

Memorandum

To: Gina Grimwood, Operations Manager, Collett Group
From: [REDACTED], Drinking Water Specialist, Matt Molloy Consulting Ltd
Date: 6 July 2026
Subject: Tahimana development -Water Supply

Engagement

Matt Molloy Consulting were requested to provide expert advice on drinking water compliance to the Tahimana development. Matt Molloy has over 30 years public health experience firstly with the Nelson Marlborough District Health Board and as a public health consultant over the last 15 years. Matt has specialised in drinking water compliance and consulted directly to many District Health Boards in New Zealand as a Drinking Water Assessor, to local authorities assisting with compliance/Water Safety Plans and also to the World Health Organisation as a Water Sanitation & Hygiene Specialist. Matt worked as a Drinking Water Assessor for over 10 years in most parts of the country, until government drinking water compliance responsibilities shifted to the Water Services Authority.

Currently Matt is undertaking independent drinking water compliance assessments for 12 Councils across the South and lower North Island. Matt has undertaken water supply development and compliance work for Hamilton Airport, Tatum Park (Horowhenua), Outward Bound School, Palmerston North Hospital, Lower Queen St commercial development (Richmond), Edgewater subdivision & Okiwi Bay (Marlborough), Torrent Bay (Abel Tasman National Park), Appleby Hills (Tasman) and Oringi Business Park (Dannevirke).

Overall proposal

To create a subdivision of 141 lots Northwest of Mapua referred to as Tahimana. All lots will have access to a fire fighting hydrant according to the code of practice. Potable water will be provided either buy the association or each resident depending on the size of the properties. Large properties will have their own roof collection and storage, this will be the responsibility of each property and potability is covered under the Building Act requirements (38 properties). This will be dealt with during the building consent stage and therefore outside of the scope of this memo. The remaining 102 properties will have a connection to the Associations network which will be supplied from the Mapua water supply, owned by the Tasman District Council.

Water supply

As mentioned above 38 properties will have their own water supply, this will not be covered any further in this memo. Fire fighting will also not be covered any further unless it proposes a risk to the water supply.

102 properties will be supplied water from the Mapua water supply. This TDC supply gets its water from shallow bores adjacent to the Waimea River. The water is UV disinfected, chlorinated and pH adjusted (with lime) before being pumped to Mapua.

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There are a number of storage reservoirs throughout the network including a tank farm located on Stagecoach Rd. Treated water will be supplied either from this tank farm or from the network directly into an onsite 300m³ storage tank owned by the association. From this tank the water will be gravity fed to each of the 102 properties, where it will go through a toby (to enable the water to be isolated), a restrictor (1m³/day), backflow device (suggest double check valve) and into an onsite storage tank (3m³).

As the Mapua water is UV disinfected and chlorinated it is unlikely that the Association will be required to provide further large-scale treatment. The residual chlorine levels in the Stagecoach Rd tanks and throughout the Mapua network are checked regularly by Councils contractors (Downers), and a suitable level is normally recorded. Suitable as far as the rules go is above 0.2 mg/L, but reports are the residual is usually above 0.5 mg/L.

Relevant water supply rules

When one drinking water supplier provides water to another, this is currently called a 'linked' supply. The Water Services Authority (WSA) has changed the name to 'downstream' as this better conveys the direction drinking water is going, and also likewise with 'upstream' supplies and suppliers. In general terms, a downstream supply is a drinking water supply that receives drinking water from another drinking water supply (the upstream supply) and then provides it to consumers or other suppliers.

The Water Services Authority released a policy statement on 8 July 2026 confirming the change to downstream supplies and clarifying the roles and responsibilities of these supplies. One of the examples they have used states *"For example, a private subdivision which serves a population of 500 people at 180 separate properties and connects to a council network. A separate body corporate owns the subdivision's drinking water infrastructure. The subdivision has fire hydrants and long-term storage. In this situation, the subdivision is a downstream supply"*. This clearly indicates that the Tahimana development will create a downstream supply.

