DOUGLAS COMMUNITY WATER REFERENCE GROUP

Lia McDonald : 1/60/22-01: #2055931v1

RECOMMENDATION:

That Council note the minutes of the Douglas Community Water Reference Group’s third meeting held on 16 April 2009.

INTRODUCTION:

The Douglas community supported the implementation of a chemical free water supply in 2003. This chemical free supply does not provide any residual disinfection once the water leaves the treatment plants and enters the pipe network and reservoirs. This leaves the water susceptible to bacteriological contamination that would normally be rendered safe by chlorine disinfection.

In order to assist Council in managing the water supply in Division 10, Council adopted the following resolution at the September 2008 Water & Waste Committee meeting:

That Council resolve to:

1. Establish a community water reference group with the role of advising both Council and the community on water supply and water quality issues in the Mossman/Port Douglas, Whyanbeel and Daintree Village water supplies.

2. Appoint the Chair of Water & Waste Committee as the chair of the reference group and the Division 10 Councillor as the deputy chair.

3. Invite the following to join the group:

   a. Representative from Port Douglas & Daintree Tourist Association
   b. Representative from Port Douglas Chamber of Commerce
   c. Queensland Health
   d. 4 Community representatives as follows:
      1 Port Douglas representative
      1 Mossman representative
      1 Whyanbeel system representative
      1 Daintree Village representative.

4. Provide administrative support to the group through Water & Waste operational budgets.
The Reference Group has now held 2 meetings in December 2008 and February 2009. The minutes of the February meeting are provided to Council for noting.

**BACKGROUND:**

The former Douglas Shire Council (DSC) has 3 reticulated water supply schemes servicing over 90% of the 11,000 population in region. The 3 schemes are:

1. Mossman/Port Douglas scheme – supplying the Mossman and Port Douglas urban areas
2. Whyanbeel scheme – supplying Whyanbeel, Miallo, Newel Beach, Rocky Point and Wonga Beach

With all systems ‘chemical free’, there is the potential for bacteriological contamination of the water, and subsequent failure to meet the provisions of the Water (Safety and Reliability) Act 2008 and the Health Act 2005.

**COMMENT:**

At the third meeting of the Reference Group in April the following agenda items were considered and discussed:

1. Water quality update
2. Rocky Point reservoir actions
3. E Coli testing method
4. Chlorination disinfection
5. Ultraviolet radiation disinfection quotations for household systems
6. Engaging with the community.

Based on the quotations received from 3 companies to provide individual UV systems for residences, the cost to implement this option would be between $12.85 and $19.94 million.

Approximately 20 members of the public also attended the meeting and participated in a question and answer session at the conclusion of the meeting. The next meeting is scheduled for early June 2009.

**CONSIDERATIONS:**

Corporate and Operational Plans:

This issue related directly to Key Goal 5 Our Water Supply in the former Cairns City. The Former Douglas Shire’s corporate plan contains the following relevant strategies:

Strategy 4.5: Maintain and enhance the water supply network in accordance with the triple bottom line concept with a focus on customer service, cost effectiveness and the environment.

Strategy 4.7: Develop and implement a range of services that meet the health, safety and lifestyle needs of the community and conform with legislative requirements.
Statutory:

Council as a registered water service provider has statutory obligations with respect to providing safe drinking water to the community. The following extracts from the Public Health Act (2005) is of relevance.

57C When drinking water is unsafe

Drinking water is unsafe at a particular time if it would be likely to cause physical harm to a person who might later consume it, assuming nothing happened to it after that particular time and before being consumed by the person that would prevent its being used for its intended use.

57E Supply of unsafe drinking water

A drinking water service provider must not supply drinking water that the provider knows, or reasonably ought to know, is unsafe.

Maximum penalty—3000 penalty units or 2 years imprisonment.

Policy:

Council has adopted a Drinking Water Quality Policy with the following intent:

To establish a policy for the implementation and maintenance of a Drinking Water Quality Management System that is consistent with the Australian Drinking Water Guidelines.

