The Wastewater Specialists

Optimising your assets

Andrea Durie
Communications & Engagement Manager
Matamata-Piako District Council
PO Box 266
Te Aroha 3342

31st October 2025

Potential Impact of Towns Supply Water on Septic Tanks

Dear Andrea,

As requested, I am pleased to provide a brief outline of the potential impact of towns water supply on existing septic tanks and disposal fields.

Background Information

We understand that potable water for the township of Waitoa is currently supplied by Fonterra. Matamata-Piako District Council (MPDC) is investigating options for an alternative water supply for Waitoa. Wastewater treatment and disposal in Waitoa is by individual septic tanks and disposal fields. MPDC has assembled a citizens panel to consider the options and make a recommendation on the preferred option. A question raised by this panel is whether chlorinated towns water could adversely affect the performance of septic tanks or treated effluent disposal fields.

Potential Impact of Towns Supply Water on Septic Tanks

Potable water supplied in a reticulated scheme typically contains a low residual concentration of free available chlorine (FAC). Residual FAC is present in potable water to kill any potentially pathogenic microorganisms and ensure the water is safe to drink. Under the New Zealand Drinking Water Standards, a minimum residual FAC of 0.2mg/L applies to chlorinated supplies, with a maximum acceptable value (MAV) of 5mg/L. We understand that the current potable water supply for Waitoa, supplied by Fonterra, is chlorinated so contains low residual FAC concentrations.

Septic tanks are a primary treatment process, with the main mechanism of contaminant removal being settlement. This reduces the total suspended solids (TSS) in the wastewater, before the liquid component is discharged via sub-surface irrigation. The sludge that settles at the bottom of a septic tank is partially broken down by anaerobic bacteria. Therefore, there is the potential for high concentrations of FAC to adversely affect the microbiology in a septic tank.

Phone 027 4411 664
Email hugh.ratsey@twws.co.nz
Website www.twws.co.nz

Physical Landcare Research Building
Gate 10, Silverdale Road
University of Waikato
Hamilton 3216

Postal PO Box 11 112
Hillcrest
Hamilton 3251

The low concentration of residual FAC in a chlorinated towns water supply will rapidly break down in a septic tank, and will not adversely affect the microbiology, or treatment performance, of a septic tank or effluent disposal field. To put the residual FAC in reticulated potable water into context, household bleach typically contains 5.25% sodium hypochlorite. This equates to a chlorine concentration of 5,250mg/L, which is ~10,000 times more concentrated than the FAC in a chlorinated towns potable water supply scheme.

Examples of Townships Serviced by Towns Supply Water and Septic Tanks

Some local examples of townships serviced by both towns potable water supply and septic tanks for wastewater treatment and disposal are summarised in Table 1.

Table 1: Local Examples of Townships Serviced by Towns Supply Water and Septic Tanks

Township	Local Authority
Gordonton	Waikato District Council
Horsham Downs	Waikato District Council
Ōhaupō	Waipā District Council
Onewhero	Waikato District Council
Port Waikato	Waikato District Council
Rotokauri	Waikato District Council

I trust this provides the information you require. If you would like to discuss this, please don't hesitate to contact me.

Yours sincerely,

Hugh Ratsey
Wastewater Process Scientist & Engineer