

Water Supply

Quality Assurance Program

This program has been prepared by:
John Smith
Manager

This program is for:
Motel
100 Main Street, Anywhere, NSW
(River water with inline filter and chlorination)

Date: April 2014

Contents

Background 3

Water Supply Quality Assurance Program 3

What to do with the QAP 3

1 Basic Information..... 4

 1.1 Private water supplier’s details4

 1.2 Water supply system monitoring and maintenance personnel details.....4

 1.3 Description of the water supply system.....5

2 Diagram of the Water Supply System 6

3 Risk Assessment of the Water Supply System..... 7

 3.1 Risk Assessment8

4. Management Actions and Record Keeping..... 11

 Keep records of:..... 11

 4.1 Planned water supply system inspection and maintenance program 11

 4.2 Water supply system inspection and maintenance records..... 12

 4.3 Equipment details 13

 4.4 Sign posting..... 13

 4.5 Water quality monitoring program..... 14

 4.6 Water quality monitoring results..... 14

 4.7 Incident records..... 15

5. Contingency and Emergency Planning..... 16

 5.1 Contingency plan 16

 5.2 Emergency contacts 18

Background

The *Public Health Act 2010* and Public Health Regulation 2012 require that all suppliers of drinking water establish and adhere to a Quality Assurance Program (QAP). This QAP was developed by customising the template provided by *NSW Health Private Water Supply Guidelines* to ensure its relevance to the water supply system for the Motel.

This QAP addresses the Framework for Management of Drinking Water Quality set out in the *Australian Drinking Water Guidelines (ADWG 2011)*, in a way that is appropriate to the water supply to the Motel.

The *NSW Health Private Water Supply Guidelines* were also used to develop this QAP

Water Supply Quality Assurance Program

A water supply system includes everything from the collection of the source water through to the point of use. When developing this QAP for the Motel water supply system the following questions were addressed:

- What problems could occur between the water source and the point of use?
- How can they be prevented or fixed?
- How do you know that the problem has been prevented or fixed?

The answers to these questions helped to determine how to:

- assess and protect the quality of the source water
- make sure treatment processes are appropriate, maintained and working properly
- regularly test the water quality
- make the water supply safe if contamination has occurred
- make sure that water users are warned and/or provided with safe drinking water if the normal supply is found to be unsatisfactory or the quality cannot be guaranteed.

Keeping the water supply system safe involves:

- identifying who is responsible for the system and who will respond to issues
- understanding hazards to your water sources
- making sure the water is stored and distributed safely
- treating the water to remove or control any contamination
- monitoring the quality of the water and the integrity of the water supply system
- planning on how to respond to problems in the water supply system.

This QAP reflects the type of water supply system managed by the Motel, especially the water source and its end uses. While NSW Health recommends that water supplies be monitored regularly, operators may choose not to monitor water quality.

What to do with the QAP

A copy of this completed QAP has been provided to the Public Health Unit for review.

This QAP should be a living document that is reviewed regularly. Any changes that occur to the water supply system or any new hazards that are identified from observations, equipment checks, incidents or monitoring should be added to the relevant section of the program.

This QAP should be kept in a central place that is easily accessible to staff and others who may need to view it, such as officers of NSW Food Authority, your local Council and NSW Health.

The activities in this QAP are undertaken by this business to ensure safe drinking water and to protect public health.

1 Basic Information

1.1 Private water supplier's details

<i>Property/business name</i>	Motel
<i>Owner/occupier name</i>	John Smith
<i>Owner /occupier contact details</i>	John Smith Phone: (02) 6230 0000 Email: john.smith@motel.com Address: 100 Main Street, Anywhere, NSW
<i>Business after-hours / emergency contact</i>	John Smith Mobile: 0401 234 567 Email: john.smith@motel.com

1.2 Water supply system monitoring and maintenance personnel details

	<i>Roles and responsibilities</i>
<i>Name and phone number of main person responsible</i>	John Smith Phone: (02) 6230 0000 Email: john.smith@motel.com Address: 100 Main Street, NSW, 0000
<i>Name and phone number of any other people responsible</i>	Kate Jones Mobile: 0400 000 000 Email: kate.jones@motel.com