Financial and Risk:

Administrative support for the Douglas Community Water Reference Group is provided from existing recurrent budget provisions. There are no significant risks with regard to the activities of the Reference Group.

Sustainability:

The issue of a chemical free water supply is a significant one for sections of the Douglas community. Council has signalled its intent of meeting the aspirations and expectations of the community by supporting the current water supply processes.

CONSULTATION:

Nil

OPTIONS:

That Council note the minutes of the Douglas Community Water Reference Group February 2009 meeting.
CONCLUSION:

That Council note the minutes of the Douglas Community Water Reference Group meeting held on 16 April 2009.

ATTACHMENTS:

Attachment A:: Douglas Community Water Reference Group Minutes of 16 April 2009

Bruce Gardiner
GENERAL MANAGER WATER & WASTE
## Meeting Minutes

**Date**: 16/04/09  
**Start Time**: 2:00pm  
**Finish Time**: 4:30pm  
**Location**: Mossman Office

### Meeting Purpose
Third Meeting of the Douglas Community Water Reference Group

### Attendees
- Michelle Davis (MD), Louise Stayte (LS), Dennis Berzinski (DB), Ian Florence (IF), Tony Dickinson (TD), Cr Julia Leu (JL), Cr Paul Gregory (Chair) (PG); and CRC staff: Bruce Gardiner (BG), Toni Veronese (TV), Lia McDonald (LM), Denney Phillips (DP), Amanda Beecham (AB)

Including members of **General Public (GP)**

### Apologies
- Alex Ung

### Actions and Agreements

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<thead>
<tr>
<th>No</th>
<th>What</th>
<th>Who</th>
<th>When</th>
<th>Completed</th>
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| 1 | **Welcome & Apologies** -  
• Welcome and introduction of members and staff for benefit of the GP | | | |
| 2 | **Review of action items from last minutes** -  
• (PG) motioned that Items relating to last minutes, being: 4, 5 & 6 of the agenda would be addressed through this agenda  
• The Chair (PG) proposed to adopt minutes from last meeting: Moved (DB); Seconded (IF); carried (PG)  
• Outlines this meetings agenda and meeting format | | | |
| 3 | **Water Quality Update** –  
• (BG) outlined through Powerpoint, actions and results in reservoirs since last meeting  
• Chair (PG) asks for any questions from members relating to the summary  
• (PG) interrupts a (GP) interjection to explain protocol for the meeting and that questions to be requested “Through the Chair” and to wait until the end of the | | | |
meeting and General Business

• Q (LS) asks for new column to be included in the update table breakdown to identify past results more easily
• (BG) yes will look at a new format
• Q (JL) requested clarification of the testing of different strains of E-coli, and being presently not able to test all the different strains?
• (BG) explains that given there are multiple strains of E-coli which can come from animals, humans, birds, bugs etc. what we use is an indicator used as signal of faecal contamination in the water supply, and therefore following guidelines which stipulate a level of zero is required because, so yes its not easy to identify the species… requesting confirmation from (IF)
• (IF) responds and supports (BG) stating that the indicator level identifies that there is a organism present and that e-coli is most easily identifiable in a short period of time, generally a couple of days, which is why it is used. It is an “indicator organism” which indicates that the treatment or process hasn’t worked, and if e-coli is present then there may be other organisms there too
• (GP) asks “what about other bugs & parasites in the water?
• (PG) chair asks community to follow protocol and formality of requesting questions
• (BG) explains to treatment process being very effective, and the micro-filtration is so fine that it should remove any Guardia before the UV disinfection after the filters in the treatment – there it would be highly unlikely that someone could get contaminated by Guardia or Cryptosporidium after the treatment process, and reiterates that these can be picked-up from other sources such as dogs etc…
• (IF) clarifies that these organisms can be contracted from various different sources other than the water supply
• Q (JL) asks are records kept of water testing in the Cairns areas relating to Guardia, given the population supplied and the number of water supplies.
• (BG) responds no other results have been identified for Cairns area
• (DP) responds - yes testing of the water supplies in Cairns area is undertaken but
due to the addition of Chlorine there’s been no such results

