Attachment files for:

Item 4: Proposed Integrated Three Waters Bylaw

Ordinary meeting of the Queenstown Lakes District Council

to be held on Thursday, 23 July 2020 beginning at 1pm

Appendix 1

DRAFT Integrated Three Waters Bylaw 2020

Queenstown Lakes District Council

Date of making: [Insert]
Commencement: [Insert]

QUEENSTOWN LAKES DISTRICT COUNCIL

This Bylaw is adopted under section 146 of the Local Government Act 2002.

Table of Contents

Bylaw Structure

There are five parts to this Bylaw:

Part A Requirements Common to All Water Services

Part B Water Supply

Part C Stormwater

Part D Wastewater

Part E Trade Waste – which is discharged into Council's wastewater network

The purpose of this Bylaw is to:

a) Ensure the Council is able to meet the requirements and obligations of the Local Government Act 2002, the Resource Management Act 1999, the Health Act 1956, and related legislation;

b) Recognise the status of water and its various uses as part of Aotearoa New Zealand's natural, built, social and cultural environment;

c) Protect the water quality and ecology of the lakes and rivers;

d) Integrate Water Stewardship into community and business culture in order to protect the environment and improve the use of water resources within our district to the benefit of nature and downstream communities;

e) Consider the three waters - water supply, Stormwater and Wastewater, which includes Trade Waste - in an integrated and holistic manner that efficiently and effectively provides Water Services for the District in a manner sustainable for both Occupiers and the environment;

f) Encourage the community and business to adopt efficient and sustainable use of water supplied from Council's water supplies;

g) Encourage businesses to adopt Cleaner Production processes so as to ensure Trade Waste, Wastewater and Stormwater discharges to Council's water systems are of a nature that can be adequately treated by the downstream processes, produce Biosolids of appropriate quality, and protect the receiving environment from harm;

h) Ensure the protection, safety and health of Council personnel and the general public;

i) Protect the Council's investments in existing and future water supply, Wastewater and Stormwater infrastructure, treatment plants and discharge facilities.

j) Define the obligations of Occupiers and the public in relation to the Council's water supply, Wastewater and Stormwater Network;

k) Regulate discharges, including Trade Waste, hazardous substances, Wastewater and Stormwater into the Wastewater and Stormwater Networks;

l) Provides a system for an equitable share of the Water Services costs;

m) Incorporate procedures that facilitate emergency and natural hazards management, and climate change mitigation and adaptation; and

n) Recognise Te Mana o Te Wai (the first right to water under the *National Policy Statement for Freshwater Management)* in freshwater management.

Part A– Requirements Common to all Water Services

A1. Title and Commencement

A1.1 This Bylaw is the "Integrated Three Waters Bylaw 2020".

A1.2 This Bylaw is supported by an Administration Manual which provides material complementary to the Bylaw. This material is technical, administrative or operational.

A1.3 The Administration Manual is made under the Bylaw and will guide the implementation and operation of the Bylaw. The Administration Manual will be updated from time to time, as necessary, to ensure that it is up to date and reflects current practice. This Administration Manual will simplify the administration of the Bylaw. This Bylaw comes into force on [insert date].

A2. Revocation

A2.1 The following Bylaws are revoked:

a) Queenstown Lakes District Council Water Supply Bylaw 2015; and

b) Queenstown Lakes District Council Trade Waste Bylaw 2014.

A3. Area within which Bylaw applies

A3.1 This Bylaw applies to those areas of the District which are serviced by the Water Services.

A4. Interpretation

A4.1 The Interpretation Act 1999 applies to this Bylaw and the Administration Manual.

A4.2 Any explanatory notes and attachments are for information purposes, do not form part of this Bylaw, and may be made, amended and revoked without any formality.

A5. Compliance with Other Acts and Regulations

A5.1 This Bylaw is made under the authority of the Local Government Act 2002 for the provision of Waters Services to Customers by the Council.

A5.2 Other Legislation, Standards, Regulations, Codes of Practice, and Council related documentation are included in the Administration Manual. All relevant legislation must be complied with.

A6. Parties required to comply with the Bylaw

This Bylaw applies to the following parties who have access to the Water Service:

a) Occupiers connected to Council's Water Supply System;

b) Occupiers discharging to Council's Stormwater Network;

c) Occupiers discharging to Council's Wastewater Network; and

d) All Trade Premises discharging Trade Waste to Council's Wastewater Network.

A7. Scope of the Bylaw

The Water Services are core infrastructure installed, owned and managed by the Council. The Council's water supply, Stormwater and Wastewater Supply System across the District are made up of several discrete, unconnected networks. For ease of understanding this Bylaw describes these networks as singular.

The Network comprises:

a) **The Water Supply System**: provides the supply of water on demand to the communities and businesses within the reticulation network;

b) **The Stormwater Network**: provides for the collection, treatment (in some cases) and discharge of Stormwater to the environment; and

c) **The Wastewater Network**: provides for the collection, treatment and discharge of Wastewater. Wastewater includes Domestic Sewage / Wastewater and the industrial Wastewater from Trade Premises. Industrial Wastewater is called Trade Waste.

The Council's Land Development and Subdivision Code of Practice sets out Water Supply, Stormwater, and Wastewater requirements that apply to this Bylaw and the Administration Manual.

A8. Delegation

A8.1 Any of the various powers and functions of the Council as detailed and set out in this Bylaw, may be delegated by it, to its Chief Executive and sub-delegated by the Chief Executive to any such other officer or authorised agent of the Council.

A9. Definitions

In this Bylaw unless the context otherwise requires:

Access Point is a place where access may be made to a private Wastewater or Stormwater pipe for inspection (including sampling and measurement), cleaning or maintenance. The location of the access point must be in accordance with Council's Land Development and Subdivision Code of Practice, the New Zealand Building Code and as further defined in this Bylaw and the Administration Manual.

Acceptable Discharge means Wastewater and Stormwater with physical and chemical characteristics which comply with the requirements of the Council.

Administration Manual means the Administration Manual for this Bylaw as approved by Council and as amended from time to time by Council or delegated authority of the Council.

Approved or Approval means approved in writing by Council, either by resolution of Council or by any authorised officer of Council or other person authorised to give such approval on behalf of Council.

Approval Notice means an approval given by Council and signed by an Authorised Officer authorising a person to discharge Permitted Trade Waste to the Wastewater Network.

Authorised Officer means an employee, agent or contractor of Council, appointed by Council as an enforcement officer under section 171 of the Local Government Act 2002

Backflow means the unplanned reversal of flow of water or mixtures of water and contaminants into the water supply system. There are two types of backflow: back pressure and back siphonage.

Biosolids means Sewage Sludge derived from a wastewater treatment plant that has been treated and/or stabilised to the extent that it is able to be safely and beneficially applied to land. The term biosolids is used generically to include products containing biosolids (e.g. composts).

Building means any building within the meaning of Sections 8 and 9 of the Building Act 2004.

Cleaner Production means the implementation on Trade Premises, of operations, methods and processes appropriate to the goal of reducing or eliminating the quantity and toxicity of wastes. This is required to minimise and manage Trade Waste by:

i. using energy and resources efficiently, avoiding or reducing the amount of waste produced;

ii. producing environmentally sound products and services.

Condensing Water or Cooling Water means any water used in any trade or industry or commercial process or operation in such a manner that it does not take up matter into solution or suspension.

Conditional Trade Waste means Trade Waste that does not comply with one or more of the physical and chemical characteristics set out in Schedule A of the Administration Manual and/or has a maximum volume of Trade Waste of more than 2000L/day, but which does not have any characteristics of Prohibited Trade Waste. Conditional Trade Waste Consents includes consents for Temporary Discharges.

Construction Debris this includes debris that may originate from all forms of construction and includes materials such as timber, building paper, gravel, sand, concrete, concrete slurry, board materials, cardboard and other packaging materials, metal strips and other materials.

Contaminant has the same meaning as defined in Section 2 of the Resource Management Act 1991

Consent means a consent in writing, given by the Council authorising an Occupier of Trade Premises to discharge Trade Waste to the Wastewater Services.

Consent holder means the Occupier who has obtained a Consent to discharge or direct the manner of discharge of Trade Waste and where appropriate stormwater discharges from any Premises to the Wastewater or Stormwater Network and includes any person who does any act on behalf or with the express or implied consent of the consent holder (whether for reward or not) and any licensee of the consent holder.

Controlled Trade Waste means a Trade Waste that complies with all the physical and chemical characteristics set out in Schedule A of the Administration Manual, after pre-treatment, and has a maximum volume of Trade Waste of no more than 2,000L/day.

Council means Queenstown Lakes District Council, or any officer or agent authorised to execute the authority of the Council.

Customer means a person who uses, or has obtained the right to use, or direct the manner of use of the Water Services provided by the Council.

Domestic Wastewater means either Wastewater that is typical of that discharged from Premises that are used solely for residential activities or Wastewater of the same character discharged from other Premises and includes the drainage from domestic swimming pools and spas.

Domestic Sewage means the same as Domestic Wastewater.

Discharge includes emit, deposit, and allow to escape on a continuous, intermittent or temporary basis.

District means the District of the Council.

Fees and Charges means the list of items, terms and prices for services associated with the Council's provision of Water Services as adopted by the Council in accordance with the Local Government Act 2002 and the Local Government (Rating) Act 2002 and as set out in this Bylaw and the Administration Manual.

Food Premises means premises from which a food business (as defined under section 10 of the Food Act 2014) operates.

Foul Water means the Wastewater discharge from any sanitary fixtures or Sanitary Appliance.

Hazardous Wastes means hazardous substances as defined by the Hazardous Substances and New Organisms Act 1996.

Hose means any flexible or moveable tube for conducting water and includes a water sprinkler, soaker or any form of similar water distributing device whether held by hand or not.

Infiltration means water entering a Public Sewer or private sewer from groundwater through defects such as poor joints and cracks in pipes or manholes. It does not include inflow.

Inflow means water discharged into a private sewer/wastewater pipe from non-complying connections or other drain laying faults. It includes Stormwater entering through illegal stormwater downpipe connections, illegal cross connections of stormwater pipes into wastewater pipes, or from low gully traps.

Level of Service means the measurable performance standards on which the Council undertakes to supply Water Services, stated in the Council's Ten Year Plan.

Management Plan means the plan for management of Trade Waste operations and in some cases Stormwater for the Premises from which Trade Waste is discharged and may include provision for Cleaner Production, waste minimisation, monitoring and recording of discharges, contingency management procedures, and any relevant industry Code of Practice. In some situations, this plan also addresses the protection of Stormwater outflows from Contaminants and minimise or prevent Stormwater merging with Trade Waste.

Meter means a Council owned meter which measures and records the flow and/or volume of water supplied from the Water Supply.

Mobile Facility and Vendor Operations includes a vehicle, trailer, or caravan that may be used for food preparation and sale and a range of mobile activities such as commercial cleaning where liquid wastes are containerised and transported to discharge points in the Wastewater Network.

