table 2 that 'Health risks on the sewage and recycled water risk registers are assessed using the AGWR matrix'. When reviewing the matrix, in the RAP, it was found that it was not consistent with the AGWR as the minor and negligible consequence descriptors in the RAP appear to exclude health impacts as detailed below:

- Minor ranking – Health impact minor - possible aesthetic or amenity impact, population impact small, isolated part of the scheme (zone or street)
- Insignificant ranking – Health impact negligible - undetectable impact (normal operations) population impact small, isolated part of the scheme (zone or street)

Altogether has advised verbally and in emails that these consequence categories do not exclude health impacts, however this is not clear from reading the documents.

It is noted that in the live consultation register¹²⁵¹, NSW Health provided comments on the risk assessment that do not appear to have been taken into consideration. NSW Health indicated *'Generally it is not appropriate to change the consequence in assessing risk. Controls address the likelihood; i.e. the likelihood is reduced but the consequence remains the same'* however there are many instances in the risk register where this advice has not been followed and the control measures do not appear to reduce the consequence but the residual consequence has been reduced (refer to findings of the risk assessment below).

¹²⁴⁷ Risk Assessment Protocol for Water Products and Services FS-WAT-NSW-PR-OPS-2466 Revision: 3 16 August 2020

¹²⁴⁸ Recycled Water & Sewage Risk Workshop Briefing Pack Apr2021

¹²⁴⁹ Updated risks_Recycled water risk register

¹²⁵⁰ Updated risks_Sewage risk register

¹²⁵¹ LIVE_Register_Consultation with NSW Health

There are instances where health consequences have been reduced, when it is unclear how the control measures reduce the health impact, for example, there is one risk in the Discovery Point Risk register (SC1.4,) that include human contact with wastewater causing a *public health impact*, that is reduced from possible/ moderate to rare/minor. It is noted that the controls may reduce the instance of this occurring, but it is not clear how the controls reduce the consequence of a public health impact due to wastewater contact. Additionally, as noted in the recycled water audit findings, frequency descriptors were not consistently applied

A recommendation has been made to ensure the documented risk assessment methodology has been consistently implemented.

- **REC-Sewage-2021-001 Review the risk assessments or risk assessment methodology to ensure that consequence values align with the risk being assessed, for example, where the consequence descriptor is limited to aesthetic or undetectable, these cannot be attributed to a risk that has an acute health impact. Frequencies should also be applied taking into consideration historical performance and the occurrence of incidents. Any reduction in consequence should be justified.**

11.4. Water Quality Plans - Operational Procedures

NOL Sch A cl 2.2 The Licensee must: a) fully implement the Operational Procedures (as noted in NOL Sch A, cl 2.1); b) ensure that all of its activities are carried out in accordance with the Operational Procedures; and c) keep records to demonstrate the extent to which the Operational Procedures have been implemented and complied with.

11.4.1. Summary of Findings

Altogether provided evidence that the Operational Procedures required under the relevant clause of the NOL for each scheme have been implemented for the following activities:

- monitoring protocols
- corrective actions
- rapid communication
- inspection and maintenance.

Altogether was found to have implemented the procedures required under the relevant licence clauses and was found to be compliant with this requirement.

11.4.2. Recommendations

No recommendations have been identified for this clause of the licence.

11.5. Water Quality Plans – Monitoring and Analysis

- NOL Sch B cl.8.1 The Licensee must undertake any monitoring that is required for the purposes of this Licence, any Plan, the Act or the Regulation in accordance with this clause 7.
- NOL Sch B cl.8.2 The Licensee must keep the following records of any samples taken for monitoring purposes specified in the Water Quality Plan: a) the date on which the sample was taken; b) the time at which the sample was collected; c) the point or location at which the sample was taken; and d) the chain of custody of the sample (if applicable).
- NOL Sch B cl.8.3 The Licensee must ensure that analyses of all samples taken for the purposes of Verification Monitoring are carried out by a laboratory accredited for the specified tests by an independent body that is acceptable to NSW Health, such as the National Association of Testing Authorities or an equivalent body.

11.5.1. Summary of Findings

Altogether was found to have implemented the monitoring required under the relevant licence clauses and was found to be compliant with NOL Sch B cl.8.1

Altogether was found to have kept the records of the monitoring required under the relevant licence clauses and was found to be compliant with NOL Sch B cl.8.2.

Altogether was found to have water quality analysis undertaken by a NATA accredited laboratory required under the relevant licence clauses and was found to be compliant with NOL Sch B cl.8.3.

11.5.2. Recommendations

No recommendations have been identified for this clause of the licence.

11.6. Infrastructure Operating Plan

WIC Reg Sch 1 cl. 6(1) – Water: Before commencing to operate water infrastructure commercially, the licensed network operator for the infrastructure must prepare, and forward to IPART, an infrastructure operating plan that indicates the arrangements that the licensee has made, or proposes to make, in relation to:

- a) the design, construction, operation and maintenance of the infrastructure, including particulars as to the lifespan of the infrastructure, the system redundancy built into the infrastructure and the arrangements for the renewal of the infrastructure, and
- b) the continued safe and reliable performance of the infrastructure, and
- c) the continuity of water supply, and
- d) alternative water supplies when the infrastructure is inoperable, and
- e) the maintenance, monitoring and reporting of standards of service.

WIC Reg Sch 1 cl. 6(2) – Water: The network operator must ensure that the infrastructure operating plan is fully implemented and kept under regular review and all of the network operator's activities are carried out in accordance with that plan.

WIC Reg Sch 1 cl. 13(1) – Sewerage: Before commencing to operate sewerage infrastructure commercially, the licensed network operator for the infrastructure must prepare, and forward to IPART, an infrastructure operating plan that indicates the arrangements that the licensee has made, or proposes to make, in relation to:

- a) the design, construction, operation and maintenance of the infrastructure, including particulars as to the lifespan of the infrastructure, the system redundancy built into the infrastructure and the arrangements for the renewal of the infrastructure, and
- b) the continued safe and reliable performance of the infrastructure, and
- c) the continuity of sewerage services, and
- d) alternative sewerage services when the infrastructure is inoperable, and
- e) the maintenance, monitoring and reporting of standards of service.

WIC Reg Sch 1 cl. 13(2) – Sewerage: The infrastructure operating plan is fully implemented and kept under regular review and all of the network operator's activities are carried out in accordance with that plan.

11.6.1. Summary of Findings

Altogether was found to have prepared an IOP that meets the requirements of the licence clause and was found to be compliant with WIC Reg Sch 1 cl. 6(1).

Altogether was found to have implemented the IOP and was found to be compliant with WIC Reg Sch 1 cl. 6(2).

Altogether was found to have prepared an IOP that meets the requirements of the licence clause and was found to be compliant with WIC Reg Sch 1 cl. 13(1).

Altogether was found to have implemented the IOP and was found to be compliant with WIC Reg Sch 1 cl. 13(2).

11.6.2. Recommendations

No recommendations have been identified for this clause of the licence.

11.7. Incident Notification

WIC Reg Sch 1 cl. 1(2)(a) A network operator must immediately notify

- a) IPART, and
- b) The Minister administering the Public Health Act 2010, and
- c) the Minister administering Part 2 of the Water Industry Competition Act 2006 (NSW), and
- d) NA, and
- e) any licensed network operator or public water utility whose infrastructure is connected to the licensed network operator's infrastructure, of any incident in the conduct of its activities that threatens, or could threaten, water quality, public health or safety.

11.7.1. Summary of findings

Based on the records identified in Table 10 it was found that Altogether complied with its requirements to notify the identified stakeholders in accordance with the requirements of WIC Reg Sch 1 cl. 1(2)(a).

11.7.2. Recommendations

No recommendations have been identified for this clause of the licence.

11.8. Compliance findings to be checked

Altogether has largely closed out the previous compliance findings, the details of each non-compliance are included in Table 11.