1.3 Description of the water supply system

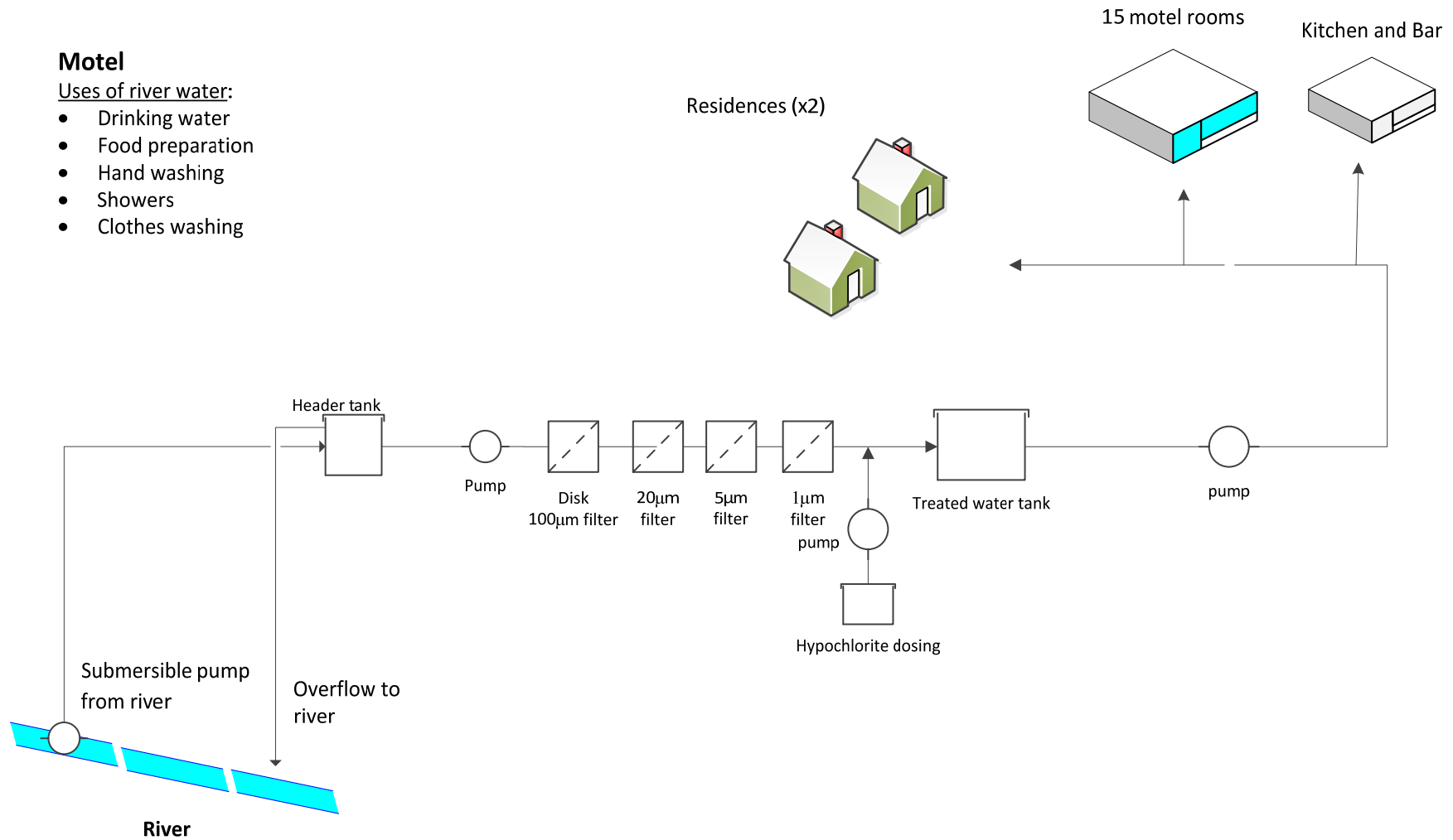
Tick	Component	Description
<i>Water sources</i>		
✓	<i>River / creek</i>	<i>Water pumped from river Water is then filtered and disinfected using chlorination</i>
<i>Treatment</i>		
✓	<i>Filtration</i>	<i>1 x Brand A 100 micron disk filter 1 x 20 micron filter 1 x 5 micron filter 1 x 1 micron filter</i>
✓	<i>Chlorination</i>	<i>Hypochlorite dosing</i>
<i>Distribution</i>		
✓	<i>Storage/header tank</i>	<i>2x header tanks 1 x treated water tank 1 x delivery tank</i>
✓	<i>Pipes</i>	<i>Poly / copper</i>
✓	<i>Pumps</i>	<i>1 x submersible pump 3 x pumps</i>
<i>Uses</i>		
✓	<i>Drinking</i>	<i>Bar & kitchen Facilities in motel rooms</i>
✓	<i>Food preparation (including washing of produce and cleaning of utensils and equipment) Is the Food Business notified to the NSW Food Authority?</i>	<i>Bar & kitchen in motel. Water used for post mix drinks, ice and coffee. Tea and coffee facilities in rooms Kitchens in private residences. Yes</i>
✓	<i>Personal hygiene (showers, toilets etc.)</i>	<i>15 rooms with en-suites Bathrooms in 2 private residences</i>
✓	<i>Clothes washing</i>	<i>Laundry facilities in 2 private residences Motel Laundry including washing of linen in motel rooms</i>
✓	<i>Other</i>	