Nuisance means has the same meaning as section 29 of the Health Act 1956, and includes a person, thing, or circumstance causing distress or annoyance or unreasonable interference.

Occupier means any person who occupies any building or land connected to the Water Service and includes, where appropriate, employees and agents, and if the building or land is not occupied, means the owner.

On Demand Supply means a Council water supply which is available on demand directly from the Point of Supply subject to the agreed Level of Service.

Ordinary Supply means a category of On Demand Supply used solely for domestic purposes.

Owner means any person who owns any building or land connected to the Water Service.

Permitted Trade Waste means a Trade Waste discharge that complies with all the physical and chemical characteristics set out in Schedule A, without the need for any pre-treatment, and does not exceed a maximum volume of trade waste of 2,000L/day (2 cubic metres/day).

Person includes a person, the Crown, a corporation sole, and also a body of persons, whether corporate or unincorporated.

Point of Discharge is the connection point between the Wastewater Network and a private sewer or the Stormwater Network and a private stormwater pipe.

Point of Supply for Water Services is the point at which the ownership of the Water Service passes to the Occupier.

Potable Water means water that does not contain or exhibit any determinants to any extent that exceed the maximum acceptable values specified in drinking water standards issued under the Health Act 1956.

Premises means either:

i. A property or allotment which is held under a separate certificate of title or for which a separate certificate of title may be issued and in respect to which a building consent has been or may be issued;

ii. A building or part of a building that has been defined as an individual unit by a cross lease unit title or company lease and for which a certificate of title is available;

iii. land held in public ownership (e.g. reserve) for a particular purpose; or

iv. individual units in buildings which are separately leased or separately occupied.

Pre-treatment means any processing of Trade Waste, as included in a Controlled or Conditional Trade Waste that is designed to reduce any detrimental characteristics in Wastewater, before discharge to the Wastewater Network. Pre-treatment in certain circumstances can also relate to Stormwater.

Private Sewer means that section of Sewer between the Occupier's Premises and the Point of Discharge through which Wastewater is conveyed from the Premises. This section of Sewer is owned and maintained by the Occupier or group of Occupiers.

Private Stormwater Drain means that section of stormwater drain between the Occupier's Premises and the Point of Discharge through which Stormwater is conveyed from the Premises. This section of the drain is owned and maintained by the Occupier or a group of Occupiers.

Prohibited Trade Waste means Trade Waste that has, or is likely to have, any of the physical and chemical characteristics as set out in Schedule B of the Administration Manual.

Public Notice means:

i. A notice published in a newspaper circulating in the entire area likely to be affected by the matter to which the notice relates; and

ii. May also include a notice published on the Council website; and/or

iii. Public Notice as defined in the Local Government Act 2002.

Public Sewer means the public wastewater pipes and lateral connections that carry away Wastewater from the Point of Discharge

Registration means the process followed by all Trade Premises in providing information to Council regarding Wastewater and Stormwater discharges.

Restricted Flow Supply means a type of Council water supply connection where a small flow is supplied through a flow control device and storage is provided by the customer to cater for their specific demand fluctuations.

Restrictor means a flow control device fitted to the Service Pipe to limit the flow rate of water to an Occupier's Premises**.**

Rising Main means a pipe through which Wastewater, Stormwater or water supply is pumped.

Rural Water Supply Area means an area formally designated by the Council as an area serviced by a reticulated Water Supply System that is intended to supply water for specified purposes via Restricted Flow Supplies and/or On Demand Supplies but without a firefighting capability.

Sanitary Appliance means an appliance which is intended to be used for Sanitation including machines for washing dishes and clothes.

Sanitation means the activity of washing and/or excretion carried out in a manner or condition such that the effect on public health is minimised.

Service Pipe means the section of water pipe between a Water Main and Point of Supply

Service Valve (toby) means the valve at the customer end of the Service Pipe.

Sewage means Foul Water and may include Trade Waste; and means the same as Wastewater.

Sewage Sludge means the material settled out and removed from Sewage during the treatment process.

Sewer means any pipe that conveys Wastewater/Sewage.

Sewerage means infrastructure for the collection, treatment, disposal of Wastewater and Trade Waste, including all Public Sewers, pumping stations, Storage Tanks, Sewage treatment plants, outfalls and other related structures operated by Council and used for the reception, treatment and disposal of Wastewater. This is the same as the Wastewater Network.

Storage Tank means any tank having a free water surface under atmospheric pressure to which water is supplied across an air gap separation.

Stormwater means all surface water run-off and associated Contaminants resulting from precipitation that enters or may enter the stormwater network as a result of a rain event.

Stormwater Characteristics means those constituents as specified in the Otago Regional Plan: Water, as set out in Schedule C of the Administration Manual.

Stormwater Drain means any passage, channel or pipe on, over or under the ground by which stormwater is conveyed.

Stormwater Network means the Stormwater Network including all public stormwater drains, channels, manholes, treatment and attenuation facilities and other structures for the reception and

discharge of Stormwater vested in the Council or acquired or constructed or operated by or under the control of the Council.

Tankered Waste means any water or other liquid, including waste matter in solution or suspension, which is conveyed by vehicle for disposal, but excludes Domestic Sewage discharged directly from house buses, camper vans, caravans, buses and similar vehicles.

Temporary Discharge means any discharge of an intermittent or short duration and includes the short-term discharge of non-complying Trade Waste in terms of Schedule A of the Administration Manual Permitted Discharge from premises subject to an existing Trade Waste Consent.

Trade means a basic economic concept involving the buying and selling of goods and services, with compensation paid by a buyer to a seller, or the exchange of goods or services between parties.

Trade Premises means:

i. any premises used or intended to be used for any industrial or trade purpose;

ii. any premises used or intended to be used for the storage, transfer, treatment, or disposal of waste materials or for other waste management purposes, or used for composting organic materials;

iii. any other premises, work site, mobile facility, or vendor operation from which a contaminant is discharged in connection with any industrial or trade process; or

iv. any other premises discharging other than Domestic Sewage to the wastewater network and includes any land or premises wholly or mainly used for agricultural or horticultural purposes.

Trade Waste is any liquid or gas, with or without matter in suspension or solution, that is, or may be, discharged from a Trade Premise to the Wastewater Network in the course of any trade, commercial, educational or industrial process or operation, or in the course of any activity or operation of a like nature; and may include Condensing or Cooling Waters, and Stormwater which cannot be practically separated, or Domestic Sewage.

Trade Waste Consent means a consent granted by Council under this Bylaw allowing the discharge of Controlled or Conditional Trade Waste to the Wastewater Network.

Unit title or Strata title means a certificate of title or computer unit title register issued for a stratum estate in freehold or a stratum estate in leasehold (as the case may be) in respect of a unit or units in accordance with the Unit Titles Act 2010.

Wastewater has the same meaning as Sewag**e and** means any water with matter in solution or suspension, domestic wastewater, or liquid trade waste that discharges to the wastewater network**.**

Wastewater Network means the system for collection, treatment and disposal of wastewater and trade waste, including all Sewers, pumping stations, and storage used by the Council for the reception, treatment and disposal of Wastewater and Trade Waste.

Wastewater Services means Sewerage, treatment and disposal of Sewage and Stormwater drainage (section 124 Local Government Act 2002)

Water Services means water supply and Wastewater Services (Sewerage and Stormwater drainage) (Section 124 Local Government Act 2002)

Water Supply Area means an area serviced by a Council reticulated water supply system that is intended to supply water for specified purposes via Restricted Flow Supplies and/or On Demand Supplies, but not necessarily with firefighting capabilities.

Water Supply System means all those components of the network between the point of abstraction from the natural environment and the Point of Supply. This includes but is not limited to wells, infiltration galleries, intake structures, open raw water ponds/lakes, falling mains, treatment plants, treated water reservoirs, trunk mains, service mains, rider mains, pump stations and pumps, valves, hydrants, scour lines, Service Pipes, boundary assemblies, Meters, boundary backflow prevention devices and tobies.

Water Main means a pipe or conduit that conveys water.

A10. Application for Supply of a Water Service

All procedures and physical works associated with a Water Services connection must be in accordance with Council's procedure for approved contractors to commission physical connections to Water Services as set out in the Administration Manual.

A11. Supply and discharge

The Council does not guarantee an uninterrupted Water Service and, in particular, a service which is in excess of an agreed Level of Service but will use its best endeavours to ensure the continuity of Level of Service.

Where works of a permanent or temporary nature are planned by Council which will substantially affect an existing Water Service, the Council will, where practicable, notify all known affected persons or publicly notify the works.

A12. Emergency

Natural hazards (such as floods, droughts, earthquakes) or accidents which result in disruptions to any or all of the Water Services, or pandemics requiring specific actions by personnel associated with operating and maintaining the infrastructure will be deemed to be an emergency and will be exempted from Level of Service requirements.

During an emergency the Council may restrict or prohibit the use of a Water Service for any specified purpose, for any specified period, and for any or all persons connected to the Water Service. Such restrictions will be Publicly Notified when deemed necessary by Council. The Council may enact penalties over and above those contained in this Bylaw to enforce such restrictions. The decision to make restrictions and to remove restrictions, and to enact additional penalties, will be made by the Council, or where immediate action is required by a delegated officer of Council.

A13. Level of Service

Council will provide Water Services in accordance with the Levels of Service set-out in Council's ten year plan.

For those periods where the Level of Service allows non-compliance with the specified value(s), Council will use its best endeavours to achieve the specified value(s).

A14. Point of Supply and Point of Discharge

A14.1 Definition of Point of Supply – Water (Single Ownership)

The Point of Supply for water connections is the outlet of the Service Valve or Meter fitting closest to the private pipe. This applies whether the Service Valve/meter is inside or outside the property boundary.

The typical layout at a Point of Supply is shown in Figure 1.