Description	Clause Ref.	Grade	Auditor to check	Evidence
This clause was found to be non-compliant (non-material) based on	WIC Reg Sch 1 cl 7(4)(a)	Non-compliant (Non-material)	Check that RA and Incident management procedures are current, Flow diagram updated	<p>The Huntlee Operational Audit Report (Viridis, August 2020) identified the following recommendations:</p> <ul style="list-style-type: none"> HU-REC-2020-001 Review and update the Process Flow Diagram Recycled Water &

Description	Clause Ref.	Grade	Auditor to check	Evidence
<p>the auditor's findings:</p> <ul style="list-style-type: none"> • examination of the flow diagram of the recycled water scheme revealed that the "off-spec return" from the UV system was not shown • the risk assessment had not been reviewed and updated and did not reflect current circumstances. In particular the risk register does not include assessment of the risk associated with treated water tanks, which was a recent incident that occurred at Pitt Town • the Incident Management Plan and Water Quality Incident Management, Reporting and Investigation Procedure had not been reviewed and updated annually or in response to an incident, as required, and did not adequately cover responses to protozoan risk, and • the assessment of the drinking water service for the identification CCPs and QCPs had not been documented. This resulted in 			<p>and recommendations from Operational Audit (Viridis, August 2020) are implemented</p>	<p>Sewerage to ensure it is accurate and shows all scheme components</p> <p>The flow diagram¹²⁵² identifies the off-spec return from the UV System</p> <ul style="list-style-type: none"> • HU-REC-2020-002 Review and update the risk assessment to ensure it comprehensively identified hazardous events, reflects the current circumstances of the scheme and the risk methodology has been consistently applied. • HU-REC-2020-003 Review and update the Incident Management Plan and the Water Quality Incident Management, Reporting and Investigation Procedure as required (annually and in response to an incident) <p>The Incident Management Plan¹²⁵³ (IMP) provides the overarching framework for Altogether's incident management plan and was updated in January 2021.</p> <p>The Water Operations Incident Management, Reporting and Investigation Procedure¹²⁵⁴ provides flow diagrams that give an overview of incident management and was updated in March 2021.</p> <p>The Incident Notification Protocol with NSW Health¹²⁵⁵ was updated in February 2021.</p> <ul style="list-style-type: none"> • HU-REC-2020-004 Ensure the incident response documentation provides guidance on relevant incidents including but not limited to protozoan water quality non-compliances. <p>The out-of-specification procedure¹²⁵⁶ includes the process for investigation when an out-of-specification parameter is detected. The process includes notifying stakeholders, retesting the out-of-specification parameter, and checking treatment processes. This is considered adequate to cover protozoan risk.</p> <ul style="list-style-type: none"> • HU-REC-2020-005 Record the critical control point assessment for the drinking water system, ensuring that all components of the system have been assessed and critical controls points have been properly identified using the nominated process. Ensure CCPs and QCPs are implemented in accordance with the documentation.

¹²⁵² 2688 Huntlee Process Flow Diagram - Recycled Water & Sewerage (CONTROLLED COPY).pdf HU-WAT-NSW-DR-OPS-2613

¹²⁵³ Incident Management Plan (IMP) (Controlled COPY) AG-ALL-AUS-PL-INC-1266 Revision 9 25 January 2021

¹²⁵⁴ Water Operations Incident Management, Reporting and Investigation Procedure (Controlled COPY) AG-WAT-NSW-PR-OPS-2561 Version 3 22 March 2021

¹²⁵⁵ Incident Notification Protocol with NSW Health (Controlled COPY) AG-ALL-NSW-PR-INC-1277 Revision 9 26 February 2021

¹²⁵⁶ 3512 Discovery Point Recycled Water Out of Specification Work Instruction (Controlled COPY).pdf DP-WAT-NSW-WI-OPS-3474

Description	Clause Ref.	Grade	Auditor to check	Evidence
<p>questions around whether the chlorine dosing should be included as a CCP. The auditor also identified a lack of clarity around operation of QCPs.</p>				<p>CCPs have been reviewed and the results are detailed in Change Notice 3¹²⁵⁷ and Change Notice 7¹²⁵⁸. The audit found that the CCPs are implemented.</p> <ul style="list-style-type: none"> HU-REC-2020-006 Review the risk associated with the use of the fire tanks to determine if additional preventive measures are required and include the storages in the verification program to ensure that when supply is taken from the tanks, that the water quality has not deteriorated. <p>The Huntlee Risk Register includes a risk 'Contamination of drinking water in drinking water storage tank' and the inclusion of storages as a CCP is detailed in Change Notice 7¹²⁵⁹</p> <p>Altogether was found to have closed out the non-compliance.</p> <p>Note: additional findings have been identified in this audit in relation to the updated risk assessment and incident procedures.</p>
<p>This clause was found to be non-compliant (non-material) based on the auditor's findings:</p> <ul style="list-style-type: none"> the risk assessment had not been reviewed by the due date and did not reflect the current circumstances of the scheme, in particular the likelihood of sewage overflows had been underestimated, which was not consistent with the frequency of overflows that had occurred at the scheme as 	WIC Reg Sch 1 cl 14(3)(a)	Non-compliant (Non-material)	Check that RA and Incident management procedures are current, and recommendations from Operational Audit (Viridis, August 2020) are implemented	<p>The Huntlee Operational Audit Report (Viridis, August 2020) identified the following recommendations:</p> <ul style="list-style-type: none"> HU-REC-2020-002 Review and update the risk assessment to ensure it comprehensively identified hazardous events, reflects the current circumstances of the scheme and the risk methodology has been consistently applied. <p>The risk register¹²⁶⁰ for Huntlee (drinking and recycled water) indicates that in July 2020, an internal risk review workshop was undertaken, and a risk review workshop was undertaken with NSW Health in August 2020. The document control properties identify the new risks that were added to the risk register, and the risks that were deleted are shown as a strike through in the register.</p> <p>Altogether was found to have closed out the non-compliance.</p> <p>Note: additional findings have been identified in this audit in relation to the updated risk assessment and incident procedures.</p>

¹²⁵⁷ 210413 Change Notice - Control Point and Log Reduction Review for BH, CB, HL, PT

¹²⁵⁸ CCP review workshop summary outcomes March2021

¹²⁵⁹ CCP review workshop summary outcomes March2021

¹²⁶⁰ Huntlee Risk Register (Controlled COPY) HU-WAT-NSW-RG-OPS-2657.pdf HU-WAT-NSW-RG-OPS-2657

Description	Clause Ref.	Grade	Auditor to check	Evidence
recorded in the incident register.				
<p>Based on the review of Flow Systems documentation, site observations and discussions with key Licensee personnel, we consider that the Licensee has substantially demonstrated that the sludge dewatering infrastructure that has been included in the scope of this audit has been properly designed and constructed with regard to any publicly available standards or codes relating to its design, construction, operation and maintenance. However, during the site visit we observed that new assets have been appropriately tagged, with the exception of the main switch on the dewatering system, which does not have a unique number (refer to Figure 2-11). To ensure correct identification for isolations and the associated isolating plans, all isolation switches should be uniquely labelled. This reduces the risk for isolation errors for maintenance and operational tasks. As a result, we have</p>	NOL Sch B cl 4.1	Non-compliant (Non-material)	Check that dewatering system main switch has been tagged (refer to recommendation in Cardno's New Infrastructure Audit report, November 2020)	<p>Altogether provided evidence that the isolation switch has been included, via a Photograph¹²⁶¹ of the tagged isolation switch.</p> <p>Altogether was found to have closed out the non-compliance.</p>





¹²⁶¹ Huntlee Isolation Switch Photo

Description	Clause Ref.	Grade	Auditor to check	Evidence
graded this clause as Non-compliant (non-material) and included a recommendation to address this deficiency. Although the clause has been graded as Non-compliant (non-material), this non-compliance does not affect the infrastructure's ability to operate safely and in accordance with its licence plans.				

APPENDIX J SUMMARY OF FINDINGS COORANBONG WATER

12. OVERALL SUMMARY

This section provides a summary of the findings, detailed findings and discussions are in Appendix A. The table below provides an overview of the level of compliance for Cooranbong Water. Cooranbong Water (Altogether) is the licensee.

Compliance Grades	Number of Findings	
	Compliant	9
	Non-compliant (non-material)	2
	Non-compliant (material)	1
	No requirement	0

Audit findings are summarised by obligation in the sections below.

12.1. Water Quality Plans - Recycled Water

WIC Reg Sch 1 cl. 7(4) The network operator must ensure that its recycled water quality plan is fully implemented and kept under regular review and the network operator's activities are carried out in accordance with that plan.

12.1.1. Summary of Findings

The audit has identified a number of gaps in the implementation of the Recycled Water Quality Plan¹²⁶² (RWQP) and its supporting programs due to inconsistent implementation the documented risk assessment methodology leading to an underestimation of health risks, inadequacy of the current cross-connection audit program, and failure to implement the current program for cross-connection auditing. In addition, a number of minor inconsistencies in the implementation of the recycled water quality plan and the supporting documentation were identified.

Altogether did not provide sufficient verifiable evidence that its RWQP is fully implemented, and it is the auditor's finding that the deficiency adversely affects Altogether's ability to assure controlled processes, products and outcomes and protect public health.

A grading of **non-compliant material** is awarded to WIC Reg Sch 1 cl. 7(4).

Recommendations have been identified below. Opportunities for improvement have been identified in the combined audit summary and detailed findings in Appendix A.

12.1.2. Recommendations

The following recommendations have been identified to address the areas of non-compliance:

Element 1

¹²⁶² Recycled Water Quality Plan AG-WAT-AUS-PL-OPS-1311 Revision: 17 27 April 2021

The Recycled Water Quality Plan¹²⁶³ (RWQP) states under Component A1.3 that Altogether will identify all agencies with responsibilities for water resources and use of recycled water and regularly update the list of relevant agencies. Under RWQP Component A1.3.1 Altogether uses the scheme specific Stakeholder & Emergency Contact Lists as its means of documenting stakeholders. The lists contain water utilities, NSW and Local government regulators, client interface (property managers) and preferred suppliers for emergencies. These lists are to be reviewed at 6 monthly intervals, however during the audit period, the stakeholder register had not been reviewed 6 monthly. Cooranbong - Stakeholders Emergency Contact List¹²⁶⁴ exists, and was last updated 08/10/2020. The list should have been reviewed in April 2021. A recommendation has been identified to ensure that the Stakeholder and Emergency Contact list is up to date and is under regular review in accordance with documented processes.