A downstream supplier will have the duties of a drinking water supplier such as:

- to provide safe drinking water that complies with drinking water standards
- register as a supply
- notify the Authority when drinking water is unsafe
- comply with rules
- prepare a drinking water safety plan.

To provide safe drinking water that complies with drinking water standards and complies with the rules then it would need to meet the requirements of the Drinking Water Quality Assurance Rules 2022 (revised 2024). These have just been updated and are now referred to as the Water Services (Drinking Water Quality Assurance) Rules 2026, and they come into force on 1/7/27¹. These updated rules refer to downstream supplies and indicate which rules must be met.

The rules are different for zones supplying water to less than 500 people as opposed to over 500 people. For example <500 people are required to monitor chlorine twice a week and E.coli monthly; whereas >500 people chlorine monitoring is three times a week and E.coli weekly. There are additional requirements for over 500 for distribution zone hygiene, storage and maintenance. Both sized zones have backflow requirements. Both sets of rules are summarised in the Appendix to this memo along with the general rules which all suppliers must meet.

¹ <https://www.taumataarowai.govt.nz/assets/Uploads/Rules-and-standards/Water-Services-Drinking-Water-Quality-Assurance-Rules-2026-in-effect-from-1-July-2027.pdf>

Under the Water Services Act 2021, water suppliers are required to have a Water Safety Plan. This systematically identifies, categorises and manages risks to the water supply. In the case of Tahimana, only the risks associated with the storage and distribution of the water throughout the development need be considered. The Water Safety Plan would contain a monitoring and compliance strategy that outlines how it would meet the drinking water rules and also response activities in the event that the rules are breached or the water becomes unsafe.

One of the risks to the water supply is that the water supplied by TDC has a low chlorine residual. This can be mitigated by having a chlorine monitor on the incoming water. This can either be linked to automatic chlorine dosing equipment that will adjust the level accordingly or notified to the operator who can manually add chlorine as required. Manual monitoring of the chlorine levels is required by the rules and may provide enough coverage when combined with the TDC monitoring to ensure an adequate chlorine residual is maintained at all times. This will be further analysed as part of the Water Safety Plan development.

Appendix (Drinking Water Quality Assurance Rules).

General Rules

There are requirements for all supplies to demonstrate compliance with the general rules. The rules are relevant regardless of the size of the supply. The appropriate general rules are listed in the table below and a brief summary of what it means for the Tahimana development.

Reporting rules

Requirement	Comment
G.RR.1 -lists the requirements that reports to the Water Services Authority must contain.	Straightforward to meet, a template will be provided by the Water Services Authority
G.RR.2 -lists the requirements for an annual report.	Straightforward to meet, a template will be provided by the Water Services Authority
G.RR.3-7 lists the requirements for monthly or 3-monthly reports	Straightforward to meet, a template will be provided by the Water Services Authority

Sampling and monitoring rules

Requirement	Comment
G.SM.1 -lists sample labelling requirements	Specific codes will be provided by the Water Services Authority when the supply is registered.
G.SM.2 -lists sample handling requirements	Laboratory will provide instructions
G.SM.3 -lists sample analysis requirements	Laboratory must be IANZ accredited
G.SM.4 -states using grab sample equipment must follow manufacturers instructions with regard to calibration.	Tahimana will likely contract out grab sampling (eg.chlorine), make sure contractor is aware of rule.

Capability and hygiene rules

Requirement	Comment
G.CH.1 -All work (planned or unplanned) on a drinking water supply must be completed by suitably trained or experienced personnel	Yet to be defined, however Tahimana will likely use contractor, need to ensure it is covered.
G.CH.2 -requirements for hygiene code of practice	Should be covered by contractor

Continuous monitoring rules

Requirement	Comment
G.CM.1-5 outlines requirements of supplier using continuous monitoring to demonstrate compliance	Only relevant if Tahimana have continuous chlorine monitoring.

