



To drink or not to drink? That is the Question

With apologies to the famous old English bard, Shakespeare. Is rainwater really drinking water, what is drinking water and why is that of interest to plumbers?

Is rainwater drinking water?

Maybe, maybe not. Michael Oelgemoeller, a water treatment researcher from James Cook University is quoted as saying, "There is this public view that rainwater is clean and yummy and tasty but it really depends on how you collect it," and "I would not drink it for sure. It's recommended for dishwashers, for toilets, for gardening, but drinking is a different story." Additionally Flinders University environmental health researcher Kirstin Ross is quoted saying "The bottom line recommendation would be to not drink rainwater if there's another option available," as a result of conducting a review of tankwater around Adelaide. (Credit ABC Health & Wellbeing - Tegan Taylor - abc.net.au)

What is drinking water? The National Construction Code 2016 Volume 3 (Plumbing Code of Australia) states "Drinking water means water intended primarily for human consumption but which has other domestic uses."

NCC Volume 3 references the Australian Drinking Water Quality Guidelines produced by the National Health and Medical Research Council. The Australian Drinking Water Quality Guidelines state that thermotolerant coliforms should not be detected in 100mL of "drinking" water.

Thermotolerant coliforms are able to tolerate but not thrive in high temperatures. Escherichia coli (E.coli), the most common is regarded as the most specific indicator of recent faecal contamination because E.coli has been found to not be capable of growth in the environment. E.coli typify a group of rod shaped bacteria (coliform) which are always present in the digestive tract of animals and humans.

Studies conducted in Queensland in 2011 found evidence that rainwater tanks are often contaminated with faeces from

animals including but not limited to snakes, possums and birds. Animal faeces contain microorganisms which can cause human gastrointestinal illness including vomiting and diarrhoea. Ironically the health risk from these conditions is dehydration. (Source: Roof-harvested rainwater and protection of public health – a Queensland Health fact sheet version: 5 August 2011)

The Queensland Development Code Mandatory Part (MP) 4.2 sets out the minimum requirements for the installation of all rainwater tanks.

Other specifications standards are outlined in the *Public Health Regulation 2005*.

- » Any faecal material most commonly indicated by the presence of E.coli
- » Insects including mosquitoes
- » Leaf material or other debris
- » Stagnant water from collection pipework which is not self-draining
- » Chemicals from hazardous roofing materials, nearby industrial emissions or agricultural activities such as crop spraying, heavy metals and pesticides that could affect human health
- » Algae growth.
- » Lead or lead residue

Why is this of interest to plumbers?

For decades, rainwater has been plumbed into homes where treated main water has not been available. The *Plumbing and Drainage Act 2002* (s82) requires compliance with the *Standard Plumbing and Drainage Regulation 2003* (s8A) which in turn requires compliance with provisions detailed in the National Construction Code 2016 Volume 3 (Plumbing Code of Australia) as the means to comply with the Act. Such compliance is mandatory

The Plumbing Code of Australia BP1.1 Performance requirements for a cold water service states "Installations intended to supply cold water for human consumption; food preparation, food utensil washing or



personal hygiene must be connected to a drinking water supply."

- » The plumber must ensure that the water source is drinking water as specified in the Australian Drinking Water Quality Guidelines when connecting water plumbing to relevant fixtures.

In some circumstances, the price to pay for not having reticulated mains water may be the cost to install appropriate equipment to treat the available rain, bore, dam or creek water so that sufficient drinking water is available.

- » The property owner bears the responsibility to ensure that the water supply derived from rain water or any other water source is maintained at drinking water quality by regularly monitoring and servicing the collection, storage and treatment systems involved. All components of the system must be maintained in good condition and operating properly.
- » This is especially important where premises are being rented to tenants or food preparation on commercial premises is involved.





Missing Form 4? Have you lodged yours for completed notifiable work?

Are you ready for change?

Legislation and Standards which will affect all plumbing and drainage contractors being reviewed and/or amended are listed below.