A recommendation has been identified to ensure that the Stakeholder and Emergency Contact list is up to date and is under regular review in accordance with documented processes.

• **REC-RW-2021-001 Implement a process to ensure the Stakeholders Emergency Contact List is reviewed by the due date to ensure it remains current.**

The AGWR in Section 2.1.3 requires that recycled water suppliers should identify all stakeholders (including the public) affecting, or affected by, decisions or activities related to the use of recycled water and engage users of recycled water; ensure responsibilities are identified and understood.

Section A1.3.3 of the RWQP states that the Stakeholder and Emergency contact list includes the public. Section A1.3.4 of the RWQP identifies scheme specific community website, bills, customer contract, SMS and email messages, project delivery Agreements, Project Control Group and Homeowners Guide as methods for engaging with developers, customers and tenants. The Altogether Flow WICA Licences - Authorised Purposes Matrix¹²⁶⁵ identifies irrigation as an authorised purposes for the Huntlee Scheme. When reviewing the scheme specific list¹²⁶⁶, 'Public Stakeholders' are not listed and the list is silent on how Altogether communicates with members of the public who are not residents and who access areas with recycled water in use to ensure responsibilities are understood by the public (for example signage in irrigation areas warning that recycled water is in use).

A recommendation has been made to establish a process to identify all potential recycled water users and ensure there is a process for communicating responsibilities to all identified recycled water users. It is considered that appropriate mechanisms have not been developed and effectively employed for members of the public (end users) accessing areas where they may be exposed to recycled water. It is noted that the Stakeholder and Emergency Contact list may not be the most appropriate mechanism for identifying and engaging with the public.

• **REC-RW-2021-003 Review and update stakeholder lists or equivalent to reflect all potential stakeholders and the methods for engagement, including engaging with the public.**

The AGWR (Section 2.1.4) recommends that the recycled water policy should provide a basis for developing more detailed guiding principles and implementation strategies. AGWR includes the broad issues that the recycled water policy should address including for example, intention to adopt best-practice management and a multiple-barrier approach.

¹²⁶³ Recycled Water Quality Plan AG-WAT-AUS-PL-OPS-1311 Revision: 17 27 April 2021

¹²⁶⁴ 3293 Cooranbong - Stakeholders Emergency Contact List (Controlled COPY).pdf CO-WAT-NWS-RG-INC-3292

¹²⁶⁵ 2919 Altogether WICA Licences - authorised purposes matrix (Controlled COPY).pdf AG-WAT-NSW-RG-OPS-2918

¹²⁶⁶ 3293 Cooranbong - Stakeholders Emergency Contact List (Controlled COPY).pdf CO-WAT-NWS-RG-INC-3292

The Recycled Water Policy¹²⁶⁷ states that Altogether will implement and maintain recycled water management system consistent with the AGWR and all managers and personnel are responsible for implementing, maintain and continuously improving the recycled water management system.

During the audit, Altogether team members (Water Operations Manager 31 May 2021) responsible for implementing the preventive measures in the risk assessment indicated that there have been insufficient resources to implement some processes (for example when discussing the implementation of the *Minimising the Risk of Cross-Connection Checks Policy and Procedure*¹²⁶⁸), and the agreed compliance program (Executive Manager – Risk & Compliance 15 June 2021) with IPART has affected Altogether's ability to allocate sufficient resources to RWQP implementation.

Additionally, when gaps in implementation (for example the implementation of the risk assessment methodology) were identified during the audit, Altogether representatives (Water Quality Systems Manager 31 May 2021) indicated in some instances that external consultants had undertaken the works and could not explain how the process was implemented.

Additionally, it was indicated that in cases where recycled water is used in public spaces, that the public should have the 'common sense' to know that recycled water is in use, without signage being installed (Technical Operations Lead 9 June 2021). This approach does not appear to adequately cover protecting the most vulnerable members of the community. It is the auditor's finding that Altogether has not fully implemented its recycled water policy due to gaps in risk management, failure to implement procedures in relation to cross-connection auditing, failure to take ownership for managing risk and by not allocating adequate resources for the implementation of the RWQP and supporting programs

A recommendation has been made to improve implementation of the recycled water policy and to ensure recycled water risk is well understood.

- **REC-RW-2021-005 Implement a program to increase staff awareness of recycled water risks, improve ownership for managing risk and allocation of adequate resources to implement licence plans and meet regulatory requirements.**

Element 2

The AGWR indicates that water suppliers should identify and document hazards and hazardous events, and estimate risk. Section 2.4 of the RWQP identifies the Risk Assessment Protocol for Water Products and Services¹²⁶⁹ (the RAP) as the documented process for undertaking risk assessments. The RAP includes consequence and likelihood descriptors that should be applied when assessing risk. The RAP states in Table 2 that 'Health risks on the sewage and recycled water risk registers are assessed using the AGWR matrix'. When reviewing the matrix, in the RAP, it was found that it was not consistent with the AGWR as the minor and negligible consequence descriptors in the RAP appear to exclude health impacts as detailed below:

- Minor ranking – Health impact minor - possible aesthetic or amenity impact, population impact small, isolated part of the scheme (zone or street)
- Insignificant ranking – Health impact negligible - undetectable impact (normal operations) population impact small, isolated part of the scheme (zone or street)

Altogether has advised verbally and in emails that these consequence categories do not exclude health impacts, however this is not clear from reading the documents. Furthermore, there are a number of health impacts identified in the risk assessment that have been assigned 'insignificant'

¹²⁶⁷ Recycled Water Policy AG-WAT-AUS-PO-OPS-1310 Revision: 3 21 July 2020

¹²⁶⁸ Minimising the risk of cross-connection checks policy and procedure (Controlled COPY).pdf FS-ALL-AUS-PO-OPS-2544

¹²⁶⁹ Risk Assessment Protocol for Water Products and Services FS-WAT-NSW-PR-OPS-2466 Revision: 3 16 August 2020

grading, which describes a health impact as ‘negligible’, and ‘undetectable’ and ‘normal operations’. It is difficult to justify how a health impact from exposure to recycled water is part of ‘normal operations’.

There are a number of instances in the risk assessment¹²⁷⁰ where health risks have been assessed as insignificant for example:

- RL1.6 Human health impacts ‘Pathogens present in recycled water supplied to customers, causing health impacts for customers’ ‘Exceedance of AGWR health guideline value’
- RD1.4 Human health impacts from on lot and network cross connections’ ‘Recycled water entering potable water plumbing in home’ ‘Pathogens present in water supplied to consumers, causing health impacts for consumers’ ‘Exceedance of ADWG health guideline value’

It is noted that in the live consultation register¹²⁷¹, NSW Health provided comments on the risk assessment that do not appear to have been taken into consideration. NSW Health indicated *‘Generally it is not appropriate to change the consequence in assessing risk. Controls address the likelihood; i.e. the likelihood is reduced but the consequence remains the same’* however there are many instances in the risk register where this advice has not been followed and the control measures do not appear to reduce the consequence but the residual consequence has been reduced (refer to findings of the risk assessment below).

In reviewing the risk assessments for all schemes, the auditor identified the following inconsistencies in the application of the RAP when assessing risk:

- Risk SC1.4 relating to sewage overflows, leading to ‘Human contact with wastewater causing public health impact’. The maximum likelihood is almost certain and moderate consequence. Moderate is described as ‘Potential for some increase in disease burden’. The control measures include processes such as use of contractors, isolation of spills, complaints handling and communication. Whilst these control measures may reduce the frequency of a public health impact it is unclear how these reduce the consequence of a public health impact to minor, which is ‘Possible aesthetic or amenity impact’.
- EU1.15 Risk of inadvertent connections between recycled water and potable water (e.g. public bubblers?) leading to ‘Illness from ingestion of recycled water’. Preventive measures are education, communication protocols and the emergency procedures resulting in a residual risk rated minor, which is ‘Minor, Possible aesthetic or amenity impact’.
- RD1.4 On-lot cross-connections residual risk is assessed as ‘insignificant’ which is described as an ‘undetectable impact (normal operations)’. It is unclear how an on-lot cross-connection is part of normal operation. This risk certainty is 1 which means ‘certain’ however Altogether have only undertaken 3 cross-connection audits across 8 schemes with approximately 8146 recycled water customer connections in the audit period, therefore the risk level is unknown and uncertain. During the audit interviews numerous Altogether team members (Water Operations Manager 31 May 2021, Executive Manager – Sustainable Utility Services 15 June 2021) stated that cross-connections do not occur in the Altogether schemes because the houses and development are ‘new’. This is contrary to industry knowledge and experience as documented in literature^{1272 1273}

¹²⁷⁰ 2472 Cooranbong Scheme Risk Register (Controlled COPY) CO-WAT-NSW-RG-OPS-2472.pdf CO-WAT-NSW-RG-OPS-2472

¹²⁷¹ LIVE_Register_Consultation with NSW Health

¹²⁷² A. C. Hambly, R. K. Henderson, A. Baker, R. M. Stuetz & S. J. Khan (2012) Cross-connection detection in Australian dual reticulation systems by monitoring inherent fluorescent organic matter, Environmental Technology Reviews, 1:1, 67-80, DOI: 10.1080/09593330.2012.696724

¹²⁷³ Water Source <https://watersource.awa.asn.au/publications/technical-papers/third-pipe-water-recycling/>

¹²⁷⁴ ¹²⁷⁵. This is considered a significant gap in understanding risk and taking responsibility for managing risk.