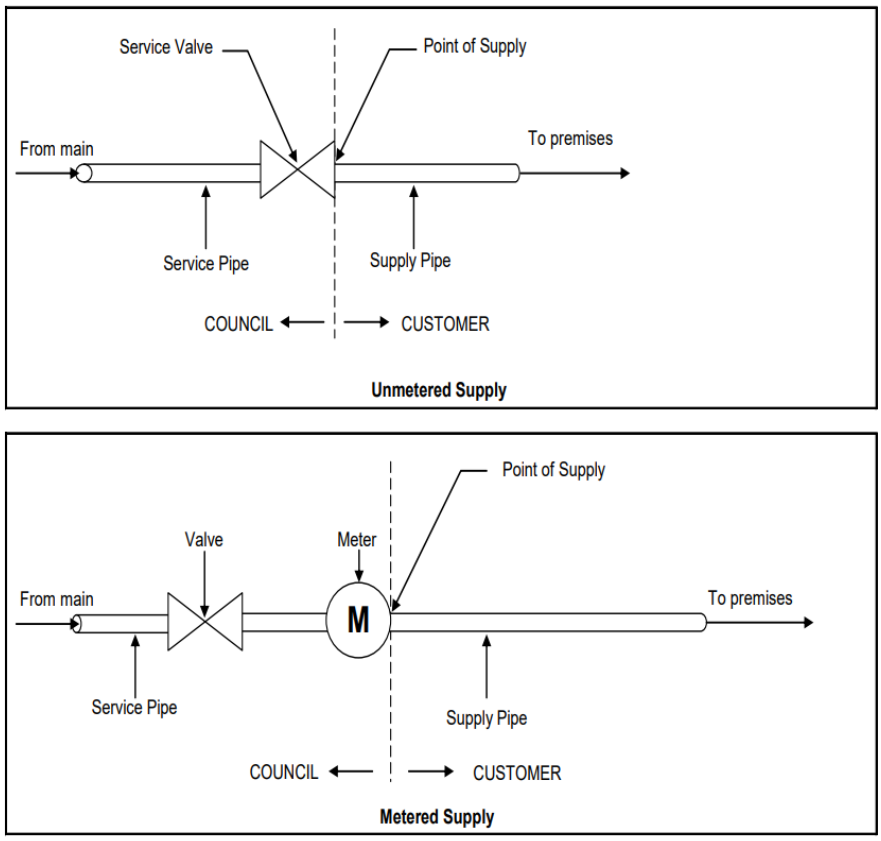

Figure 1 Typical Layouts at point of supply

A14.2 Definition of Point of Supply – Water (Multiple Ownership)

The Point of Supply for the different forms of multiple ownership of Premises is:

a) For Company Share/Block Scheme (Body Corporate) – as for single ownership.

b) For Leasehold/Tenancy in Common Scheme (Cross Lease), Strata Title, Unit Title (Body Corporate) and any other form of multiple ownership – each Occupier must have an individual supply with the Point of Supply determined by agreement with Council. Typically, this will be as for single ownership. In specific cases other arrangements may be acceptable, subject to individual approval by Council.

c) For a multiple ownership supply which was in existence prior to the coming into effect of this Bylaw, the Point of Supply will be the arrangement existing at that time, or as determined by agreement with Council for any individual base. Typically, this will be the closest isolation valve on the common pipe prior to the pipe entering private property.

A14.3 Definition of Point of Supply – Wastewater & Stormwater

The Point of Supply for Wastewater and Stormwater connections is where the private pipe exits the boundary of the Premises. In situations where the Council main is located within the boundary of the Premises the Point of Supply is the joint connecting the private pipe to the Council main.

A14.4 Responsibility for maintenance

Council owns and maintains the Water Supply and Wastewater and Stormwater connections up to the Point of Supply. The Occupier owns and maintains the Water Supply pipe and Wastewater and

Stormwater pipes beyond the point of connection. Further details are set out in the Administration Manual.

A15. Liability

Council will endeavor to meet the Level of Service requirements, but will not be liable for any loss, damage or inconvenience which the Occupier (or any person using the supply) may sustain as a result of deficiencies in, or interruptions to, the Water Service or as a result of work carried out on any Water Services by the Council or its authorised agents.

A16. Council's Network Infrastructure

A16.1 Care of Network Infrastructure

All persons must take due care not to damage any part of the Water Services Systems, including but not limited to water supply pipe work, valves, Meters, Restrictors, chambers, boundary backflow prevention devices, wastewater pipes, Rising Mains, pump stations, Stormwater pipes, and other devices and discharges.

A16.2 Council Access and Inspection

Subject to the provisions of the Local Government Act 2002, the Occupier must allow Council, with or without equipment, access to any area of the Premises for the purposes of determining compliance with the Bylaw.

A16.3 Maintenance of access

The Occupier must maintain the area in and around the Point of Supply or connection keeping it reasonably free of soil, growth, or other matter or obstruction including construction debris which prevents, or is likely to prevent, convenient access.

A16.4 Trees

In the event of the roots of any tree on an Occupier's Premises causing or being likely to cause damage, interference to the flow, or blockage to a Water Service, the Council may remove the roots and recover the costs of undertaking this work from the Occupier.

A16.5 Blockages

An Occupier whose Water Services system is overflowing or has other reasons to suspect a blockage, must first call an appropriately qualified trades person to clear and remove any blockage in the Occupier's Wastewater or Stormwater pipes.

If the blockage is within the Water Service, then the Occupier must contact the Council who will clear and remove the blockage and clean up all affected areas. Provided that the blockage has not been forced downstream into the Water Service in the act of clearing it, or that the Occupier has not been negligent in discharging a non-Acceptable Discharge, then the Council will reimburse the Occupier for actual and reasonable costs. If the blockage is found to have originated within the Occupier's Premises or has been caused by the discharge of a non-Acceptable Discharge, then the Council may recover the costs of the unblocking work from the person or Occupier.

A16.6 Construction Debris

The Occupier and any person acting on behalf of the Occupier must take all reasonable precautions to ensure Construction Debris does not enter any component of the Water Services nor the private sewers/wastewater pipes and Stormwater drains associated with the Premises for which the Water

Services are provided. If Construction Debris enters the Water Services the Occupier must notify Council immediately.

In the event a blockage or other downstream issue occurs as a result of construction debris entering the network, where the responsible property can be identified Council may recover the costs associated with the remedial works from the Occupier.

A17. Transfer of Rights and Responsibilities

No person may transfer, or attempt to transfer, to any other party the rights and responsibilities provided for under this Bylaw.

A Water Service connection may serve only one Occupier and may not extend by hose or any other pipe or device beyond that Occupier's Premises unless agreed in writing by Council.

An Occupier must not provide any Water Service which the Occupier receives from the Council to any other party without approval in writing from the Council.

A18. Change of Ownership

In the event of Premise changing ownership, Council must record the new Owner as being the Occupier of those Premises.

A19. Breaches, Offences and Disputes

A19.1 Breach of terms and conditions of supply

The following are deemed breaches of the conditions to supply water:

a) An incorrect application for supply which fundamentally affects the conditions of supply (part 3) or decision to approve the application;

b) Failure by the Occupier meet and comply with the conditions of supply for that premise as determined by Council;

c) Failure to meet any obligation placed on the Occupier under all current Acts and Regulations;

d) Frustration of Council's ability to adequately and effectively carry out its obligations;

e) An act or omission as provided for elsewhere in this Bylaw and the Administration Manual; and

f) Any act or omission which has not been described in the Bylaw or Administration Manual, but which contravenes the reasonable interpretation of the conditions to provide the Water Services.

In the event of a breach, Council will serve notice on the Occupier advising the nature of the breach and the steps to be taken to remedy it. If, after fourteen working days, the Occupier persists in the breach, Council reserves the right to reduce the flow rate of water to the Occupier, or undertake work directly to address the breach (such as in the case of a private water leak). In the event the supply is restricted, the full Water Service of the supply will be re-established only after payment of the applicable fee and remedy of the breach to the satisfaction of Council. Should the Council undertake work directly to address the breach, the Occupier will be liable to reimburse Council for the costs incurred.

In addition, if the breach is such that Council is required to take immediate action for health or safety or environmental considerations, such action should be carried out immediately. The Occupier will be liable for the costs of work undertaken by Council.

Under all circumstances Council will take all practicable steps to avoid disconnecting supply from the Premises without providing the Occupier appropriate opportunity to rectify any breach. However, this course of action will be available as a last resort, or to protect people, property, or the environment.

Any damage, tampering or interference which occurs to the Water Service equipment must be reported to Council immediately. The person causing the damage must reimburse Council's costs associated with repairing the damaged service, and any other costs Council incurs as a result of the incident.

A19.2 Offences and Penalties

A person who is convicted of an offence against this Bylaw is liable to a fine under section 239 of the Local Government Act not exceeding $20,000 and a fine not exceeding $200,000 for a breach of the Water Supply, Trade Waste, Wastewater and Stormwater parts of this Bylaw.

A person who is alleged to have committed an infringement offence, as specified in regulations made under the Local Government Act 2002, by breaching the Bylaw may be served with an infringement notice in accordance with section 245 of the Local Government Act 2002.

Council will recover all costs to remedy any damage to the Water Services by any third party.

A20. No person to access or connect to Water Services

a) No person other than the authorised agents of the Council may without express approval (in writing) from the Council make any access or connection to or otherwise interfere with any part of the Water Service.

b) No access or connection may be made to the Water Services without an approved application as set out in this Bylaw and in the Administration Manual for the Water Services and also for approved Trade Waste discharges.

c) All access or connection works on the Water Services must be carried out in accordance with Council's procedures for access to Water Services for investigations and commissioning physical connections.

A21. Building and Working over or around buried Water Services

All works associated with building or working over or around buried water services must be undertaken in accordance with Council's Land Development and Subdivision Code of Practice.

A21.1 Excavation in legal road reserve

All procedures and physical works must be carried out in accordance with the New Zealand Transport Authority's processes for road openings.

A22. Fees and Charges

A22.1 General

Under sections 150 and 151 of the Local Government Act 2002 the Council may prescribe fees and authorise recovery of reasonable costs incurred by the Council in respect of the matters for which the fees are charged. This may be done by the annual planning process fee setting or similar transparent public process in accordance with the above-mentioned sections of the Local Government Act 2002.

The Council may also recover costs for willful damage or negligent behaviour (Section 175) and remedying damage arising from breach of this Bylaw (Section 176). Council may recover all unpaid Water Service charges as prescribed in the Local Government (Rating) Act 2002 (Sections 57 to 82).

Fees and charges to be charged as prescribed by this Bylaw are set out in Part A of the Administration Manual.

A22.2 Prescribed charges

Charges applicable at the time of connection or after connection may include:

a) management fees for:

   i. Administration (includes processing an application to determine if a Trade Waste Consent and/or a Stormwater Management Plan is required);

   ii. Inspection of premises;

   iii. Compliance monitoring that could include sampling and testing; and

   iv. Non-compliance re-inspection.

   These management fees will be charged out at the current unit hourly rates or proportions thereof for the time taken to render the service at the Council's currently hourly overhead charge and materials costs.

b) Trade Waste user pays charges.

c) Stormwater management charges in special circumstances, such as where investigations by Authorised Officers are required.

d) Requirement to provide a bond or insurance in favour of the Council where failure to comply with the Consent could result in damage to the Water Services, or could result in the Council being in breach of any statutory obligation.

A23. Cleaner Production, Pollution Prevention and Waste Minimisation

Users of the Water Services are encouraged to practice water efficient use, Cleaner Production, pollution prevention and waste minimisation practices, and where required for trade premises include this in a Trade Waste and/or Stormwater Management Plan. The approach should encompass principles and practices of sound Water Stewardship including sustainable management and protection of the built and natural environment.

The Administration Manual (clause E13) includes guidelines on planning and undertaking Cleaner Production.

A24. Management Plans

As a condition of a Trade Waste Consent for Controlled and Conditional Trade Waste, the Council may, if it is deemed necessary, request the Consent Holder to provide a Trade Waste management plan as a condition of the Consent.

The Administration Manual sets out the requirements for the management plans for specified Trade Waste discharges and, in special circumstances, Stormwater discharges.