2 Diagram of the Water Supply System

Motel

Uses of river water:

- Drinking water
- Food preparation
- Hand washing
- Showers
- Clothes washing



3 Risk Assessment of the Water Supply System

Step 1: Identify particular hazards in your water supply in the risk assessment template. The table in Appendix B gives some examples of some hazards and is provided to assist you to complete the “Hazard” column of the Risk Assessment.

Step 2: Assign risk rankings. Once you have listed all possible hazards, assign a risk ranking to each hazard as either low, medium or high in the risk assessment template. Consider the likelihood of the hazard occurring and, if it does, the severity of the consequence. The table in Appendix C may assist in ranking risks.

Step 3: Identify controls. Decide whether the hazards identified in your system have controls in place and describe these controls in the risk assessment template. Controls are the ways that risks will be managed, for example excluding animals from dams used for human drinking water, regular inspection and maintenance programs or water treatment. The table in Appendix B gives some more examples of possible controls for various hazards.

Step 4: Monitoring of controls is important to ensure they are working effectively. Describe in the risk assessment template how, when and where monitoring will occur, who is responsible, how and where records will be kept and by whom. Consult the Private Water Supply Guidelines for information on monitoring.

Step 5: If any hazards are not controlled, identify what could be done to improve safety and reduce the risk of those hazards. List any shortcomings in your water supply system and its management and identify what improvements should be made. Document these improvements in your risk assessment template.

Step 6: Prioritise actions that need to be taken to protect the water supply and give them a priority number or time frame in the risk assessment template.

3.1 Risk Assessment

Step 1 Hazard	Step 2 Risk Rank	Step 3		Step 4 How is this control monitored?	Step 5 If No what could be done to improve safety?	Step 6 Timeframe for action
		Hazard Controlled?	If Yes what is the control?			
<i>Dirty river water after heavy rain</i>	<i>High</i>	<i>Yes</i>	<i>Pump switched off when more than 40mm rain in 1 hour In-line filters Chlorination (target at least 0.5 mg/L free chlorine after 30 min; leaving treated water tank)</i>	<i>Rain gauge monitored hourly during rainfall. Visual check of river water colour Water pressure at taps indicates if filters are blocked Daily chlorine residual testing Routine monitoring of chlorination equipment</i>		
<i>Contaminants from upstream farms in river</i>	<i>High</i>	<i>Yes</i>	<i>In-line filters Chlorination (target at least 0.5 mg/L free chlorine after 30 min; leaving treated water tank)</i>	<i>Water pressure at taps indicates if filters are blocked Daily chlorine residual testing Monthly E. coli testing Routine monitoring of chlorination equipment</i>	<i>Have signage ready in case of E. coli detection or low chlorine concentration Source alternative water supply for drinking (bottled water)and/or carted water</i>	<i>Immediate</i>