Based on the review of the scheme specific risk registers against the requirements of the RAP, it was found that the RAP was not consistently implemented in the audit period, resulting in an underestimation of health risk and there was ambiguity about the health impacts captured in the consequence descriptors. A recommendation has been made to ensure the risk assessment consistently assesses risks.

- **REC-RW-2021-006 Review the risk assessments or risk assessment methodology to ensure that consequence values align with the risk being assessed, for example, where the consequence descriptor of insignificant, aesthetic or negligible cannot be attributed to a risk that has an acute health impact. Frequencies should also be applied taking into consideration historical performance and the occurrence of incidents. Any reduction in consequence should be justified.**

Element 3

Section 2.3.2 of the AGWR indicates that a water supplier should document the critical control points (CCPs), critical limits and target criteria. To assess the CCPs and critical limits the following scheme specific documents were reviewed:

- Cooranbong Water Scheme Management Plan¹²⁷⁶
- Cooranbong - Control Points¹²⁷⁷
- Cooranbong Log Reduction Values Table¹²⁷⁸
- Cooranbong Monitoring and Sampling Program¹²⁷⁹

Section 2.3.2 of the AGWR includes requirements for monitoring CCPs and establishing mechanisms for operational control. The Huntlee CCP Table¹²⁸⁰ identifies the monitoring of CCPs, however when reviewing the Monitoring and Sampling Program, it was noted that some of the CCP parameters were not captured, for example Contact time which is a critical limit.

A recommendation has been made to ensure that the operational monitoring program is correctly documented on the MS Prog, or relevant alternative.

- REC-RW-2021-008 Review the scheme specific monitoring and sampling programs to ensure they include all operational parameters or develop a separate comprehensive operational monitoring program.

Element 4

Section 2.4.1 of the AGWR indicates that recycled water suppliers should identify procedures required for all processes and activities applied within the whole recycled water system (source to use). To determine a suitable procedure for this audit, the Discovery Point risk assessment was reviewed and a relevant hazard, cross connections between the recycled and drinking water network, was selected and the procedure for minimising cross-connections was chosen as a sample procedure for a more detailed audit. The Minimising the Risk of Cross-Connection Checks Policy and Procedure¹²⁸¹ was provided and discussed at the audit. The document control properties indicate

¹²⁷⁴ Risks to the long-term viability of residential non-potable water schemes: a review https://watersensitivecities.org.au/wp-content/uploads/2016/05/TMR_C3-1_RisksViabilityNonPotableWater.pdf

¹²⁷⁵ Muston, M. H. (2012). *Changing of the water recycling paradigm in Australia. Water Science and Technology: Water Supply*, 12(5), 611–618. doi:10.2166/ws.2012.034

¹²⁷⁶ Cooranbong Water Scheme Management Plan (Scheme MP)(Controlled COPY) CO-WAT-NSW-PL-OPS-1720 Version 10 16 April 2021

¹²⁷⁷ Cooranbong - Control Points (Controlled COPY) CO-WAT-NSW-PL-OPS-2832 Version 1 14 August 2020

¹²⁷⁸ Cooranbong Log Reduction Values Table (Controlled COPY) CO-WAT-NSW-PL-OPS-2749 Version 1 17 September 2020

¹²⁷⁹ Cooranbong Monitoring and Sampling Program (Controlled COPY) CO-WAT-NSW-PL-OPS-3093 19 March 2021

¹²⁸⁰ Huntlee - Control Points (Controlled COPY) HU-WAT-NSW-PL-OPS-2581 Version 2 18 March 2021

¹²⁸¹ Minimising the risk of cross-connection checks policy and procedure (Controlled COPY).pdf FS-ALL-AUS-PO-OPS-2544

that the procedure was established in December 2018 and updated in June 2019. The procedure in Section 8.4.2 states that 'The risk of cross-connections and unauthorised tap-ins increases with time as plumbing and network changes are made and the number of connections increases.' Section 8.4.3 of the policy states that:

'Flow has received advice that the water industry has determined that conducting cross-connection checks of 20% of all connections annually is not effective and is moving towards a risk-based approach. Flow is committed to implementing a risk-based, prioritised, statistically significant ongoing inspection program.'

'Flow will conduct a statistically significant set of one of the following types of tests on three streets in a scheme or three units in a high rise building annually, to confirm that there are no cross-connections between potable and recycled water systems or tap-ins of potable to recycled water fittings:

- 1. flow tests*
- 2. electrical conductivity (EC) tests and/or*
- 3. chlorine/chloramine tests, or similar.'*

When reviewing the requirements of the procedure, it was noted that the water industry advice (referenced in the policy) that Altogether has received was not documented and it was not possible to verify if the advice was documented or from where in the industry it was sourced from, for example an accepted industry standard or peer reviewed document. Altogether provided a range of emails^{1282 1283} written by Altogether staff, summarising what appears to be verbal advice from a consultant, however there does not appear to be verifiable evidence of the advice. It is noted that an email states '[Consultant name] has advised us that based on his conversations with Health the "magic number is 3 – i.e. 3 streets in a scheme, 3 units in a building)" and not 20% of all connections annually as we previously targeted.' NSW Health acceptance of this advice could not be verified.

When reviewing the implementation of the Minimising the Risk of Cross-Connection Checks Policy and Procedure it was unclear what a 'statistically significant' number of tests would equate to and how this will relate to three streets or three units in a high rise. The AGWR in Table 2.8 provides examples of potential operational criteria and monitoring, suggesting an ongoing cross-connection program, rolling 6-monthly audits with all properties audited at least every 5 years. Whilst the AGWR provides an example of an acceptable cross connection program, this audit has found that the existing Minimising the Risk of Cross-Connection Checks Policy and Procedure is not clear on the number of audits that need to be taken for each scheme and how the properties to be audited are to be chosen to ensure they are representative.

There was one record of a cross connection audit undertaken at Cooranbong in the audit period. The Minimising the Risk of Cross-Connection Checks Policy and Procedure has not been implemented as documented. Additionally, during the audit interviews Altogether staff advised (Water Operations Manager 31 May 2021) that there are insufficient staff resources to undertake a planned cross-connection program.

A recommendation has been made to implement an ongoing cross-connection audit program that is adequate to control the risk of on-lot cross connections.

¹²⁸² Cross connection workshop with [Consultant Name] 28/11/2018

¹²⁸³ Proposed "Minimising the risk of cross-connection and tap-ins policy and procedure" 11/12/2018

- **REC-RW-2021-009 Review the Minimising the Risk of Cross-Connection Checks Policy and Procedure to ensure that it clearly identifies the number of connections to be audited, audit procedure and the record keeping requirements. Ensure that the ongoing cross-connection audit program is adequate to control the risk of on-lot cross connections noting that the AGWR suggests a rolling 6-monthly audits with all properties audited at least every 5 years as an example of appropriate cross connection monitoring.**

Element 6

Section 2.6.2 of the AGWR indicates that a recycled water supplier should define potential incidents and emergencies, and document procedures and response plans. The Recycled Water Quality Plan¹²⁸⁴ provides a diagram in Section 6 which depicts the framework for managing recycled water incidents and emergencies. The Incident Management Plan¹²⁸⁵ (IMP) provides the overarching framework for Altogether's incident management. The IMP in Section 5.1.3 identifies the requirements of the reporting manual and includes immediate notification to IPART, NSW Health, Department of Planning and Environment and other licenses and public water utilities.

The Water Operations Incident Management, Reporting and Investigation Procedure¹²⁸⁶ provides flow diagrams that give an overview of incident management. This includes the requirement for the incident manager to assess, declare and classify the incident, make notifications, investigate, debrief and close out the incident. The flow diagram also includes responsibilities for notifying regulators.

The Incident Notification Protocol with NSW Health¹²⁸⁷ was updated in February 2021 and includes the contact details of the relevant Public Health Units to be notified for each scheme.

It was noted in both documents above, that there is a recycled water event identified as 'recycled water delivered to customers below the AGWR values measured at the point of supply or point of use'. This appears to be an error and the event should be defined as recycled water delivered to customers that does not comply with the documented water quality criteria. It is noted that AGWR does not identify specific water quality criteria for recycled water and the water quality criteria are documented on the MS Progs for each scheme. A recommendation has been made to review the Water Operations Incident Management, Reporting and Investigation Procedure and Incident Notification Protocol with NSW Health to clearly define the recycled water event with reference to the documented water quality criteria.