A25. Quality of Removed Sludge and Biosolids

The provision of this Bylaw as they relate to Sewage and Trade Waste discharges are also designed to protect the quality of the sludges and Biosolids that are removed as part of the Wastewater treatment process. The beneficial re-use of sludges and Biosolids assists with protecting the environment by recycling a resource while avoiding the need for landfill or other types of disposal. Council's objective is to maintain and improve the quality of sludges and Biosolids over time by reducing the level of contaminants and hazardous substances that enter the Wastewater Network.

Part B – Water Supply

B1 Objectives

The specific objectives for this Part of the Bylaw are as follows:

a) Provide safe drinking water;

b) Promote the effective and efficient management and regulation of the Council's Water Supply System;

c) Protect Council's water supplies from contamination;

d) Protect the Water Supply System from damage, misuse or loss;

e) Prevent unauthorised connection to the Water Supply System; and

f) Set out the obligations of the Council, installers, Occupiers and the public in matters related to the Water Supply System.

B2 Approval to Connect

Refer to clause A10 for detail regarding applications to connect to Council's Water Supply System.

B3 Water Supply System

B3.1 Access to system

No person other than Council may have access to any part of the Water Supply System, except to connect to the Point of Supply, subject to clause A20 of Part A of this Bylaw, and to operate the Service Valve.

B3.2 Fire hydrants

Only the attending Fire Service/s and Council may gain access to and draw water from fire hydrants for the purpose of fighting fires, training, and hydrant testing.

B3.3 Other uses

The right to access to, and draw water from, the Water Supply System for uses other than firefighting (for example flow testing, pipe flushing, or temporary water supply) is restricted to:

a) Council; and

b) Persons who have approval to draw water from the Water Supply System for uses other than firefighting. Such persons must comply with all conditions of the Approval including water tanker carrier licenses. Without prejudice to other remedies available, Council may remove and hold any equipment used by any person to gain access or to draw water from a fire hydrant, and assess and recover the value of water drawn without authorisation and any other associated costs.

B4 Occupier Responsibilities

B4.1 The Occupier must take all steps to prevent:

a) water to run, leaking or unchecked from any pipe, tap or other fitting;

b) the condition of the plumbing within the premises deteriorating to the point where leakage and or wastage is uncontrolled; or

c) the unattended operation of hoses.

B4.2 Where an Occupier ignores advice from the Council to repair an on-going leak, the Council may repair the leak and charge the customer to recover all associated costs as provided in the Local Government Act 2002.

B4.3 The Occupier must not use water excessively or use water or water pressure directly from the supply for generating energy, driving lifts, machinery, educators, generators or any other similar device, unless specifically approved.

B4.4 The Occupier must not use water from the supply:

a) for a single pass cooling system;

b) for air conditioning;

c) to dilute trade waste prior to disposal; or

d) for cooling purposes in an industrial plant, unless specifically approved by the Council.

B4.5 The Occupier must implement other measures determined by C0uncil in accordance with Council's Water Demand Management procedures.

B5 Responsibility for Maintenance

Council owns and maintain the service pipe and fittings up to the point of supply. The Occupier owns and maintain the supply pipe beyond the point of supply.

B6 Types of Supply

B6.1 General

Supplies are classified as either 'on demand' or 'restricted flow' and the use of water from the supply shall be either 'ordinary' or 'extraordinary'.

B6.2 On Demand Supply

Premises within a Water Supply Area are entitled to an Ordinary Supply of water subject to the following conditions:

a) The exclusion of its use for garden watering under any restrictions made by Council under clause B6.3;

b) Payment of the appropriate charges in respect of those Premises;

c) Payment of any other charges or costs associated with sub divisional development;

d) Any other relevant conditions of this Bylaw; and

e) Council is be under no obligation to provide a supply of water other than Ordinary Supply (see also the provisions of clause B6.1).

B6.3 Restriction or prohibition of use

The Council may at any time, by Public Notice, restrict or prohibit the use of water for any one or more of the following purposes:

a) The use of irrigation systems of any sort, or other outside watering; and

b) Any other reason Council sees as reasonable in the circumstances that apply at the time.

Any action contrary to the Public Notice is a breach of this Bylaw.

Any such restriction or prohibition applies until Public Notice is given that the restriction or prohibition has been rescinded.

B6.4 Metering

An ordinary use of water may be metered.

Extraordinary use and Restricted Flow Supply may be metered and charged for in accordance with Council's fees and charges prevailing at the time or as specifically agreed with Council. Where the use is for fire protection only, this supply is not usually metered.

Clause B1 of the Administration Manual provides further information regarding Council's position with respect to metering procedures.

B7 Continuity of supply

Council does not guarantee the uninterrupted supply of water to any Customer or other user. No compensation is payable on account of any water supply being restricted or shut off, whether for the purpose of demand management, laying of Water Mains, effecting repairs to a reticulated water supply system, attaching of new services or for any other purpose.

B7.1 Pressure

Council does not guarantee any specified maximum or minimum pressure in the water distribution and reticulation system within any Water Supply Area, and no compensation is payable on account of any change or inconsistency of pressure in the supply of water in any Water Supply Area.

B7.2 Uninterrupted service

If an Occupier has a requirement for an uninterrupted Level of Service (for example flow, pressure, or quality for water supply), it is the responsibility of that Occupier to provide any storage, back-up facilities, or equipment necessary to provide that Level of Service.

B7.3 Demand management

The Occupier must abide by the requirements of Council with respect to water demand management.

When water supply restrictions apply, Council will take all practicable steps to ensure that an adequate supply for sanitary purposes is provided to each Point of Supply.

B7.4 Payment

No compensation or other payment is payable by Council in relation to any restriction or prohibition made.

B8 Fire protection connection

B8.1 Design

The Occupier is responsible for ascertaining, in consultation with Council, and monitoring whether the supply available is adequate for the purpose of fire protection.

B8.2 Fire protection connection metering

Where the supply of water to any premises is metered, Council may allow the supply of water for the purposes of firefighting to be made in a manner which bypasses the Meter, provided that the drawing of water is possible only in connection with the sounding of an automatic fire alarm or the automatic notification of the fire brigade.

Any unmetered connection provided to supply water to a fire protection system may not be used for any purpose other than firefighting and testing the fire protection system unless the fire protection system is installed in accordance with NZS 4517 – Fire sprinkler system for houses or any current update to that document.

Where a fire connection has been installed or located so that it is likely or possible that water may be drawn from it by any person for purposes other than firefighting, Council may require the supply to be metered.

B8.3 Fire hose reels

Where the supply of water to any Premises is metered, fire hose reels must be connected only to the metered supply, not to the fire protection system. The water supply to fire hose reels must comply with the requirements of NZS 4503– Hand operated fire-fighting equipment or any current update to that document.

B8.4 Charges

Water used for the purpose of extinguishing fires must be supplied free of charge. Where the fire protection connection is metered and water has been used for firefighting purposes, Council will estimate the quantity of water used, and credit to the Occupier's account an amount based on the estimate.

B8.5 Ongoing testing and monitoring

It is the Occupier's responsibility to undertake ongoing testing and monitoring to ensure that the water supply is adequate for the ongoing purpose of fire protection of the Premises.

Occupiers intending to test fire protection systems in a manner that requires a draw-off of water must obtain the approval of Council beforehand. Water used for routine flushing and flow testing does not constitute waste but the quantity of water used may be assessed and charged for by Council.

B9 Boundary backflow prevention

B9.1 Overall Requirement

Boundary backflow provisions are as set out in Council's Land Development and Subdivision Code of Practice.

B9.2 Occupier responsibility

It is the Occupier's responsibility (under the Health Act 1956, and the Health (Drinking Water) Amendment Act 2007,) to take all necessary measures on the Occupier's side of the Point of Supply to prevent water which has been drawn from Council's water supply from returning to that supply. These include:

a) Boundary backflow prevention either by providing an adequate air gap, or by the use of an approved backflow prevention device in accordance with Council's Land Development and Subdivision Code of Practice.

b) The prohibition of any cross-connection between Council's water supply; and

   i. Any other water supply (potable or non-potable);

   ii. Any other water source;

   iii. Any Storage Tank; and

   iv. Any other pipe fixture or equipment containing chemicals liquids gases or other non-potable substances.

B9.3 Unmanaged risk

Notwithstanding clause B9.2, Council may fit a backflow prevention device on Council side of the Point of Supply where the Occupier cannot demonstrate that the risk of backflow is adequately managed. Council may recover all costs associated with the supply, installation, and ongoing testing, certification and maintenance of the backflow prevention device from the Occupier.

B10 Meters and Restrictors

B10.1 Water meter procedures

Clause B1 of the Administration Manual sets out Council's procedure with respect to the future installation of Meters.

B10.2 Installation

a) Metering must be in accordance with the Council's Land Development and Subdivision Code of Practice.

b) Where required by Council, flow meters and Restrictors must be supplied and installed. Council reserves the right to recover any associated costs.

c) Meters and Restrictors remain the property of the Council, and maintained by Council.

d) Where On Demand Supplies are not universally metered, the Council where it considers water use is unusually high, reserves the right to fit a Meter at the Occupier's cost, and charge accordingly.

B10.3 Requirements for new developments

All new connections in any Water Supply Area must meet Council's requirements with respect to water demand management for that Water Supply Area, including, but not limited to:

a) installation of Restrictors; and

b) installation of Meters.

B10.4 Location

Meters and Restrictors must be located in a position where they are readily accessible for reading and maintenance, and if practicable immediately on Council side of the Point of Supply (see Figure 1, Clause A14.1). Details are included in Council's Land Development and Subdivision Code of Practice.

B10.5 Accuracy

Meters and Restrictors must be tested as and when required by the Council to ensure:

a) In respect of a Meter, performance within plus or minus 5% of its reading; and

b) In respect of a Restrictor, performance within plus or minus 10% of its rated capacity.

Testing must be undertaken in accordance with the New Zealand Water Meter Code of Practice. Any Occupier who disputes the accuracy of a meter or Restrictor may apply to Council for it to be tested provided that it is not within three months of the last test. If the test shows non-compliance with the accuracy above, the Occupier will not be charged for the test. If the test shows compliance, the Occupier will pay a fee in accordance with Council current Fees and Charges.

B10.6 Adjustment

For connections where volume based charging is utilised, if any Meter, after being tested, is found to register a greater or lesser consumption than the quantity of water actually passed through such a Meter, Council will make an adjustment to the next invoice due, in accordance with the results shown by such tests, backdated for a period at the discretion of Council but not exceeding 12 months, and the Occupier must pay a greater or lesser amount according to the adjustment.

Where a Meter is under-reading by more than 20% or has stopped, Council reserves the right to charge for the amount of water assessed as having been used over the past billing period, taking into account any seasonal variations in demand.

Where a Meter is over-reading, Council will make appropriate adjustments to the Occupier's invoice(s), based on a period of similar use and backdated to when it is agreed the over-reading is likely to have occurred.