4 Review of Rocky Point Reservoir actions –

- (PG) provides introduction and review of what’s been happening at Rocky Point.
- (BG) explains the situation with a summary. The agenda documents supplied a copy of the report, and emails from NRW and Qld Health for members to review and the items in the Public Health Act

- (IF) notifications get sent to Qld Health for action... in the case of the Rocky Point supply it has been an on-going issue and it comes back to the legislation, where the Ecoli is indicator and the Chief microbiologist in Brisbane has given advice that the presence of Ecoli could mean the potential for water to be unsafe – and where this Ecoli exist it could be said that Council knowingly supplying of potentially unsafe water = breach and requires action to treatment. If this was a one-off report then it wouldn’t be knowingly, but as this has been ongoing then it has been identified that immediate action as this can be identified as a potential breach of the legislation and we require Cairns Water to take immediate steps to treat the supply and ensure that on-going the water will be safe

Q (GP) (through the chair) relating to the maintenance of water services (ie. school and park taps, showers and water fountains) despite the water safety issues. Should not ALL water have been turned off? And why wasn’t everyone notified...

- (BG) responds explaining the process of advice from Qld Health when tests have repeatedly failed and then are directed to release a “Boiled Water Advisory Notice”
- (IF) adds that as the regulator Qld Health take steps to ensure council supplies safe drinking water – in the event that it is potentially not we direct that these notices be made, and this was done nationally and then there’s the issue from a DNR point of view where you can’t just turn off the water supply as this would affect wastewater systems, that is flushing toilets etc...
- (BG) shows map of Rocky Point systems and options to introduce disinfection planning for long-term but also short-term cleanse

Q (GP) (through the chair) has been advised that the level of water in reservoir is very low – is it not better to keep full than having lower level and greater area of...
heat and pressure affecting its quality & being better conditions for bacteria to grow?

- (BG) the reservoir has been sealed no so there should no organisms getting in and if contamination is entering its probably coming through the pipe network, as to keeping the level low it ensures more frequent flushing and turn-over of the water in reservoir and minimising opportunity for bacteria to breed. That’s the operation response

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<th><strong>Review of E-coli testing methods -</strong></th>
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<td>• (PG) provides introduction, (BG) outlines what will be explained and the relevant hand-outs &amp; details associated</td>
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<td>• (AB) explains and gives overview of what the lab does, the breakdown of pathogens, bacteria’s, parasites &amp; viruses what they are what they do and what the lab looks for when testing. ie. not feasible to test for every organism, it would be far too time consuming some results can take 3 months and are expensive. Therefore they look for indicator organisms identifying faecal contamination. She then explains why this is the best and most effective indicator organism</td>
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<td>• (AP) explains then how they test and find these in the samples and distributes examples of different testing plates ie. samples and how to identify them.</td>
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<td>Q</td>
<td>(LS) is it possible for bore water to also have these pathogens in it – (AP) responds absolutely</td>
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<td>• (AP) further discuss the size and volumes of the samples</td>
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<td>(GP) questions whether contamination could occur at the point of sampling</td>
<td>• (AP) then describes the process of flaming with blow-torch &amp; flushing the taps when sampling is done, and also explains the qualifications and training the samplers must have to perform the sampling to ensure we guaranteeing we are meeting every guideline is met, also taking duplicates to ensure each test is run twice, and a sample is also sent to various other laboratories to ensure accuracy.</td>
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<td>(GP) comments on seeing staff not flaming the taps when sampling</td>
<td>• (DP) responds saying there are 2 ways to of taking samples – the other is by using alcohol swabs on the taps, so you don’t have to flame it</td>
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### Review of Chlorine Disinfection –
- (AP) outlines the level and reason why Chlorine is the most commonly used disinfection system used, and its residual qualities through entire distribution line. Also mentions levels outlined as acceptable by the Drinking Water Guidelines.