- **REC-RW-2021-011 Review and update the Water Operations Incident Management, Reporting and Investigation Procedure and Incident Notification Protocol with NSW Health to ensure that the definition of a recycled water event refers to the documented water quality criteria for recycled water in the Water Quality Plan rather than referring to the Australian Guidelines for Water Recycling.**

Element 10

Document Control Policy and Procedure¹²⁸⁸ states that all BMS documents are controlled using the BMS Library on SharePoint. During the site inspection at Pitt Town, the operator demonstrated the BMS system which included overarching licence plans, site-specific plans and procedures, forms and work instructions. In reviewing the documents provide in evidence, the following findings were noted:

- The footer on the LWC Control System Change Management policy¹²⁸⁹ is inconsistent with the document control properties.

¹²⁸⁴ Recycled Water Quality Plan AG-WAT-AUS-PL-OPS-1311 Revision: 17 27 April 2021

¹²⁸⁵ Incident Management Plan (IMP) (Controlled COPY) AG-ALL-AUS-PL-INC-1266 Revision 9 25 January 2021

¹²⁸⁶ Water Operations Incident Management, Reporting and Investigation Procedure (Controlled COPY) AG-WAT-NSW-PR-OPS-2561 Version 3 22 March 2021

¹²⁸⁷ Incident Notification Protocol with NSW Health (Controlled COPY) AG-ALL-NSW-PR-INC-1277 Revision 9 26 February 2021

¹²⁸⁸ Document Control Policy and Procedure (Controlled COPY AG-ALL-AUS-PO-HSEQ-1234 revision 6 19/1/2021

¹²⁸⁹ LWC Control System Management of Change Policy (CONTROLLED COPY) Revision 3 27 April 20120

- The scheme management plan has errors in the fields and captions.

A recommendation has been made to improve documentation.

- **REC-RW-2021-013 Establish review processes to ensure all documents are reviewed on time and do not have typographical and hyperlink errors.**

Element 11

Section 2.11.2 of the AGWR indicates that a recycled water supplier should establish processes for internal and external audits and Document and communicate audit results. Altogether has an Audit Procedure¹²⁹⁰ that outlines the audit process. An Internal Audit Calendar¹²⁹¹ was shown that outlined the audits that should be undertaken. The audit procedure indicates that the outcomes of internal audits should go onto an action register. During the audit, Altogether explained that this is the Water Quality Improvement Plan, however the actions from internal audits had not been captured on the improvement plan, there was no evidence the actions had been allocated to a responsible person, progress tracked, or closed out. It is noted that some audit findings were closed out on the day of the audit, however ones that were not closed out were not captured in an action register or on the Water Quality Improvement Plan. A recommendation has been made to ensure the audit process is implemented as documented.

- **REC-RW-2021-014 Develop a process to capture and track the progress in implementing recommendations from internal audits on an action register or improvement program, as required by the procedure.**

Element 12

Section 2.12.2 of the AGWR indicates that a recycled water supplier should develop a recycled water quality management improvement plan and ensure the plan is communicated and implemented, and improvements are monitored.

The Water Quality Improvement Plan¹²⁹² was provided and discussed in the audit. Inputs to the plan are documented on the 'Lists Ops' tab and include activities such as the risk register, Licence plan review and audit. There were many items on the register that do not have a completion date, and this makes it difficult to audit its implementation. A recommendation has been made to improve the documentation of the improvement plan to ensure that it is implemented.

- **REC-RW-2021-015 Ensure all items on the Improvement Plan have been allocated to a responsible party, communicated, and due dates for completion have been applied.**

12.2. Water Quality Plans - Drinking Water

WIC Reg Sch 1 cl. 7(4) The network operator must ensure that its drinking water quality plan is fully implemented and kept under regular review and the network operator's activities are carried out in accordance with that plan.

12.2.1. Summary of Findings

The audit has identified a number of gaps in the implementation of the DWQP and its supporting programs due to inconsistent implementation of the documented risk assessment methodology leading to an underestimation of health risks. In addition, a number of minor inconsistencies in the

¹²⁹⁰ 2352 Audit Procedure (Controlled COPY).pdf AG-ALL-AUS-PR-R&C-1364

¹²⁹¹ Internal Audit Calendar - Water

¹²⁹² WQP Improvement Plan

implementation of the drinking water quality plan and the supporting documentation were identified.

Altogether did not provide sufficient verifiable evidence that it's DWQP is fully implemented.

A grading of **non-compliant non-material** is awarded to WIC Reg Sch 1 cl. 7(4). The **non-compliance** is considered **non-material** as the deficiency does not impact on the Altogether's ability to assure controlled processes, public health or the environment.

Recommendations have been identified below. Opportunities for improvement have been identified in the combined audit summary and detailed findings in Appendix A.

12.2.2. Recommendations

The following recommendations have been identified to address the areas of non-compliance:

Element 1

Section 3.1.3 of the ADWG indicates that drinking water suppliers should:

- Identify all stakeholders who could affect, or be affected by, decisions or activities of the drinking water supplier.
- Develop appropriate mechanisms and documentation for stakeholder commitment and involvement.
- Regularly update the list of relevant agencies.

Altogether's Drinking Water Quality Plan¹²⁹³ (DWQP) states under Component A1.3.1 that it will identify all stakeholders who could affect, or be affected by, decisions or activities of the drinking water supplier. Altogether uses the scheme specific Stakeholder & Emergency Contact Lists as its means of documenting stakeholders. The lists contain water utilities, NSW and Local government regulators, client interface (property managers) and preferred suppliers for emergencies. These lists are to be reviewed at 6 monthly intervals, however during the audit period, the stakeholder register had not been reviewed 6 monthly. A recommendation has been identified to ensure that the Stakeholder and Emergency Contact list is up to date and is under regular review in accordance with documented processes.

- **REC-DW-2021-001 Implement a process to ensure the Stakeholders Emergency Contact List is reviewed by the due date to ensure it remains current.**

Element 2

Section 3.2.3 of the ADWG indicates that once potential hazards and their sources have been identified, the level of risk associated with each hazard or hazardous event should be estimated so that priorities for risk management can be established and documented. Although there are numerous contaminants that can compromise drinking water quality, not every potential hazard will require the same degree of attention.

The level of risk for each hazard or hazardous event can be estimated by identifying the likelihood of occurrence (e.g. certain, possible, rare) and evaluating the severity of consequences if the hazard were to occur (e.g. insignificant, major, catastrophic). The aim should be to distinguish between very high and low risks.

Section 2.3 of the DWQP identifies the Risk Assessment Protocol for Water Products and Services¹²⁹⁴ (the RAP) as the documented process for undertaking risk assessments.

The RAP includes consequence and likelihood descriptors that should be applied when assessing risk. The RAP states that 'Health risks on the drinking water risk registers are assessed using the ADWG

¹²⁹³ Drinking Water Quality Plan (DWQP) (Controlled COPY) AG-WAT-AUS-PL-OPS-1241 Revision: 13 15 March 2021

¹²⁹⁴ Risk Assessment Protocol for Water Products and Services FS-WAT-NSW-PR-OPS-2466 Revision: 3 16 August 2020

matrix'. When reviewing the matrix, in the RAP, it is not consistent with the ADWG as the minor and negligible consequence descriptors in the RAP appear to exclude health impacts as detailed below:

- Minor ranking – Health impact minor - possible aesthetic or amenity impact, population impact small, isolated part of the scheme (zone or street)
- Insignificant ranking – Health impact negligible - undetectable impact (normal operations) population impact small, isolated part of the scheme (zone or street)

Altogether has advised verbally and in emails that these consequence categories do not exclude health impacts, however this is not clear from reading the documents.

There are a number of instances in the risk assessment (August 2020) where health risks have been assessed as minor or insignificant including:

- Low chlorine residual leading to pathogens present in water supplied to consumers, causing health impacts for consumer and/or exceedance of ADWG health guideline value – given a minor residual consequence ranking.
- Mains Break leading to contamination of drinking water quality - given a residual consequence ranking of minor.
- Recycled water cross-connection in customer/building plumbing leading to consumption of recycled water - given a residual consequence ranking of minor.
- Chemical leaching into distribution system e.g. volatiles, lead, cadmium, copper from water supply infrastructure leading to chemicals present in water supplied to consumers, causing acute or chronic health impacts for consumers and or exceedance of ADWG health guideline value water - given a residual consequence ranking of minor.

The examples above have the potential to impact on a whole scheme or building, there for assigning a minor grading is not considered consistent application of the RAP.

It is noted that in the live consultation register¹²⁹⁵, NSW Health provided comments on the risk assessment that do not appear to have been taken into consideration. NSW Health indicated *'Generally it is not appropriate to change the consequence in assessing risk. Controls address the likelihood; i.e. the likelihood is reduced but the consequence remains the same'* however there are many instances in the risk register where this advice has not been followed and the control measures do not appear to reduce the consequence but the residual consequence has been reduced (refer to findings of the risk assessment below).