B10.7 Estimating consumption

For connections where volume based charging is used, if any Meter is out of repair or ceases to register, or has been removed, Council will estimate the consumption for the period since the previous reading of such meter (based on the average of the previous four billing periods charged to the Occupier) and the Occupier must pay according to such an estimate. Provided that when by reason of a large variation of consumption due to seasonal or other causes, the average of the previous four billing periods would be an unreasonable estimate of the consumption, Council may take into consideration other evidence for the purpose of arriving at a reasonable estimate, and the Occupier must pay according to such an estimate.

The Occupier is liable for the cost of water which passes through the Meter regardless of whether this is used or is the result of leakage.

Where the seal or dial of a Meter is broken, Council may declare the reading void and estimate consumption as described above.

B10.8 Incorrect accounts

For connections where volume based charging is utilised, where a situation occurs, other than as provided for in clause B10.6 of this Bylaw, where the recorded consumption does not accurately represent the actual consumption on Premises, the account will be adjusted using the best information available to Council. Such situations include, but are not limited to, misreading of the meter, errors in data processing, Meters assigned to the wrong account, and unauthorised supplies.

Where an adjustment is required, in favour of Council or the Occupier, this will not be backdated more than 12 months from the date the error was detected.

B10.9 Faulty Meters

Where a Meter is found to be faulty due to no fault of the Occupier, the Council will replace or recalibrate the faulty Meter, at no cost to the Occupier.

B10.10 Interference with Equipment

Any tampering or interference with Council property, either directly or indirectly, constitutes an offence. Without prejudice to its other rights and remedies, the Council will be entitled to estimate and charge for any additional Water Service provisions not recorded, such as where a Meter or Restrictor has been tampered with, and recover any costs incurred from the person liable.

B10.11 Plumbing system

Quick-closing valves, pumps, or any other equipment which may cause pressure surges or fluctuations to be transmitted within the Water Supply System, or compromise the ability of Council to maintain its stated Levels of Service may not be used on any piping beyond the Point of Supply. In special circumstances such equipment may be approved by Council.

B10.12 Prevention of waste and excessive use of water

a) A person who is supplied with reticulated water by, or on behalf of Council must not waste the water or allow it to be wasted.

b) Clause B4 sets out the Occupier's responsibilities to address wastage and excessive use of water.

B11 Breaches and Offences

B11.1 Deemed breaches of supply

The following are deemed breaches of the Bylaw as it relates to the supply of water:

i. Interference with the Water Supply System;

ii. Failure to comply with water use restrictions or prohibitions introduced by Council for any specified purpose;

iii. Bypassing or tampering with Council Meters and Restrictors;

iv. Failure to pay the appropriate charges by the due date;

v. Failure to repair a leak, or in any way wilfully allowing water to run to waste, or to be misused;

vi. The fitting of quick-closing valves, pumps, or any other equipment which may cause pressure surges or fluctuations to be transmitted within the Water Supply System, or compromise the ability of Council to maintain its stated Levels of Service;

vii. Use of a fire hydrant in contravention of this Bylaw or without formal written approval from Council;

viii. Failure to prevent backflow (refer clause B9);

ix. Introduce, or allow to be introduced, any Contaminant into the Water Supply System;

x. Connection to the water supply without formal written approval from Council;

xi. Using water or water pressure directly from the supply for driving lifts, machinery, educators, generators, or any other similar device, unless specifically approved by Council;

xii. Using water for a single pass cooling or heating system, or to dilute Trade Waste prior to disposal, unless specifically approved;

xiii. Extending by Hose or any other pipe a private water supply beyond that Occupier's premises;

xiv. Providing water drawn from Council supply to any other party without approval of Council; and

xv. Any other act or omission which has not been described above but which contravenes the reasonable interpretation of the Bylaw.

Part C – Stormwater

C1 Objectives

The specific objectives for this Part of the Bylaw are as follows:

a) Minimise and control the discharge of Contaminants into the Stormwater Network;

b) Enable the Council to meet relevant objectives, policies, standards and future resource consents for discharges from the Stormwater Network to the environment;

c) Protect the land, structures and natural features that make up the Stormwater Network;

d) Prevent the unauthorised discharge of Stormwater into the Stormwater Network and ensure that private Stormwater systems are not causing a nuisance or harm to the Council's Network Infrastructure; and

e) Define the obligations of the Council, installers, Occupiers and the public in matters related to the discharge of Stormwater and management of the Stormwater Network.

C2 Approval to connect

a) Refer to clause A10 for detail regarding applications to connect to the Stormwater Network.

b) All applications to connect must identify potential Stormwater Contaminants and set out measures, to minimise or eliminate the Contaminants entering the Stormwater Network.

C3 Restrictions on discharge

The Council may set a maximum daily or instantaneous flow rate, a requirement for pre-treatment, or require other restrictions or controls on Stormwater discharged from the Premises. All Stormwater discharges must comply with Schedule C of the Administration Manual. In certain circumstances, as outlined in clause C2 of the Administration Manual, a Stormwater Management Plan may be required.

C4 Protection of network and environment

No person may, unless specifically authorised by a resource consent or in writing by the Council:

a) Stop, obstruct, alter, interfere with or divert any Stormwater Drain or any part of the Stormwater Network in a manner that may cause blockage or nuisance;

b) Erect any defense, structure or stopbank, grow any vegetation, deposit any rubbish or other debris in any part of the Stormwater Network, flood plain, flood risk area or overland flow path identified by the Council, or carry out any activity in a place or manner that affects the functioning of or causes nuisance to the Stormwater Network;

c) Obstruct any overland flow paths or flood plains with any material or structures such as buildings, fences, retaining walls and rock gardens;

d) Deposit or permit any material, hazardous material, chemical, rubbish, litter or other substance, likely to cause a nuisance on entering the Stormwater Network, to be located or stored in such a manner that it could enter the Stormwater Network (directly or indirectly) in any storm event, unless it has first passed through an appropriate and approved treatment device;

e) Carry out any of the above with the consequence that it adversely affects land or buildings including other land and buildings on other land; and

C4.1 No person may remove live vegetation from the drain margins of the Stormwater Network without approval from Council.

C5 Contamination of stormwater

C5.1 No person may discharge or permit any contaminant to enter the Stormwater Network, unless that discharge is permitted by this Bylaw or prior written permission has been obtained from the Council.

C5.2 No person may discharge Stormwater into the Stormwater Network with characteristics exceeding those constituents and Contaminants specified in the Otago Regional Council's Operative Regional Plan: Water for Otago, as set out in Schedule C of the Administration Manual.

C5.3 The Occupier of any Premise may not store raw material, products or waste containing corrosive, toxic, biocidal, radioactive, flammable, or explosive materials, or any other hazardous substance or material which, when mixed with the Stormwater stream in the Stormwater Network, may:

a) generate toxic, flammable, explosive or corrosive materials in hazardous quantities,

b) damage the Stormwater Network, the environment or adversely affect the health and safety of Council staff and the public in a manner or location such that there is a more than minor risk of that material entering the Stormwater Network; or

c) in the event of any leakage, spillage or other mishap described in clauses C5.3 (a) and/or (b) occurring the Occupier must immediately notify the Council.

C5.4 If any existing commercial, industrial, trade or other Premises discharges Contaminants to the Stormwater Network in a manner that may cause damage to the network, the environment or adversely affect the health and safety of Council staff or its agents and the public, the Occupier must advise the Council in writing as soon as practically possible and undertake all practical means to stop the discharge as soon as is possible.

C6 Stormwater Management Procedures

a) Stormwater management remains the responsibility of the Occupier of the land on which the works occur unless and until they are taken over and vested in Council.

b) The cost of all stormwater management for the purpose of land development will be at the Occupier's cost unless the Council agrees in writing to share costs.

c) When the stormwater arising from a new connection is such that it exceeds the defined level of service limits for the Council's stormwater network, Council may require the installation or construction of private stormwater attenuation measures to retard the flow of stormwater or to limit the volume of extra stormwater produced from new connections or developments. Any such attenuation measures must be constructed at the Occupier's expense. The Occupier must also meet the costs of the required maintenance and servicing program.

C7 Stormwater Management Plans

C7.1 The Occupier must, if requested by Council, prepare a Stormwater Management Plan and submit the plan to Council for approval, or demonstrate to Council that its discharge is being made in accordance with relevant industry standards and industry guidelines.

C7.2 Clause C2 of the Administration Manual sets out the requirements for a Stormwater Management Plan.

C7.3 The Occupier must provide a Stormwater Management Plan to Council for review and approval within three months of a request.

Once the Stormwater Management Plan has been accepted by Council, the Occupier must comply with all provisions, including timeframes specified, in the Stormwater Management Plan.

C7.4 The Council may require that any Stormwater Management Plan be revised where there have been significant changes in the facility/premise concerned or its operational procedures.

C7.5 If the requirements of a Stormwater Management Plan are not complied with, the Occupier must expedite all practical measures to ensure compliance with both the Stormwater Management Plan and the Bylaw overall. Furthermore, if it is determined that the measures outlined in the Stormwater Management Plan are no longer fit-for-purpose, the Occupier must update the Stormwater Management Plan to remedy this, and submit to Council for their consideration.

Part D – Wastewater

This part of the Bylaw applies to the discharge of Domestic Wastewater to the Wastewater Network.

D1 Objectives

The specific objectives for this Part of the Bylaw are as follows:

a) Promote the effective and efficient management and regulation of the Wastewater Network;

b) Protect and manage the Wastewater Network and its associated assets from damage, misuse, or loss;

c) Protect public health, and the natural (or receiving) environment from harm;

d) Ensure that the quality of sludges and Biosolids are suitable for beneficial reuse when such approaches are practicable and sustainable; and

e) Ensure compliance with Council's resource consent conditions.

D2 Approval to Connect

D2.1 Refer to Clause A10 for detail regarding applications to connect to the Wastewater Network.

D2.2 Private Wastewater Pipes

a) Council may require an Occupier to fix or upgrade private wastewater pipes, at the Occupier's cost, as determined by Council to meet:

   i. the original design specifications,

   ii. the Local Government Act 2002 requirement for the discharge of only Domestic Sewage into the Wastewater Network, and/or

   iii. the current Council Land Development and Subdivision Code of Practice and/or the New Zealand Building Code, where there has been a change of use of the Premises.

b) The Occupier of Premises must ensure that all private wastewater pipes on the Premises are kept and maintained in a state which limits infiltration to ensure only domestic quality Sewage is discharged into the Wastewater Network.

c) The Occupiers of Premises must ensure that Stormwater Inflow is excluded from the Wastewater Network and any private wastewater pipes by ensuring that:

   i. there is no direct connection of any Stormwater pipe to the Wastewater Network;

   ii. gully traps comply with the New Zealand Building Code and are set above Stormwater ponding levels and secondary overland flow path flood levels; and

   iii. inspection covers are in place and appropriately sealed.

D3 Acceptance and Prohibition of Discharges

Clause D2, and Schedule A of the Administration Manual, set out the requirements for Acceptable Discharges to the Wastewater Network.