Step 1 Hazard	Step 2 Risk Rank	Step 3		Step 4 How is this control monitored?	Step 5 If No what could be done to improve safety?	Step 6 Timeframe for action
		Hazard Controlled?	If Yes what is the control?			
<i>Algal bloom in river</i>	<i>High</i>	<i>Yes</i>	<i>Pumps can be switched off</i>	<i>Looking at the river every day Water pressure at taps indicates if filters are blocked</i>	<i>Have signage ready in case of algal bloom Source alternative water supply for drinking (bottled water) and bathing (carted water)</i>	<i>Immediate</i>
<i>Dirt on 100 micron filter</i>	<i>High</i>	<i>Yes</i>	<i>Daily manual backwashing of screen</i>	<i>Sound of pump if not cleaned</i>		
<i>Build-up of sludge in header tank</i>	<i>Medium</i>	<i>Yes</i>	<i>Screen on tank inlet</i>	<i>Routine cleaning</i>		
<i>Build-up of sludge in distribution tank</i>	<i>Low</i>	<i>Yes</i>	<i>In-line filters</i>	<i>Routine cleaning</i>		
<i>Birds and animals bringing disease causing micro-organisms into tanks</i>	<i>Medium</i>	<i>Yes</i>	<i>Sealed tanks Chlorination (target at least 0.5 mg/L free chlorine after 30 min)</i>	<i>Routine check that tank lids are closed and sealed Daily chlorine residual testing Monthly E. coli testing</i>		

Step 1 Hazard	Step 2 Risk Rank	Step 3		Step 4 How is this control monitored?	Step 5 If No what could be done to improve safety?	Step 6 Timeframe for action
		Hazard Controlled?	If Yes what is the control?			
<i>Corrosion of metal plumbing fittings by soft water or low pH e.g. copper from pipes resulting in blue water</i>	<i>Low</i>	<i>Yes</i>	<i>Flush taps after periods of inactivity</i>	<i>Daily check of water colour</i>		
<i>Plumbing materials (e.g. piping)</i>	<i>Unknown</i>	<i>Unknown</i>	<i>Unsure if materials comply with standards (e.g. AS/NZ 4020:2005, WaterMark, AS2070, AS/NZS4766 or ATS5200.026)</i>		<i>Undertake yearly chemical testing. Ensure all future water supply equipment complies with appropriate standards</i>	<i>Annually Immediate</i>
<i>Pipe breakage</i>	<i>High</i>	<i>No</i>		<i>Water pressure at tap Visual inspection Annual check of pipes</i>	<i>Source alternative water supply for drinking (bottled water)</i>	<i>Immediate</i>
<i>Failure of chlorine dosing system (e.g. not working, too much chlorine or not enough chlorine)</i>	<i>High</i>	<i>Yes</i>	<i>Daily inspection of dosing system (ensure it is set up to provide at least 0.5 mg/L free chlorine after 30 min) Ensuring adequate supply of chlorine available</i>	<i>Daily chlorine residual testing at treated water tank and at kitchen tap</i>		

4. Management Actions and Record Keeping

Document all activities required to manage the water supply including inspections, maintenance, signage, monitoring, and incident management.

Keep records of:

- system inspections
- all results of microbial and chemical testing
- chlorine levels (where applicable)
- maintenance to the water system such as tank cleaning, filter change, addition of chlorine
- incidents and the corrective actions taken, such as finding a dead animal in the tank, storms that may have affected water quality, treatment breakdown
- deliveries of carted water, including date and name of supplier
- the placement of warning signs.