In reviewing the risk assessments for all schemes, the auditor identified the following inconsistencies in the application of the RAP when assessing risk:

- Mains break leading to contamination of drinking water, the consequence reduced from 'major' (Potential for short-term and longer-term public health impacts) to 'minor (Possible aesthetic or amenity impact) also noting that Altogether does not have a network hygiene policy (or similar) or procedures for working on mains and repairing main breaks.
- Residual risk for hazardous event of cross connections in network and on-lot given a rare frequency with a certainty of 1 (certain), however only 3 cross-connection audits have been undertaken across over 8000 connections. The certainty ranking does not appear appropriate. The assessment appears contrary to industry knowledge and experience as documented in

¹²⁹⁵ LIVE_Register_Consultation with NSW Health

literature^{1296 1297 1298 1299}. This is considered a significant gap in understanding risk and taking responsibility for managing risk.

The February Risk Assessment¹³⁰⁰ includes new risks that have been assessed and the consequence values appear more appropriate than the August 2020 risk registers, however the risk of cross connections have not been reassessed.

The audit found that Altogether did not consistently implement the documented risk assessment process. A recommendation has been made to review the risk assessments or methodology to ensure it is consistently applied.

- **REC-DW-2021-003 Review the risk assessments or risk assessment methodology to ensure that consequence values align with the risk being assessed, for example, where the consequence descriptor is limited to aesthetic or undetectable, these cannot be attributed to a risk that has an acute health impact. Frequencies should also be applied taking into consideration historical performance and the occurrence of incidents. Any reduction in consequence should be justified.**

Element 4

Section 3.4 of the ADWG indicates that drinking water suppliers should establish process control programs to support preventive measures by detailing the specific operational factors that ensure that all processes and activities are carried out effectively and efficiently. This includes a description of all preventive measures and their functions, together with documentation of effective operational procedures, including identification of responsibilities and authorities.

Additionally, the ADWG states (p 129) that ‘Good design, management and integrity of distribution systems are essential for maintaining water quality.’

When discussing hygienic work practices when working on the drinking water network, Altogether stated that due to the design of the drinking water network, there is no need to undertake works on the drinking water network and there are no mains breaks. Additionally, if there was a need to work on the mains, Altogether uses a trusted contractor, however there do not appear to be any established procedures or policies for hygienic work practices for Altogether staff or contractors undertaking works on the mains. The Drinking Water Risk assessment¹³⁰¹ undertaken in February 2021 has identified (Ref DW1.6) the need to ‘Formalise and document procedures around equipment use for various water products and services. This action item is noted on the Water Quality Improvement Plan¹³⁰², however there is no target date for completion.

A recommendation has been made to establish procedures for ensuring the integrity of the drinking water network.

- **REC-DW-2021-004 Establish a policy and procedure for hygienic work practices for Altogether staff and contractors undertaking works on Altogether’s drinking water networks and develop a process for ensuring all network operators and contractors have been made aware of the requirements and establish an ongoing audit process to ensure the practices are implemented.**

¹²⁹⁶ A. C. Hambly, R. K. Henderson, A. Baker, R. M. Stuetz & S. J. Khan (2012) Cross-connection detection in Australian dual reticulation systems by monitoring inherent fluorescent organic matter, *Environmental Technology Reviews*, 1:1, 67-80, DOI: 10.1080/09593330.2012.696724

¹²⁹⁷ Water Source <https://watersource.awa.asn.au/publications/technical-papers/third-pipe-water-recycling/>

¹²⁹⁸ Risks to the long-term viability of residential non-potable water schemes: a review https://watersensitivecities.org.au/wp-content/uploads/2016/05/TMR_C3-1_RisksViabilityNonPotableWater.pdf

¹²⁹⁹ Muston, M. H. (2012). *Changing of the water recycling paradigm in Australia. Water Science and Technology: Water Supply*, 12(5), 611–618. doi:10.2166/ws.2012.034

¹³⁰⁰ Register of New Risks Feb2021 for Health Consultation

¹³⁰¹ Register of New Risks Feb2021 for Health Consultation (1)

¹³⁰² WQP Improvement Plan

The Cooranbong CCP Table¹³⁰³ shows a QCP for Free Chlorine, with grab sample taken from the chlorine meter point at the Potable Water Tanks Outlet, the frequency is not specified. The Weekly Control Points Checklist¹³⁰⁴¹³⁰⁵ includes QCPs and CCPs for recycled water but not for drinking water. It is unclear where the results of the grab sample are captured and there was no evidence of that monitoring provided for the audit period. A recommendation has been made to record the result of operational monitoring of the drinking water service.

REC-DW-2021-006 Include recording the operational monitoring of the drinking water system on the weekly control points checklist or equivalent.

Element 10

The Document Control Policy and Procedure¹³⁰⁶ states that all BMS documents are controlled using the BMS Library on SharePoint. During the site inspection at Pitt Town, the operator demonstrated the BMS system which included overarching licence plans, site-specific plans and procedures, forms and work instructions. In reviewing the documents provide in evidence, the following findings were noted:

- The footer on the LWC Control System Change Management policy¹³⁰⁷ is inconsistent with the document control properties.
- The scheme management plan has errors in the fields and captions.

A recommendation has been made to improve documentation.

- **REC-DW-2021-007 Establish review processes to ensure all documents are reviewed on time and do not have typographical and hyperlink errors.**

Element 11

Section 3.11.2 of the ADWG indicates that periodic auditing of all aspects of the drinking water quality management system is needed to confirm that activities are being carried out in accordance with defined requirements and are producing the required outcomes.

Altogether has an Audit Procedure¹³⁰⁸ that outlines the audit process. An Internal Audit Calendar¹³⁰⁹ was shown that outlined the audits that should be undertaken. The audit procedure indicates that the outcomes of internal audits should go onto an action register. During the audit, Altogether explained that this is the Water Quality Improvement Plan, however the actions from internal audits had not been captured on the improvement plan, there was no evidence the actions had been allocated to a responsible person, progress tracked, or closed out. It is noted that some audit findings were closed out on the day of the audit, however ones that were not closed out were not captured in an action register or on the Water Quality Improvement Plan. A recommendation has been made to ensure the audit process is implemented as documented.

- **REC-DW-2021-008 Develop a process to capture and track the progress in implementing recommendations from internal audits on an action register or improvement program, as required by the procedure.**

¹³⁰³ Cooranbong - Control Points (Controlled COPY) CO-WAT-NSW-PL-OPS-2832 Version 1 14 August 2020

¹³⁰⁴ Work_Order 034475 Weekly Control Points Check CB

¹³⁰⁵ Work_Order 037708 Weekly Control Points Check CB

¹³⁰⁶ Document Control Policy and Procedure (Controlled COPY AG-ALL-AUS-PO-HSEQ-1234 revision 6 19/1/2021

¹³⁰⁷ LWC Control System Management of Change Policy (CONTROLLED COPY) Revision 3 27 April 20120

¹³⁰⁸ 2352 Audit Procedure (Controlled COPY).pdf AG-ALL-AUS-PR-R&C-1364

¹³⁰⁹ Internal Audit Calendar - Water

Element 12

Section 3.12.2 of the ADWG indicates that drinking water suppliers should develop a drinking water quality management improvement plan and ensure that the plan is communicated and implemented, and that improvements are monitored for effectiveness.

The Water Quality Improvement Plan¹³¹⁰ was provided and discussed in the audit. Inputs to the plan are documented on the 'Lists Ops' tab and include activities such as the risk register, Licence plan review and audit. There were many items on the register that do not have a completion date, and this makes it difficult to audit its implementation. A recommendation has been made to improve the documentation of the improvement plan to ensure that it is implemented.

- **REC-DW-2021-009 Ensure all items on the Improvement Plan have been allocated to a responsible party, communicated, and due dates have been applied.**

12.3. Water Quality Plans - Sewage

WIC Reg Sch 1 cl. 14(3) A network operator must ensure its sewage management plan is fully implemented and kept under regular review and all its activities are carried out in accordance with the plan.

12.3.1. Summary of Findings

The audit has found that Altogether has generally implemented its Sewage Management Plan, however, the risk assessment methodology, which forms the basis of the Sewage Management Plan has not been implemented consistently, resulting in an under estimation of human health risk. Preventive measures for managing risk from the sewage services are identified, implemented and considered adequate.

The **non-compliance** is considered **non-material** as the deficiency does not impact on the Altogether's ability to assure controlled processes, public health or the environment.

12.3.2. Recommendations

The following recommendation has been identified to address the areas of non-compliance:

The Sewage MP identifies the AGWR as the reference for the risk assessments, and the approach identified in the RWQP. The RWQP identifies the Risk Assessment Protocol for Water Products and Services¹³¹¹ (the RAP) as the documented process for undertaking risk assessments. The RAP states that internal risk reviews will be undertaken annually, and external risk reviews will be undertaken biennially.