- **Plumbing and Drainage Act 2017**
(The Plumbing and Drainage Bill was introduced into Parliament 10 October 2017) Yet to be passed
- **Plumbing and Drainage Regulation 2017**
(Currently in draft form)
- AS/NZS 3500:2015 Parts 1,2 and 4
- National Construction Code Volume 1 Amendment 1 – Fire Sprinkler Systems
- National Construction Code Volume 3 (Plumbing Code of Australia) – Draft ‘Acceptable Plumbing Practices’

More information will be provided as changes become effective.

Did you know?

Council’s Online Application System for lodging Plumbing and Building applications is live!

Go to: www.livingstone.qld.gov.au

Click on: APPLICATIONS in the Menu Bar

Follow: New User Registration instructions

Make: all applications online.

About 17,000 rateable properties located in the 11,776 square kilometres of Livingstone Shire support a population of almost 36,000 residents. During the six months from 1 June 2017 to 30 November 2017, of those rateable premises:

- » 16 had water piping altered
- » 11 had drainage work performed
- » 3 buildings other than class 1 dwellings had sanitary plumbing work carried out
- » 8 properties had temperature control devices installed
- » 125 extra properties had a new water heater installed
- » 5 properties had testable backflow devices installed or removed
- » 5 additional dwellings had a new fixture or fixtures installed
- » 2 additional dwellings had relocated fixtures
- » 1 additional class 2-9 building also relocated a fixtures

These figures are derived from the 176 Form 4 notifications submitted to the Queensland Building and Construction Commission by 31 different licensees for the period. This equates to 1.34 Form 4 per day over 131 working days (not including week-ends) 8 audits were carried out on randomly selected properties.

What is the significance of these figures?

Livingstone Shire Council reminds all plumbing and drainage contractors that it is a mandatory requirement to submit to the QBCC within 10 business days after completion of notifiable work as listed in Schedule 2 Part 1 of the Standard *Plumbing and Drainage Regulation 2003*, notification in the approved form, i.e. Form 4 accompanied by the prescribed fee.

All aspects of the work need to be declared by marking each category (1-16) applicable to your contract. For example, replacing a water heater may involve altering hot and cold pipework (Category 2); installing a tempering valve (Category 6); removing and installing the water heater storage tank (Category 7); requiring that Categories 2, 6 and 7 be declared on the Form 4 (either electronically through MyQBCC or completing manual form and posting to QBCC with fee.

Council is currently in the process of investigating cases of notifiable work which have been completed since 1 November 2012 without Form 4 having been lodged with the QBCC. Currently it has been found that fixtures installed as part of dwelling alterations and additions carried out with building development approval have not been reported by the installing plumber.

Plumbing contractors carry out many different types of work in the course of conducting their business. Some work is under the *Building Act 1975* (e.g. roofing, guttering walling etc.), other work under the *Plumbing and Drainage Act 2002* is not notifiable work, being minor work (reporting not required) and compliance assessable (Form 1) work carried out under a compliance permit. However, 1.34 per working day does seem low.

If this article jolts your memory, or you recall work for which a Form 4 should have been submitted, Council recommends that you declare the work sooner rather than later.

- » Relocated a kitchen sink in a kitchen renovation with a cabinetmaker or builder?
- » Renovated a bathroom relocating fixtures or adding extra fixtures?
- » Disconnected a dwelling for demolition?
- » Installed a testable backflow device for a commercial irrigation system?
- » Replaced or altered existing sanitary drainage from a residence?
- » Installed plumbing and drainage for fixtures in an additional or relocated ensuite or laundry ?

All of these types of work involve notifiable work. If in doubt, contact one of Council’s plumbing inspectors on 49135000 for assistance. The Queensland Building and Construction Commission (QBCC) has the power to audit your records for accuracy and penalties may apply in such a scenario for failing to provide notification of notifiable work to the QBCC.

See “**How to avoid notifiable work penalties**” on www.qbcc.qld.gov.au (Link: <http://www.qbcc.qld.gov.au/notifiable-work-plumbing-drainage/how-avoid-notifiable-work-penalties>)



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(including after-hours for emergencies)



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