Distribution system rules <500 people

The distribution rules for level 2 supplies (<500 people) are listed in the table below and a brief summary of what it means for the Tahimana development.

Requirement	Comment
D2.1 Water in each distribution zone must be monitored at least every month for the following: (a) E. coli: (b) total coliforms.	Monthly test required
D2.2 Water in each distribution zone must be monitored at least 8 times every month for FAC.	2 x weekly chlorine test required
D2.3 Samples for FAC, E. coli and total coliforms must be taken at regular sampling points that are representative of the geographical coverage of each distribution zone including— (a) exit points of storage reservoirs/tanks; and (b) end points of the distribution zone.	appropriate distribution sample points shown on planning maps.
D2.4 Monitoring for FAC in each distribution zone must— (a) be evenly spaced across each month; and (b) use different days of the week.	to be built into monitoring schedule but requirements are for the whole year.
D2.5 Water in each distribution zone must be monitored at least annually for the following: Antimony, cadmium, chromium, copper, lead, mercury and nickel.	Annual test required
D2.6 When sampling for metals, sample points must— (a) be flushed immediately prior to obtaining samples; and (b) not be disinfected, e.g. flamed, immediately prior to sampling for metals; and (c) be located near the end point of the system	to be done according to lab procedures.
D2.7 FAC in each distribution zone must be: (a) at least 0.2 mg/L in 80% of samples taken; and (b) no less than 0.1 mg/L at all times.	to be recorded
D2.8 The following measures must be taken in relation to backflow: (a) each distribution zone must be assessed for backflow risks and cross-connections at least annually: (b) a register of all connections where there is a medium or high backflow risk must be maintained: (c) a suitable backflow prevention device must be installed at any connection identified in the register: (d) every testable backflow prevention device must be inspected and tested annually by a suitably trained and qualified person: (e) any faulty backflow prevention device must be remediated as soon as practicable: (f) records of backflow prevention device test results must be retained for at least 3 years	to be done and program developed for ongoing checks

Distribution system rules >500 people

The distribution rules for level 3 supplies (>500 people) are listed in the table below and a brief summary of what it means for the Tahimana development.

Backflow protection rules

Requirement	Comment
D3.BF.1-6: there are 6 backflow rules relating to having a prevention program prepared by a qualified person, survey of risk, backflow devices, backflow register and restricting access to hydrants.	To be done and program developed for ongoing checks. The requirements are stricter and more onerous than for <500 people.

New and repaired watermain hygiene procedures rules

Requirement	Comment
D3.HP.1-5: there are 5 related rules around risk assessment before repairs, clean material, clean tools, disinfection and standard operating procedures.	Watermain repairs and installation should be undertaken by appropriate people who will know these requirements and be able to demonstrate that they are meeting them.

Facilities operation/maintenance and disinfection rules

Requirement	Comment
D3.FO.1-6: there are 6 rules specifically related to drinking water storage facilities and various requirements around inspections, procedures, monitoring and disinfection. A water storage management plan must be developed.	Any water tank work should be undertaken by appropriate people who will know these requirements and be able to demonstrate that they are meeting them. The water storage management plan will be part of a water safety plan.

Residual disinfection/disinfection byproducts and plumbosolvent metals rules

Requirement	Comment
D3.RD.1-8: there are 8 rules around chlorine residual in the zone including monitoring. A supply between 500 and 25000 people requires 12 samples per month (3 per week).	3 x weekly chlorine test required
D3.RD.9-11: 3 rules around chemical monitoring -3-monthly disinfection byproducts -6-monthly plumbosolvency	3 monthly and 6 monthly tests required, can be reduced following a year of good results.

Microbiological monitoring rules

Requirement	Comment
D3.MM.1-5: there are 5 rules requiring relating to microbiological monitoring. A supply between 500 and 25000 people requires 4 samples per month (1 per week)	Weekly E.coli and total coliform sample required.