The risk assessment includes the assessment of health and environmental risks in relation to sewage activities. In addition to the risk assessments, the Sewage MP states that ecological assessments will be undertaken as a part of development consent. The risk register for each scheme indicates that in July 2020, an internal risk review workshop was undertaken, and a risk review workshop was undertaken with NSW Health in August 2020. The document control properties identify the new risks that were added to the risk register, and the risks that were deleted are shown as a strike through in the register. In April 2021, a recycled water and sewage risk assessment covering the eight schemes was undertaken to address new risks and audit findings. Evidence includes the briefing pack¹³¹², recycled water risk register¹³¹³ and updated sewage risk register¹³¹⁴.

¹³¹⁰ WQP Improvement Plan

¹³¹¹ Risk Assessment Protocol for Water Products and Services FS-WAT-NSW-PR-OPS-2466 Revision: 3 16 August 2020

¹³¹² Recycled Water & Sewage Risk Workshop Briefing Pack Apr2021

¹³¹³ Updated risks_Recycled water risk register

¹³¹⁴ Updated risks_Sewage risk register

The RAP includes consequence and likelihood descriptors that should be applied when assessing risk. The RAP states in Table 2 that 'Health risks on the sewage and recycled water risk registers are assessed using the AGWR matrix'. When reviewing the matrix, in the RAP, it was found that it was not consistent with the AGWR as the minor and negligible consequence descriptors in the RAP appear to exclude health impacts as detailed below:

- Minor ranking – Health impact minor - possible aesthetic or amenity impact, population impact small, isolated part of the scheme (zone or street)
- Insignificant ranking – Health impact negligible - undetectable impact (normal operations) population impact small, isolated part of the scheme (zone or street)

Altogether has advised verbally and in emails that these consequence categories do not exclude health impacts, however this is not clear from reading the documents.

It is noted that in the live consultation register¹³¹⁵, NSW Health provided comments on the risk assessment that do not appear to have been taken into consideration. NSW Health indicated '*Generally it is not appropriate to change the consequence in assessing risk. Controls address the likelihood; i.e. the likelihood is reduced but the consequence remains the same*' however there are many instances in the risk register where this advice has not been followed and the control measures do not appear to reduce the consequence but the residual consequence has been reduced (refer to findings of the risk assessment below).

There are instances where health consequences have been reduced, when it is unclear how the control measures reduce the health impact, for example, there is one risks in the Huntlee Risk register (SC1.4,) that include human contact with wastewater causing a *public health impact*, that is reduced from possible/ moderate to rare/minor. It is noted that the controls may reduce the instance of this occurring, but it is not clear how the controls reduce the consequence of a public health impact due to wastewater contact. Additionally, as noted in the recycled water audit findings, frequency descriptors were not consistently applied

A recommendation has been made to ensure the documented risk assessment methodology has been consistently implemented.

- **REC-Sewage-2021-001 Review the risk assessments or risk assessment methodology to ensure that consequence values align with the risk being assessed, for example, where the consequence descriptor is limited to aesthetic or undetectable, these cannot be attributed to a risk that has an acute health impact. Frequencies should also be applied taking into consideration historical performance and the occurrence of incidents. Any reduction in consequence should be justified.**

12.4. Water Quality Plans - Operational Procedures

NOL Sch A cl 2.2 The Licensee must: a) fully implement the Operational Procedures (as noted in NOL Sch A, cl 2.1); b) ensure that all of its activities are carried out in accordance with the Operational Procedures; and c) keep records to demonstrate the extent to which the Operational Procedures have been implemented and complied with.

12.4.1. Summary of Findings

Altogether provided evidence that the Operational Procedures required under the relevant clause of the NOL for each scheme have been implemented for the following activities:

- monitoring protocols
- corrective actions
- rapid communication

¹³¹⁵ LIVE_Register_Consultation with NSW Health

- inspection and maintenance.

Altogether was found to have implemented the procedures required under the relevant licence clauses and was found to be compliant with this requirement.

12.4.2. Recommendations

No recommendations have been identified for this clause of the licence.

12.5. Water Quality Plans – Monitoring and Analysis

- NOL Sch B cl.7.1 The Licensee must undertake any monitoring that is required for the purposes of this Licence, any Plan, the Act or the Regulation in accordance with this clause 7.
- NOL Sch B cl.7.2 The Licensee must keep the following records of any samples taken for monitoring purposes specified in the Water Quality Plan: a) the date on which the sample was taken; b) the time at which the sample was collected; c) the point or location at which the sample was taken; and d) the chain of custody of the sample (if applicable).
- NOL Sch B cl.7.3 The Licensee must ensure that analyses of all samples taken for the purposes of Verification Monitoring are carried out by a laboratory accredited for the specified tests by an independent body that is acceptable to NSW Health, such as the National Association of Testing Authorities or an equivalent body.

12.5.1. Summary of Findings

Altogether was found to have implemented the monitoring required under the relevant licence clauses and was found to be compliant with NOL Sch B cl.7.1

Altogether was found to have kept the records of the monitoring required under the relevant licence clauses and was found to be compliant with NOL Sch B cl.7.2.

Altogether was found to have water quality analysis undertaken by a NATA accredited laboratory required under the relevant licence clauses and was found to be compliant with NOL Sch B cl.7.3.

12.5.2. Recommendations

No recommendations have been identified for this clause of the licence.

12.6. Infrastructure Operating Plan

WIC Reg Sch 1 cl. 6(1) – Water: Before commencing to operate water infrastructure commercially, the licensed network operator for the infrastructure must prepare, and forward to IPART, an infrastructure operating plan that indicates the arrangements that the licensee has made, or proposes to make, in relation to:

- a) the design, construction, operation and maintenance of the infrastructure, including particulars as to the lifespan of the infrastructure, the system redundancy built into the infrastructure and the arrangements for the renewal of the infrastructure, and
- b) the continued safe and reliable performance of the infrastructure, and
- c) the continuity of water supply, and
- d) alternative water supplies when the infrastructure is inoperable, and
- e) the maintenance, monitoring and reporting of standards of service.

WIC Reg Sch 1 cl. 6(2) – Water: The network operator must ensure that the infrastructure operating plan is fully implemented and kept under regular review and all of the network operator’s activities are carried out in accordance with that plan.

WIC Reg Sch 1 cl. 13(1) – Sewerage: Before commencing to operate sewerage infrastructure commercially, the licensed network operator for the infrastructure must prepare, and forward to IPART, an infrastructure operating plan that indicates the arrangements that the licensee has made, or proposes to make, in relation to:

- a) the design, construction, operation and maintenance of the infrastructure, including particulars as to the lifespan of the infrastructure, the system redundancy built into the infrastructure and the arrangements for the renewal of the infrastructure, and
- b) the continued safe and reliable performance of the infrastructure, and
- c) the continuity of sewerage services, and
- d) alternative sewerage services when the infrastructure is inoperable, and
- e) the maintenance, monitoring and reporting of standards of service.

WIC Reg Sch 1 cl. 13(2) – Sewerage: The infrastructure operating plan is fully implemented and kept under regular review and all of the network operator’s activities are carried out in accordance with that plan.

12.6.1. Summary of Findings

Altogether was found to have prepared an IOP that meets the requirements of the licence clause and was found to be compliant with WIC Reg Sch 1 cl. 6(1).

Altogether was found to have implemented the IOP and was found to be compliant with WIC Reg Sch 1 cl. 6(2).

Altogether was found to have prepared an IOP that meets the requirements of the licence clause and was found to be compliant with WIC Reg Sch 1 cl. 13(1).

Altogether was found to have implemented the IOP and was found to be compliant with WIC Reg Sch 1 cl. 13(2).

12.6.2. Recommendations

No recommendations have been identified for this clause of the licence.

12.7. Incident Notification

WIC Reg Sch 1 cl. 1(2)(a) A network operator must immediately notify

- a) IPART, and
- b) The Minister administering the Public Health Act 2010, and
- c) the Minister administering Part 2 of the Water Industry Competition Act 2006 (NSW), and
- d) NA, and
- e) any licensed network operator or public water utility whose infrastructure is connected to the licensed network operator’s infrastructure, of any incident in the conduct of its activities that threatens, or could threaten, water quality, public health or safety.

12.7.1. Summary of findings

Based on the records identified in Table 10 it was found that Altogether complied with its requirements to notify the identified stakeholders in accordance with the requirements of WIC Reg Sch 1 cl. 1(2)(a).

12.7.2. Recommendations

No recommendations have been identified for this clause of the licence.

12.8. Compliance findings to be checked

Altogether has largely closed out the previous compliance findings, the details of each non-compliance are included in Table 11.