Schedule B of the Administration Manual sets out the prohibited characteristics of discharges to the Wastewater Network.

D4 Occupiers Responsibilities to Prevent Contamination

The Occupier of any Premises must take all reasonable steps to prevent entry into the Wastewater Network from leakage, spillage or other mishap of any raw material products or wastes containing corrosive, toxic, biocidal, radioactive, flammable or explosive materials or any material which, by itself or when mixed with the wastewater stream, is likely to generate toxic, flammable, explosive or corrosive materials in quantities likely to be hazardous, or damaging to the Wastewater Network or the health and safety of Council staff, agents, contractors and the public and adversely affect the environment.

D5 Pumped Sewer Systems

Requirements in terms of pumped Sewer systems (as different from a low pressure Sewer system as covered in clause D6 below) are set out in Council's Land Development and Subdivision Code of Practice.

D6 Low Pressure and Vacuum Sewer Systems

Requirements for low pressure and vacuum Sewer systems are set out in Council's Land Development and Subdivision Code of Practice.

D7 Disinfected/Super Chlorinated Water

Requirements for the discharges of disinfected and super chlorinated water to the Wastewater Network are covered in clause D1.2 of the Administration Manual.

D8 Swimming Pools and Spa Pools

Requirements for the discharges from swimming pools and spa pools to the Wastewater Network are covered in clause D1.3 of the Administration Manual.

D9 Camper Van and Motor Home Domestic Wastewater

Requirements for camper vans and motor homes domestic waste discharges to the Wastewater Network are covered in clause D1.4 of the Administration Manual.

D10 Mobile Facilities and Vendor Operations - discharge to the Wastewater Network

Vehicles including trucks, caravans, and other types of mobile facilities including container waste from mobile cleaning activities, must discharge all liquid waste into the Wastewater Network in a manner approved by Council. In some circumstances this type of discharge may also constitute a Trade Waste discharge. This will be determined based on the Registration information provided by the Operator of the mobile operation. These procedures will be determined in accordance with clause D1.5 of the Administration Manual.

D11 Inflow and Infiltration

D11.1 Stormwater and groundwater, including from roof downpipes, surface water run-off, overland flow, and sub-surface drainage, must be excluded from the wastewater network by ensuring that:

a) There is no inflow from direct connection of any stormwater pipe or drain to the wastewater network - unless the wastewater network has been specifically designed as a combined wastewater/stormwater system;

b) Gully trap surrounds are set above stormwater ponding levels and in accordance with the New Zealand Building Code (G13) and above secondary overland flow path flood levels;

c) Inspection covers are in place and are appropriately sealed;

d) Private wastewater pipes are maintained to ensure no damage. Cracks or other defects in the pipes that allow the infiltration of surface or groundwater; and

e) New drainage or repairs as a result of any defects notice, premise alterations, or change of premises use are constructed in accordance with Council's Land Development and Subdivision Code of Practice.

D11.2 If inflow and infiltration is found to be entering Council's wastewater network by way of private wastewater pipes and stormwater drains, then it is the Occupier's responsibility to immediately fix, repair or replace the pipe or pipes to a standard acceptable to Council such that only domestic sewage, and where approved, Trade Waste, is discharged to the Council network.

D11.3 If the Occupier fails to carry out required repair works, the Council will carry out the works under sections 186 and 187 of the Local Government Act 2002 and will recover the cost of the repair works from the Occupier.

Part E – Trade Waste

E1 Objectives

The specific objectives for this Part of the Bylaw are as follows:

a) Protect the water quality and ecology within the District and region's rivers and lakes;

b) Protect the health, safety and wellbeing of people within the District;

c) Protect the Wastewater Network (including the treatment plants) from Contaminants and other substances that have a detrimental effect on operation and asset life;

d) Optimise the capacity of the Wastewater Network and treatment assets;

e) Ensure compliance with Council's resource consent conditions;

f) Provide a basis for monitoring discharges from industry and Trade Premises;

g) To provide for an equitable spread of costs between domestic and Trade Taste discharges;

h) Encourage water conservation, Cleaner Production, pollution prevention, and waste minimization; and

i) Ensure that the quality of sludges and Biosolids are suitable for beneficial reuse when such approaches are practicable and sustainable.

E2 Specific provisions for Trade Waste discharges

a) This part of the Bylaw provides for the:

   i. establishment of four categories of trade waste: Permitted, Controlled, Conditional and Prohibited;

   ii. the pre-treatment of Trade Waste before it is accepted for discharge to the Wastewater Network;

   iii. acceptance of long-term, intermittent, or Temporary Discharges of Trade Waste that are controlled, conditional, or permitted into the Wastewater Network and the exclusion of Prohibited Trade Waste;

   iv. specification of the daily volume and Contaminant levels for Permitted Trade Waste so that the capacity of the Wastewater Network is not exceeded;

   v. regulation of Trade Waste that may increase the operational and maintenance costs of the Wastewater Network and treatment system;

   vi. the evaluation of individual Trade Waste discharges against specified criteria as set out in the Bylaw and Schedules A and B of the Administration Manual;

   vii. prohibition of Trade Waste that decreases the effectiveness of the Wastewater Network;

   viii. correct storage of materials in order to protect the Wastewater and Stormwater Network from spillage of hazardous substances and other Contaminants;

ix. dischargers of Trade Waste to be required to undertake sampling and monitoring of Trade Waste to ensure compliance with the Bylaw and Schedules A and B of the Administration Manual;

x. Council to accept or refuse a Trade Waste discharge of specified characteristics;

xi. Any Trade Premises connected to Water Services must, where specified as a condition of consent, implement a Cleaner Production and pollution prevention programme as set out in that Trade Premise's Management Plan;

xii. Where Trade Premises have operations that could, under certain circumstances, result in Contaminants entering the Stormwater Network, the premises' Trade Waste and/or Stormwater Management Plan (refer clause C7) must include procedures that address this situation. Furthermore, where Stormwater pre-treatment and/or attenuation devices are in place the Stormwater component of the Management Plan should also address these;

xiii. Charges to be set to cover the cost of administration, monitoring and user pays of a Trade Waste scheme, as set out in clauses A5 and A6 and Schedule D of the Administration Manual;

xiv. Disconnection of Premises from the Wastewater Network in the event of unauthorised discharges of Trade Waste; and

xv. As set out in clause A19.2 of this Bylaw use of enforcement powers, including penalties to be applied to persons who discharge or permit discharges of Trade Waste in a manner that does not comply with this Bylaw.

E3 Trade Waste Discharges

E3.1 Registration of Trade Premise discharges

Council require all trade operations discharging Trade Waste to register and when required, apply for Trade Waste Consents.

Clause E3.3 of this Bylaw sets out trade operations that are not deemed to be Trade Waste dischargers for the purposes of this Bylaw.

The Registration and Trade Waste Consent application processes are set out in the Administration Manual.

The Registration process will ensure that all businesses are provided with adequate and appropriate information to enable assessment of risks and benefits.

E3.2 Characteristics of Trade Waste discharges

Trade Waste discharges are classified as one of the following types:

a) Permitted Trade Waste –Permitted Trade Waste discharges are subject to the Registration process and an Approval Notice must be obtained. The Approval Notice must be complied with.

b) Controlled Trade Waste - A Trade Waste consent will be required.

c) Conditional Trade Waste - A Trade Waste consent will be required. Conditional Trade Waste consents includes consents for Temporary Discharges.

d) Prohibited Trade Waste - A prohibited trade waste discharge cannot be undertaken and no consent can be sought.

e) Trade Waste discharges that are controlled or conditional in accordance with this clause are subject to the additional requirements as set out in clauses E12 to E16 inclusive and relevant sections of Part E of the Administration Manual.

f) The discharge of Trade Waste from a Tankered Waste trucking system requires Consent under this Bylaw and is subject to the requirements of clause E17.

E3.3 Operations Not Considered Trade Waste

Trade Waste discharges with the characteristics of domestic waste, typically that from bathrooms and kitchens not used for commercial preparation of food, do not need to register.

Businesses that comply with the below criteria do not need to register (refer clause E3.1):

a) Single dwelling short term accommodation (such as Airbnb); and

b) Home based businesses with less than five employees, and which do not involve food preparation, manufacturing related activities, or any other activity which generates wastewater volumes or characteristics that are consistent with typical domestic wastewater.

The requirements of all preceding clauses of Part E of this Bylaw continue to apply.

E4 Connecting to the Wastewater Network

Procedures relating to the connection of trade waste discharges to the Wastewater Network are covered by clause D2 of this Bylaw.

E5 Application for a Trade Waste Consent

a) Information requirements in respect of the application, the decision on the application and the application consideration criteria are as set out in Part E of the Administration Manual.

b) In all cases where either the consent holder or the Occupier of the Premises changes, or there is a change of use of the Premises, a new application for a Trade Waste Discharge Consent must be made. It is the responsibility of the Consent Holder or the new Occupier (as appropriate) to lodge the new application.

E6 Grant of Trade Waste Consent

a) Within 20 working days (or as extended if warranted by exceptional circumstances by the Council) of receipt of an application complying with this Bylaw, or the further information requested in accordance with the Administration Manual, whichever is the later, the Council must, after considering the matters set out in the Administration Manual:

   i. Grant the applicant a Controlled and/or Conditional Trade Waste Discharge Consent and inform the applicant of the decision and the conditions imposed by issuing the appropriate consent;

   ii. Decline the application and notify the applicant of the decision giving a statement of the reasons for refusal; or

   iii. Notify the applicant that the discharge is classified as a Permitted Trade Waste or Prohibited Trade Waste under this Bylaw, and does not require or cannot obtain (in the

case of Prohibited Trade Waste) a Trade Waste Discharge Consent. If the discharge is a Permitted Trade Waste, an Approval Notice will be issued and must be complied with.

b) A Trade Waste Discharge Consent granted in accordance with this clause may be subject to conditions, including but not limited to conditions of the kind referred to in Part E of the Administration Manual.

c) A Trade Waste Discharge Consent granted in accordance with this clause may be controlled and /or conditional on the implementation of appropriate pre-treatment systems.

d) Trade Waste Discharge Consents are explicit to the applicant at specific Premises and are not transferable to a new Occupier or different Premise except as provided for in clause E8.

E7 Review of Trade Waste Consent

a) The Council may at any time during the term of a Trade Waste Discharge Consent, by written notice to the Consent Holder review the Trade Waste Discharge Consent and vary any condition of the Consent where a change to a condition is necessary:

i. following a review of the performance of pre-treatment devices or processes;

ii. to meet any new resource consent imposed on the discharge from the Wastewater Network; and/or

iii. to comply with any other legal requirements that must be met by the Council.