4.1 Planned water supply system inspection and maintenance program

Planned inspection and maintenance program

What is to be inspected/maintained	How often it is to be inspected/maintained (frequency or dates)	Who should conduct the inspection/maintenance	Activity
<i>Check strainer for debris</i>	<i>Daily</i>	<i>Manager</i>	<i>Inspect and clean strainer</i>
<i>Chlorine dosing system inspection</i>	<i>Daily</i>	<i>Manager</i>	
<i>Clean filters</i>	<i>Weekly</i>	<i>Manager</i>	<i>Cleaned and washed</i>
<i>Check presence of mosquito larvae in tank water</i>	<i>Monthly</i>	<i>Manager</i>	<i>Visual inspection of water in tank</i>
<i>Check intake area</i>	<i>Monthly</i>	<i>Manager</i>	
<i>Check inlet and outlet tank screens</i>	<i>3 monthly</i>	<i>Manager</i>	
<i>Check access covers</i>	<i>3 monthly</i>	<i>Manager</i>	
<i>Check sludge level and internal cleanliness of tanks</i>	<i>Annually</i>	<i>Manager</i>	<i>Check sludge level and float</i>
<i>Check structural condition of tanks</i>	<i>Annually</i>	<i>Manager</i>	
<i>Check pumping/piping is operational and maintained</i>	<i>Annually</i>	<i>Manual</i>	

4.2 Water supply system inspection and maintenance records

Water supply system inspection and maintenance record

Date	What was inspected	Notes	Actions to be taken	Person Responsible
1/4/14	<i>Check strainer for debris</i>	<i>Strainer cleaned</i>	<i>N/A</i>	<i>Manager</i>
1/4/14	<i>Chlorine dosing system inspection</i>	<i>System working</i>	<i>Need to order more hypo</i>	<i>Manager</i>
1/4/14	<i>Clean filters</i>	<i>Filters cleaned</i>	<i>N/A</i>	<i>Manager</i>
	<i>Check presence of mosquito larvae in tank water</i>			
	<i>Check intake area</i>			
	<i>Check inlet and outlet tank screens</i>			
	<i>Check access covers</i>			
	<i>Check sludge level and internal cleanliness of tanks</i>			
	<i>Check structural condition of tanks</i>			
	<i>Check pumping/piping is operational and maintained</i>			

4.3 Equipment details
Equipment records

Part / Equipment	Manufacturer¹	Supplier/Repairer Contact Details
<i>Chlorine dosing system</i>	<i>Prominent dosing pump</i>	<i>Anywhere irrigation supplies 0414 444 444</i>
<i>Water pumps</i>	<i>Brand A and Brand B pumps</i>	<i>Anywhere irrigation supplies 0414 444 444</i>
<i>Filters</i>	<i>Brand A</i>	<i>Anywhere irrigation supplies 0414 444 444</i>
<i>Laboratory</i>	<i>Results Laboratory Services</i>	<i>Results Laboratory Services 0414 444 444</i>

Note 1: *Manufacturer's instructions are attached to held by manager*

4.4 Sign posting
Signs

Sign location	Sign wording	Permanent or Temporary	Inspection Date	Any action taken
<i>No non-potable water taps- no signs installed on site</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
<i>At all taps during algal bloom</i>	<i>Water Not Suitable for Drinking or Bathing</i>	<i>During algal bloom</i>	<i>n/a</i>	<i>n/a</i>
<i>At taps</i>	<i>Water Not Suitable for Drinking</i>	<i>Temporary if E. coli detected and/or chlorine dosing system has failed</i>	<i>n/a</i>	<i>n/a</i>

4.5 Water quality monitoring program

Water quality monitoring

What is to be monitored	How often are tests to be taken (frequency or dates)	Location of tests	Who should perform the test	Equipment needed and procedures for performing the test
<i>Water quality</i>	<i>Daily</i>	<i>Managers residence</i>	<i>Manager</i>	<i>Visual inspection Taste</i>
<i>E. coli</i>	<i>Monthly</i>	<i>Kitchen tap</i>	<i>Manager</i>	<i>See sampling procedure from laboratory</i>
<i>Chlorine</i>	<i>Daily chlorine levels</i>	<i>At tank and at tap in laundry</i>	<i>Manager</i>	<i>Test Kit Procedures are written on the lid of test kit.</i>
<i>Chemical</i>	<i>Annually</i>	<i>Kitchen tap</i>	<i>Manager</i>	<i>See sampling procedure from laboratory</i>

4.6 Water quality monitoring results

Water testing results

Date	Where test was taken from	Type of test taken	Test Result	Any action taken	Person Responsible

4.7 Incident records

If incidents, issues or emergencies occur that impact on the water quality, record what happened and what was done to rectify the situation. Include any customer complaints about water quality.