(GP) **questions about Guardia**
- (AP) responds that it’s a very different organism again, it’s a parasite rather than a bacteria, and given it’s a much larger organism it be picked-up in the filtration process.

(GP) **questions how chlorine is added to the water (in the area during recent events)**
- (BG) responds outline the calculations based on volume’s in the reservoirs and concentration permitted. The calculation and input would’ve been done by operations staff who are familiar and experienced with the requirements.
- (AP) continues outlining the disinfection by-products. Therefore if chlorination were to be added post the filtration and UV disinfection the water would be a very clean source with nothing to react with.

Q. (LS) to methane odour by-product – does any other by-product produce an odour?
- (BG) responds relating to the odour complaints recently - if organic matter is in the pipes network then it can smell like stagnant water.
- (AP) biofilms in chloroforms from settled water, chlorine flush may activate those biofilms & react causing an odour.
- (AP) then goes into studies relating to Chemical versus Bacterial risks. Where chlorine effects have been tested on animals in extremely high levels. Basically every guideline out there, including the Australian Drinking Water Guidelines, state the very real and demonstrated risk of disease is caused by pathogens present in untreated drinking water, which by far outweigh any minimal potentials risks from infection by chlorine.

### UV systems - quotes –
- (TV) reviews the investigation taken following the last meeting to source cost and quotes for individual UV systems. Contacting 3 different companies who specialise...
in UV disinfection (2 in Qld, 1 in NSW). They were supplied with water quality results and flow rates and asked for an appropriate quote for the system we’d be requiring. Unit price is for units only excluding installation, freight & spare parts – all need to be installed near a power source, semi-protected and close to the houses, and all units require the UV lamps every 12mths & recommend 2 pre-filters attached to the unit (mini water treatment plant) & these pre-filters would need to be changed every 6-12mths also. So estimated maintenance costs per year would be between $300-500/unit.

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<tr>
<th>Type</th>
<th>Per unit</th>
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<tr>
<td>Nature Flow</td>
<td>$2,475</td>
<td>$19.94 mill</td>
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<tr>
<td>Aqua Fresh</td>
<td>$2,042</td>
<td>$16.45 mill</td>
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<tr>
<td>Upstream</td>
<td>$1,595</td>
<td>$12.85 mill</td>
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Q. (LS) Relating to a larger unit at each reservoir, not only at the treatment plant.
- (BG) responds outlines that they haven’t looked at this option, but that (DP) had looked at possible portable options which were $17-18,000
- (DP) interjects that they were $60,000 and some of the problems with them is that the water has to be constantly moving if it’s not flowing then the lamps blow-up.

8 Community engagement strategy –
- (LM) based on the last meeting – it was identified that it’d be beneficial to get the input from the Group members when creating the communications strategy. therefore have created a template outlining what potentially the communication strategy will be highlighting objectives, target audiences etc. – the aim being to get feedback from each member and then to combine all the ideas, perceptions and local objectivity to then combine, and compile and create the final draft together. This is a difficult process – we need the input from the group to help us develop the most effective processes to use to get the best results.

Q. (JL) asked – unsure of the purpose of the development of the strategy and concerned with costs & budgets
- (LS) added that she felt the purpose was to use the experience of the communications staff to help guide them in their involvement in the process
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<td>The general public then had the opportunity to direct questions to the members of the group and CRC staff. This lasted for 20 mins and was quite varied. The next meeting was decided for Thursday 11\textsuperscript{th} June – to be confirmed.</td>
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<td>The group members then stayed and voiced their concerns at their ability to feel involved in the meeting with the general public being so vocal and called for a better process if there would be general public at the following meetings.</td>
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