E8 Transfer of Trade Waste Consent

a) A Trade Waste Consent to discharge will be issued in the name of the given Consent Holder.

b) The Consent Holder may not, unless written approval is obtained from Council:

i. transfer to any other party the rights and responsibilities provided for under this Bylaw, and under the Consent; or

ii. allow a Point of Discharge to serve another Premises, or the private drain to that point to extend by pipe, or any other means, to serve another Premises.

c) Transfer of a Trade Waste Consent on change of ownership of a Premises must not be unreasonably withheld if the characteristics of the Wastewater remain unchanged.

d) When an Occupier ceases to occupy Premises from which Trade Waste is discharged into the Wastewater Network, any Trade Waste consent will terminate, unless a transfer is effected prior to vacating the Premises.

e) The Consent Holder remains liable or in the event the former Consent Holder is no longer in existence the Owner is liable for the failure to meet any obligations existing at the date of termination notwithstanding termination of the Trade Waste consent.

E9 Cancellation of Trade Waste Consent

a) The Council may suspend or cancel any Trade Waste Consent to discharge at any time following not less than 20 working days' notice, to the Consent Holder or person discharging or person allowing a discharge of any Trade Waste, where in the opinion of a Council enforcement officer the Consent Holder:

i. has failed to comply with any condition of the Trade Waste Consent;

ii. has failed to maintain control over the discharge;

iii. is discharging or allowing the discharge of any Prohibited Trade Waste;

iv. has failed to provide and when appropriate update a Trade Waste Management Plan as required for a Conditional Trade Waste Consent; and/or

v. has failed to pay any applicable fees.

b) The Council may suspend or cancel any Trade Waste Consent to discharge at any time where in the opinion of an Authorised Officer:

i. any breach of a resource consent held by the Council, has arisen from (whether wholly or partly) the Trade Waste discharge;

ii. any act or omission of the Consent Holder is, or is likely to:

a. adversely affect the safety of the Wastewater Network;

b. damage to any part of the Wastewater Network;

c. adversely affect the health of any person;

d. adversely affect the safety of any person; or

e. adversely affect the environment; and/or

iii. it is necessary for the Council to comply with any other legal requirement.

E10 Duration of Trade Waste Consent

a) A Permitted Trade Waste authorised by an Approval Notice is able to be discharged indefinitely.

b) Subject to clauses E12 to E17 inclusive, Controlled and Conditional Trade Waste Consents remain in force until they expire at the end of the term prescribed in the Trade Waste Consent, being a term of no more than two years. However, the Trade Waste Consent may be granted for a term not exceeding five years where a Consent Holder, at the time of the application, satisfies the Council that:

i. The nature of the Trade activity, or the process design and/or management of the Premises are such that the Consent Holder has a demonstrated ability to meet the conditions of the Trade Waste Consent during its term; and/or

ii. Cleaner production, pollution prevention and waste minimisation techniques are successfully being utilised, or a responsible investment in Cleaner Production equipment or techniques is being made; and/or

iii. Significant investment in pre-treatment facilities has been made, such that a longer period of certainty for the amortization of this investment is considered reasonable.

E11 Accidents and Non-Compliance

a) The Consent Holder must inform the Council immediately on discovery of any accident including spills or process mishaps which may cause a breach of this Bylaw or Trade Waste or associated Stormwater Consents.

b) In the event it becomes evident that discharges occurring on the Premises of a Permitted Trade Waste are no longer complying with Schedule A of the Administration Manual, the Council may require the Occupier discharging to apply for an appropriate Trade Waste Consent.

E12 Control of Trade Waste discharges

a) The Council may approve a Controlled and/or a Conditional Trade Waste subject to the provision of appropriate pre-treatment system(s) to enable the Occupier discharging to comply with the Bylaw. Such pre-treatment systems must be provided, operated and maintained by the discharger at their expense. Operation and servicing of commercially supplied equipment must be in accordance with the supplier's recommendations. Further guidance on specific activities and associated requirements for Controlled Trade Waste (including pre-treatment requirements) along with guidelines for pre-treatment of other discharges, are set out in Table 1, clause E13 of the Administration Manual.

b) All dental facilities require a consent, which must include an approved amalgam trapping and disposal system where relevant.

c) Where the Trade Waste includes, or is likely to include, fats, grease or oils in excess of 100 grams per 1000 litres each day:

   i. grease traps must be installed at the Trade Premises; and

   ii. Occupiers must use and maintain the grease traps to a standard that complies with the discharge limit for fats, oil and grease as set out in the Bylaw and Part E of the Administration Manual.

d) Where the Trade Waste includes hydrocarbons, automobile oil and silts, the Trade Premises will require an, oil and water, and/or oil and grit interceptor to comply with the Wastewater discharge parameters as set out in the Bylaw.

e) Clause E13 below and clause E8 of the Administration Manual set out the requirements for grease traps and oil and grit interceptors.

E13 Discharges Via Grease Traps, Oil and Grit Interceptors

a) All grease traps and oil/grit interceptors must be maintained in an operable condition in accordance with the following criteria:

   i. All traps and/or interceptors must be serviced at a frequency to ensure compliance with Schedule A of the Administration Manual.

   ii. To comply with Trade Waste discharge parameters, servicing schedules must be set up to maintain operational efficiency of the trap. Scheduled servicing should be undertaken at a time that minimises the risk to public health and safety and prevents a public nuisance.

   iii. All servicing must be conducted by an approved liquid waste operator who is in possession of a Council Trade Waste Consent should the discharge be to a Council facility.

   iv. The Occupier must retain satisfactory records of servicing of grease traps and oil/grit interceptors and these records must be readily available for inspection by Council if required.

   v. Oil and grit interceptors for wash-down bays, with a greater working surface area than set out in Council's Land Development and Subdivisions Code of Practice, must be roofed or installed with a first flush system.

a) Discharges via Enzyme Based Grease Converters must meet the following criteria at all times:

i. The converter is fitted with an automatic enzyme dosing apparatus that is in use at all times. The converter must be maintained as per the manufacturer's instructions.

ii. The Occupier is able to provide satisfactory records of purchase of enzymes of a type and quantity that will treat the discharge to the required standard as stipulated in Schedule A of the Administration Manual.

iii. The Council is satisfied that there is no risk to the Wastewater Network by using of the converter.

b) Discharge via a mechanical grease trap must comply with the following criteria at all times:

i. The mechanical grease tap must be serviced and maintained as per the manufacturer's instructions. The Occupier must provide satisfactory records of all services and maintenance as required by the manufacturer.

E14 Control of Trade Waste from Commercial and Other Food Premises

a) Refuse or garbage grinders and macerators must not be used to dispose of solid waste from commercial food Premises to the Wastewater Network unless approved by Council.

b) Clause E10 of the Administration Manual includes a list of Premises that also prepare and serve food but are not commercial Premises. Such Premises must fit grease traps and obtain a Trade Waste Consent.

Explanatory note: *Examples from the list include premises such as Marae, churches, public halls and facilities, school catering facilities or kitchens etc.*

E15 No Dilution of Trade Waste

a) No Occupier may add or permit the addition of any potable, Condensing, Cooling Water or Stormwater to any Trade Waste discharge in order to vary the characteristics of the waste, unless the Council has granted a Trade Waste Consent allowing such activities.

E16 Discharge or Storage of Hazardous Materials

a) No Occupier may discharge Hazardous Waste into the Wastewater or Stormwater Network.

b) No Occupier may store at any Trade Premises raw material, products or waste containing:

i. corrosive, toxic, biocidal, radioactive, flammable, or explosive materials; or any material which, when mixed with the wastewater stream, is likely to generate toxic, flammable, explosive or corrosive materials in quantities likely to be hazardous; or

ii. any other material likely to be harmful to the Wastewater and Stormwater Network or the health and safety of people; without taking all reasonable steps to prevent entry into the Wastewater and Stormwater Network from leakage, spillage or other mishap.

c) All Codes of Practice developed by the New Zealand Government's Environmental Protection Agency; the Hazardous Substances and New Organisms Act 1996, and related guidelines or other industry organisations must be followed to store Hazardous Waste on site. Clause A3 of the Administration Manual lists a number of relevant documents. This list is not exhaustive and is expected to be subject to changes from time to time.

E17 Tankered Wastes

a) Any Tankered Waste operator intending to discharge to a Council facility must have a current Trade Waste Consent and offensive trade license. Tankered Waste operations are classified as a Conditional Trade Waste.

b) Tankered Waste must not be discharged into the Wastewater Network by any person or Consent Holder not compliant with the Liquid and Hazardous Wastes Code of Practice and Council's accepted tracking system.

c) Council may accept Tankered Waste for discharge at an approved location.

d) Tankered Waste must:

i. be transported by a Consent Holder to discharge domestic septic tank or industrial wastes;

ii. have material safety data sheets (MSDS) supplied to Council detailing the contents of a waste; and

iii. be tested to determine their character if the contents of the waste are not known. Specialist advice on pre-treatment or acceptance may be required. The cost of all testing and advice must be borne by the Consent Holder.

iv. be randomly tested to determine the characteristics of the waste. The cost of random tests will be paid by the Council.

e) To prevent cross-contamination between tanker loads, the tanker must be thoroughly washed prior to collecting a load for disposal into the Wastewater Network.

f) The discharger of Tankered Waste must give 48 hours' notice to Council for the disposal of wastes other than those sourced from domestic septic tanks.

g) Tankered Waste, including Hazardous Waste transported out of Council's District, must be recorded by the liquid waste operator in accordance with the Liquid and Hazardous Wastes Code of Practice and records provided to Council on request.

E18 Mobile Facilities and Vendor Operations

Discharge to the Wastewater Network from vehicles including trucks and caravans and other types of mobile facilities, such as food vendors, and container waste from mobile cleaning activities must be discharged into the Wastewater Network at a location and in a manner approved by Council.

E19 Trade Waste Management Plans

Clause E11 of the Administration Manual sets out the requirements for a Trade Waste Management Plan.

E20 Duty to Control Discharges

a) No Occupier may discharge Wastewater or Trade Waste into the Wastewater Network, in a manner contravenes this Bylaw and Administration Manual.

b) No Occupier may discharge Wastewater to the Wastewater Network with physical characteristics that exceed the parameters specified in Schedule A of the Administration Manual.

c) No Occupier may discharge Trade Waste with constituents or characteristics that exceed the parameters specified in Schedule A of the Administration Manual unless a Trade Waste Consent has first been obtained.

d) No Occupier may discharge solid waste or Construction Debris into the Wastewater Network.

e) No Occupier may discharge Wastewater or Trade Waste with constituents or characteristics in a manner that contravenes the Bylaw and Administration Manual.

f) No Occupier may discharge, or allow to be discharged Tankered Waste into the Wastewater Network other than at an approved location.

g) No Occupier may make any false or inaccurate statement or disclosure as to the contents of any Tankered Waste or any Trade Waste.

h) No Occupier may discharge Wastewater or Trade Waste with constituents or characteristics that are specified as prohibited in Schedule B of the Administration Manual. Any Occupier who causes or allows the discharge of Wastewater with prohibited characteristics as set out in Schedule B of the Administration Manual to the Wastewater Network must:

   i. immediately take all practicable steps to stop the imminent entry or further entry of this substance to the Wastewater Network; and

   ii. inform an Authorised Officer as soon as reasonably practicable.

i) The Council may prohibit the discharge of Trade Waste which contravenes this Bylaw by removing, closing or modifying the connection access point in a manner that prevents a discharge of Wastewater from the Premises.

j) The Occupier of a Trade Premises must maintain service and maintenance contracts for pre-treatment devices at the Occupier's expense.

k) The Occupier must, at its expense, use processes, equipment or storage facilities to control:

   i. the quality, quantity and rate of Trade Waste discharged from the Trade Premises and other Trade operations; and

   ii. the constituents, or characteristics in Trade Waste in accordance with any Trade Waste Consent conditions; prior to the point of discharge into the Wastewater Network.