Description	Clause Ref.	Grade	Auditor to check	Evidence
<p>This clause was found to be non-compliant (non-material) based on the auditor's findings:</p> <ul style="list-style-type: none"> the risk assessment had not been reviewed by the due date and did not reflect the current circumstances of the scheme, and the Incident Management Procedures had not been reviewed and updated by the due date. 	WIC Reg Sch 1 cl 14(3)(a)	Non-compliant (Non-material)	Check that RA and Incident management procedures are current, and recommendations from Operational Audit (Viridis, August 2020) are implemented	<p>The Cooranbong Operational Audit (Viridis, August 2020) made the following recommendations:</p> <ul style="list-style-type: none"> CO-REC-2020-001 Review and update the risk assessment to ensure it comprehensively identified hazardous events, reflects the current circumstances of the scheme and the risk methodology has been consistently applied. <p>The risk register¹³¹⁶ for Cooranbong (drinking and recycled water) indicates that in July 2020, an internal risk review workshop was undertaken, and a risk review workshop was undertaken with NSW Health in August 2020. The document control properties identify the new risks that were added to the risk register, and the risks that were deleted are shown as a strike through in the register.</p> <ul style="list-style-type: none"> CO-REC-2020-002 Review and update the Incident Management Plan and the Water Quality Incident Management, Reporting and Investigation Procedure as required (annually and in response to an incident) <p>The Incident Management Plan¹³¹⁷ (IMP) provides the overarching framework for Altogether's incident management plan and was updated in January 2021.</p> <p>The Water Operations Incident Management, Reporting and Investigation Procedure¹³¹⁸ provides flow diagrams that give an overview of incident management and was updated in March 2021.</p>

¹³¹⁶ Cooranbong Scheme Risk Register (Controlled COPY) CO-WAT-NSW-RG-OPS-2472.pdf CO-WAT-NSW-RG-OPS-2472

¹³¹⁷ Incident Management Plan (IMP) (Controlled COPY) AG-ALL-AUS-PL-INC-1266 Revision 9 25 January 2021

¹³¹⁸ Water Operations Incident Management, Reporting and Investigation Procedure (Controlled COPY) AG-WAT-NSW-PR-OPS-2561 Version 3 22 March 2021

Description	Clause Ref.	Grade	Auditor to check	Evidence
				<p>The Incident Notification Protocol with NSW Health¹³¹⁹ was updated in February 2021.</p> <ul style="list-style-type: none"> CO-REC-2020-003 Ensure the incident response documentation provides guidance on relevant incidents including but not limited to protozoan water quality non-compliances. <p>The out-of-specification procedure¹³²⁰ includes the process for investigation when an out-of-specification parameter is detected. The process includes notifying stakeholders, retesting the out-of-specification parameter, and checking treatment processes. This is considered adequate to cover protozoan risk.</p> <ul style="list-style-type: none"> CO-REC-2020-004 Record the critical control point assessment, ensuring that all components of the system have been assessed and critical controls points have been properly identified using the nominated process. Ensure CCPs and QCPs are implemented in accordance with the documentation. <p>CCPs have been reviewed and the results are detailed in Change Notice 3¹³²¹ and Change Notice 7¹³²².</p> <p>Altogether was found to have closed out the non-compliance.</p> <p>Note: additional findings have been identified in this audit in relation to the updated risk assessment and incident procedures.</p>
<p>This clause was found to be non-compliant (non-material) based on the auditor's findings:</p> <ul style="list-style-type: none"> the risk assessment had not been reviewed by the due date and did not reflect current circumstances of the scheme the risk assessment did not 	WIC Reg Sch 1 cl 7(4)(a)	Non-compliant (Non-material)	Check that listed documents are current and recommendations from Operational Audit (Viridis, August 2020) are implemented	<p>The Cooranbong Operational Audit (Viridis, August 2020) made the following recommendations:</p> <ul style="list-style-type: none"> CO-REC-2020-001 Review and update the risk assessment to ensure it comprehensively identified hazardous events, reflects the current circumstances of the scheme and the risk methodology has been consistently applied. <p>The risk register¹³²³ for Cooranbong (drinking and recycled water) indicates that in July 2020, an internal risk review workshop was undertaken, and a risk review workshop was undertaken with NSW Health in August 2020. The document control properties identify the new risks that were added to the risk register, and the risks that</p>

¹³¹⁹ Incident Notification Protocol with NSW Health (Controlled COPY) AG-ALL-NSW-PR-INC-1277 Revision 9 26 February 2021

¹³²⁰ 3343 Recycled water out of specification work instruction_Cooranbong (Controlled COPY).pdf CO-WAT-NSW-WI-OPS-3321

¹³²¹ 210413 Change Notice - Control Point and Log Reduction Review for BH, CB, HL, PT

¹³²² CCP review workshop summary outcomes March 2021

¹³²³ Cooranbong Scheme Risk Register (Controlled COPY) CO-WAT-NSW-RG-OPS-2472.pdf CO-WAT-NSW-RG-OPS-2472

Description	Clause Ref.	Grade	Auditor to check	Evidence
<p>address overdosing of chlorine</p> <ul style="list-style-type: none"> the drinking water quality control point was not implemented, and the Incident Management Plan and Water Quality Incident Management, Reporting and Investigation Procedure had not been reviewed and updated annually or in response to an incident, as required, and did not adequately cover responses to protozoan risks. 				<p>were deleted are shown as a strike through in the register.</p> <p>DS1.7 of the updated drinking water risk assessment¹³²⁴ includes overdosing of chlorine.</p> <ul style="list-style-type: none"> CO-REC-2020-002 Review and update the Incident Management Plan and the Water Quality Incident Management, Reporting and Investigation Procedure as required (annually and in response to an incident) <p>The Incident Management Plan¹³²⁵ (IMP) provides the overarching framework for Altogether's incident management plan and was updated in January 2021.</p> <p>The Water Operations Incident Management, Reporting and Investigation Procedure¹³²⁶ provides flow diagrams that give an overview of incident management and was updated in March 2021.</p> <p>The Incident Notification Protocol with NSW Health¹³²⁷ was updated in February 2021.</p> <ul style="list-style-type: none"> CO-REC-2020-003 Ensure the incident response documentation provides guidance on relevant incidents including but not limited to protozoan water quality non-compliances. <p>The out-of-specification procedure¹³²⁸ includes the process for investigation when an out-of-specification parameter is detected. The process includes notifying stakeholders, retesting the out-of-specification parameter, and checking treatment processes. This is considered adequate to cover protozoan risk.</p> <ul style="list-style-type: none"> CO-REC-2020-004 Record the critical control point assessment, ensuring that all components of the system have been assessed and critical controls points have been properly identified using the nominated process. Ensure CCPs and QCPs are implemented in accordance with the documentation. <p>CCPs have been reviewed and the results are detailed in Change Notice 3¹³²⁹ and Change Notice 7¹³³⁰.</p>

¹³²⁴ Register of New Risks Feb2021 for Health Consultation

¹³²⁵ Incident Management Plan (IMP) (Controlled COPY) AG-ALL-AUS-PL-INC-1266 Revision 9 25 January 2021

¹³²⁶ Water Operations Incident Management, Reporting and Investigation Procedure (Controlled COPY) AG-WAT-NSW-PR-OPS-2561 Version 3 22 March 2021

¹³²⁷ Incident Notification Protocol with NSW Health (Controlled COPY) AG-ALL-NSW-PR-INC-1277 Revision 9 26 February 2021

¹³²⁸ 3343 Recycled water out of specification work instruction_Cooranbong (Controlled COPY).pdf CO-WAT-NSW-WI-OPS-3321

¹³²⁹ 210413 Change Notice - Control Point and Log Reduction Review for BH, CB, HL, PT

¹³³⁰ CCP review workshop summary outcomes March2021

Description	Clause Ref.	Grade	Auditor to check	Evidence
				<p>Altogether was found to have closed out the non-compliance.</p> <p>Note: additional findings have been identified in this audit in relation to the updated risk assessment and incident procedures.</p>
<p>The Licence Plans as a whole is considered adequate, with a few deficiencies:</p> <p>Element 5 - deficiency noted in process for identifying additional sample and monitoring locations following the scheme expansion</p> <p>Element 10 (Reporting) - A gap was noted against the ADWG which states that an annual report should be made available to consumers, regulatory authorities and stakeholders. The DWQP is silent on annual reporting to consumers.</p> <p>Element 11 - The process for the long-term evaluation of results as described in Section 11.1 of the DWQP is not adequate to ADWG requirements for this component, as the DWQP is silent on the assessment of water quality performance as part of an annual review reporting process. Recommended that these be assessed as part of the next scheduled RWQP</p>	WIC Reg Sch 1 cl 7(1)	Non-compliant (Non-material)	<p>Check that recommendations from Licence plan Audit (Atom Consulting, November 2020) are implemented</p>	<p>The DWQP¹³³¹ was updated in March 2021. During the audit, Altogether demonstrated the process for reviewing the monitoring locations based on the network and the development of new areas which included a servicing map that showed the different stages of the Cooranbong development and the locations of monitoring points.</p> <p>Section 10.2.2 of the DWQP¹³³² includes a requirement to make annual reports available to the public on the Altogether website.</p> <p>Section 11.1.1 of the DWQP details the long-term evaluation of the water quality performance.</p> <p>Altogether was found to have closed out the non-compliance.</p>

¹³³¹ 2461 Drinking Water Quality Plan (DWQP) (Controlled COPY).pdf AG-WAT-AUS-PL-OPS-1241

¹³³² 2461 Drinking Water Quality Plan (DWQP) (Controlled COPY).pdf AG-WAT-AUS-PL-OPS-1241

Description	Clause Ref.	Grade	Auditor to check	Evidence
licence plan audit (noting that this is scheduled for 2021).				