Issue / Incident / Emergency Record

Date	Incident	Notes and corrective actions	Person Responsible

5. Contingency and Emergency Planning

Document what you plan to do:

- if there was a problem with an important part of the water supply system
- in response to a failed water quality test
- to ensure all people responsible for the water supply system have the knowledge and skills to run the system, e.g. training temporary managers
- in response to customer complaints regarding water quality
- any other issue.

5.1 Contingency plan

Issue	Likely actions that could be taken
<i>Pump failure</i>	<ul style="list-style-type: none"> • Firefighting pump to be used to fill header tanks
<i>Dirty water</i>	<ul style="list-style-type: none"> • Cease pumping from river • Inspect filters and clean • Check lines • Bottles of water to be provided to guests to be used for drinking, food preparation and cleaning teeth • Fill header tank and/or treated water tank with carted water
<i>Power failure</i>	<ul style="list-style-type: none"> • Bottles of water to be provided to guests and to be used for drinking, food preparation and cleaning teeth • Firefighting pump to feed header tanks • Bucket to be used for toilet flushing
<i>Algal bloom</i>	<ul style="list-style-type: none"> • Cease pumping from river • Inspect filters and clean • Check lines • Contact NSW Algal Hotline and Public Health Unit for advice • Sign post all outlets that water supply is contaminated and not to be used for drinking, food preparation or bathing • Use bottled water for drinking, food preparation and cleaning teeth • Fill header tank and/or treated water tank with carted water
<i>Chlorination dosing system failure</i>	<ul style="list-style-type: none"> • Contact Public Health Unit for advice • Bottles of water to be provided to guests and to be used for drinking, food preparation and cleaning teeth • Test water for E. coli • Boil water alert • Empty and clean treated water tank and fill with carted water • Contact supplier of dosing system for repair/maintenance

Issue	Likely actions that could be taken
<i>Pipe break or pumps switching on with no demand</i>	<ul style="list-style-type: none"> • <i>Shut down supply</i> • <i>Investigate pipe breakage</i> • <i>Bottles of water to be provided to guests to be used for drinking, food preparation and cleaning teeth</i>
<i>Positive E. coli test</i>	<ul style="list-style-type: none"> • <i>Contact Public Health Unit for advice</i> • <i>Sign post all outlets that water supply is contaminated and not to be used for drinking, food preparation or consumed when cleaning teeth</i> • <i>Bottles of water to be provided to guests and to be used for drinking, food preparation and cleaning teeth</i> • <i>Re-test water for E. coli</i> • <i>Inspect treated water tank to ensure seal is intact</i> • <i>Check chlorine dosing system is working</i> • <i>Increase chlorine dose, if possible</i> • <i>Check filter integrity</i>
<i>Complaint about water taste/odour/colour</i>	<ul style="list-style-type: none"> • <i>Flush taps</i> • <i>Check system from river to tap to ensure there isn't poor river water quality, a failure of screens, filters or chlorinator, or breach in the treated water tank</i> • <i>Bottles of water to be provided to guests and to be used for drinking, food preparation and cleaning teeth</i> • <i>Increase chlorine dose, if possible and appropriate</i>

5.2 Emergency contacts

Contact	Name	Contact Details
Public Health Unit		1300 066 055 http://www.health.nsw.gov.au/Infectious/pages/phus.aspx
Local Council	Anywhere Council	13 0000
Pollution Incident Hotline	NSW Environment Protection Authority	131 555
Plumber	Bill's Plumbing	0414 414 414
Electrician	Jo Sparks	0414 141 141
Chlorine Supplier	Anywhere irrigation supplies	0414 444 444
Tank Cleaner	George's Tank Cleaning	0414 111 111
NSW Algae Hotline	NSW Office of Water	1800 999 457
Bottled Water Supplier	Wet Water Bottled Water supplier	0414 444 444
Water Carter	Wet Water Carter Supplier	0414 444 444