DRAFT Integrated Three Waters Bylaw 2020

ADMINISTRATION MANUAL

Queenstown Lakes District Council

Date of making: [Insert]
Commencement: [Insert]

This Administration Manual forms part of Queenstown Lakes District Council's Integrated Three Waters Bylaw 2020 that is adopted under Section 146 of the Local Government Act 2002

Document control

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1.0	No amendment – DRAFT	

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Introduction

Purpose

The purpose of this Administration Manual is to provide material complementary to the Integrated Three Waters Bylaw 2020, which includes Water Supply, Stormwater, Wastewater and Trade Waste. This Administration Manual brings together those matters which may otherwise be included in the Bylaw, but which are of a technical or administrative nature, or operational matters that are more likely to be amended before the Bylaw is reviewed. These aspects also include guidelines, which are intended for that purpose – to provide guidance only, with respect to matters covered within the Bylaw.

In taking this approach, it will simplify the administration of the Bylaw, allow for administrative and technical processes to be kept up to date, and assist in the interpretation of the Bylaw.

The Administration Manual is made under the Bylaw, and will assist the implementation and operation of the Bylaw. The Administration Manual is a public document, and will be made available on the Council's website alongside the Bylaw. A hard copies of both can be provided on request, and will be available to review at public libraries.

The Administration Manual will be updated from time to time, as necessary, to ensure that it is kept up to date and reflects current practice. Amendments to this document will be authorised either by an Order of Council or the Council's Chief Executive or Officer's delegated authority.

Part A – Requirements Common to all Water Services

A1. Format of this Administration Manual

There are five parts and a number of Schedules to this Administration Manual. These follow the format of the Bylaw:

Part A Requirements Common to All Water Services

Part B Water Supply

Part C Stormwater

Part D Wastewater

Part E Trade Waste – which is discharged into the Wastewater Network

Schedules A to D

A2. Updated and New Legislation

Updated and new legislation will be included in Clause A3 and upon the Bylaw being reviewed any new legislation that gives further or changed authority for the Bylaw will then be included in the Bylaw.

A3. Applicable Acts, Regulations, Codes and Standards, and Council Codes of Practice, Policies and Plans

The Bylaw is made under the authority of the Local Government Act 2002. The following lists a range of other legislation, Regulations, Codes of Practices and Standards, and Council documents that are also applicable to the Bylaw.

a) Statutory Acts and Regulations, and updated/new legislation as may be enacted from time to time:

   i. Resource Management Act 1991, and relevant National Policy Statements and National Environmental Standards

   ii. Health Act 1956

   iii. Building Act 2004

   iv. Building Regulations 1992 Schedule 1 (New Zealand Building Code)

   v. Fire Service Act 1975

   vi. Local Government (Rating) Act 2002

   vii. Health (Drinking Water) Amendment Act 2007

   viii. Hazardous Substances and New Organisms Act 1996

ix. Litter Act 1979

x. Health and Safety at Work Act 2015

xi. Health and Safety in Employment Regulations 1995

xii. Health and Safety at Work (General Risk and Workplace Management) Regulations 2016

xiii. Health and Safety at Work (Mining Operations and Quarrying Operations) Regulations 2016

b) Relevant Codes and Standards:

i. Drinking Water Standards for New Zealand 2005 (revised 2018)

ii. Management and Handling of Used Oil HSNOCOP63. November 2013

iii. Environmental Guidelines for Discharges from Petroleum Industry Sites in New Zealand, in New Zealand Ministry for the Environment December 1998

iv. SNZ PAS 4509:2008 New Zealand Fire Service Firefighting Water Supplies Code of Practice

v. Water NZ Boundary Backflow Prevention for Drinking Water Supplies Code of Practice June 2013

vi. NZWWA Water Meter Code of Practice 2003.

c) Queenstown Lakes District Council Codes of Practice, procedures, guidelines and plans:

i. Land Development and Subdivision Code of Practice

ii. Water Supply Boundary Backflow Policy

iii. Approval Procedure for Access to the Three Water Networks for Investigations

iv. Procedure for Approved Contractors to commission Physical Connections to the Three Water Networks

v. Water Restrictions Procedure (to manage peak demand)

vi. Procedures to rectify wastage of water and excessive use of water

vii. Water demand management procedures

viii. Guidelines for Environmental Management Plans

ix. Environmental Best Management Practices

A4. Definitions

In this Administration Manual unless the context otherwise requires:

Acceptable Discharge means Wastewater and Stormwater with physical and chemical characteristics which comply with the requirements of the Council.

Administration Manual means the Administration Manual for this Bylaw as approved by Council and as amended from time to time by Council or delegated authority of the Council.

Approved or Approval means approved in writing by Council, either by resolution of Council or by any authorised officer of Council or other person authorised to give such approval on behalf of Council.

Approval Notice means an approval given by Council and signed by an Authorised Officer authorising a person to discharge Permitted Trade Waste to the Wastewater Network.

Authorised Officer means an employee, agent or contractor of Council, appointed by Council as an enforcement officer under section 171 of the Local Government Act 2002

Backflow means the unplanned reversal of flow of water or mixtures of water and contaminants into the water supply system. There are two types of backflow: back pressure and back siphonage.

Biosolids means Sewage Sludge derived from a wastewater treatment plant that has been treated and/or stabilised to the extent that it is able to be safely and beneficially applied to land. The term biosolids is used generically to include products containing biosolids (e.g. composts).

BOD5 means the five-day carbonaceous biochemical oxygen demand which is a measure of the strength of sewage/wastewater.

Building means any building within the meaning of Sections 8 and 9 of the Building Act 2004.

Characteristics means any of the physical, biological or chemical characteristics of a wastewater, trade waste or stormwater discharge referred to in this Bylaw.

Chemical Oxygen Demand means total Chemical Oxygen Demand as determined by established standard methods of testing,

Cleaner Production means the implementation on Trade Premises, of operations, methods and processes appropriate to the goal of reducing or eliminating the quantity and toxicity of wastes. This is required to minimise and manage Trade Waste by:

i. using energy and resources efficiently, avoiding or reducing the amount of waste produced;

ii. producing environmentally sound products and services.

Condensing Water or Cooling Water means any water used in any trade or industry or commercial process or operation in such a manner that it does not take up matter into solution or suspension.

Conditional Trade Waste means Trade Waste that does not comply with one or more of the physical and chemical characteristics set out in Schedule A of the Administration Manual and/or has a maximum volume of Trade Waste of more than 2000L/day, but which does not have any characteristics of Prohibited Trade Waste. Conditional Trade Waste Consents includes consents for Temporary Discharges.

Contaminant has the same meaning as defined in Section 2 of the Resource Management Act 1991

Contingency management procedures means those procedures developed and used to avoid, remedy, or mitigate the actual and/or potential adverse effects on the environment from an unexpected or unscheduled event resulting in discharge, or potential discharge of contaminants of concern onto land or into the stormwater and wastewater systems or into receiving bodies such as wetlands, streams, rivers and lakes.

Consent means a consent in writing, given by the Council authorising an Occupier of Trade Premises to discharge Trade Waste to the Wastewater Services.

Consent holder means the Occupier who has obtained a Consent to discharge or direct the manner of discharge of Trade Waste and where appropriate stormwater discharges from any Premises to the Wastewater or Stormwater Network and includes any person who does any act on behalf or with the express or implied consent of the consent holder (whether for reward or not) and any licensee of the consent holder.

Controlled Trade Waste means a Trade Waste that complies with all the physical and chemical characteristics set out in Schedule A of the Administration Manual, after pre-treatment, and has a maximum volume of Trade Waste of no more than 2,000L/day.

Council means Queenstown Lakes District Council, or any officer or agent authorised to execute the authority of the Council.

Customer means a person who uses, or has obtained the right to use, or direct the manner of use of the Water Services provided by the Council.

Demand management procedures are procedures for implementing demand management measures in each of Council's Water Supply Areas.

Domestic Wastewater means either Wastewater that is typical of that discharged from Premises that are used solely for residential activities or Wastewater of the same character discharged from other Premises and includes the drainage from domestic swimming pools and spas.

Discharge includes emit, deposit, and allow to escape on a continuous, intermittent or temporary basis.

Disconnection means the physical cutting and/or sealing of any of water service from a premise.

District means the District of the Council.

Fees and Charges means the list of items, terms and prices for services associated with the Council's provision of Water Services as adopted by the Council in accordance with the Local Government Act 2002 and the Local Government (Rating) Act 2002 and as set out in this Bylaw and the Administration Manual.

Food Premises means premises from which a food business (as defined under section 10 of the Food Act 2014) operates.

Hose means any flexible or moveable tube for conducting water and includes a water sprinkler, soaker or any form of similar water distributing device whether held by hand or not.

Management Plan means the plan for management of Trade Waste operations and in some cases Stormwater for the Premises from which Trade Waste is discharged and may include provision for Cleaner Production, waste minimisation, monitoring and recording of discharges, contingency management procedures, and any relevant industry Code of Practice. In some situations, this plan also

addresses the protection of Stormwater outflows from Contaminants and minimise or prevent Stormwater merging with Trade Waste.

Mass limit means the total mass of any characteristic that may be discharged to the Council's wastewater system over any stated period from any single point of discharge or collectively from several points of discharge.

Maximum concentration means the instantaneous peak concentration of trade waste or other discharge that may be discharged at any instant in time.

Meter means a Council owned meter which measures and records the flow and/or volume of water supplied from the Water Supply.

Mobile Facility and Vendor Operations includes a vehicle, trailer, or caravan that may be used for food preparation and sale and a range of mobile activities such as commercial cleaning where liquid wastes are containerised and transported to discharge points in the Wastewater Network.

Nuisance means has the same meaning as section 29 of the Health Act 1956, and includes a person, thing, or circumstance causing distress or annoyance or unreasonable interference.

Occupier means any person who occupies any building or land connected to the Water Service and includes, where appropriate, employees and agents, and if the building or land is not occupied, means the owner.

Owner means any person who owns any building or land connected to the Water Service.

Permitted Trade Waste means a Trade Waste discharge that complies with all the physical and chemical characteristics set out in Schedule A, without the need for any pre-treatment, and does not exceed a maximum volume of trade waste of 2,000L/day (2 cubic metres/day).

Person includes a person, the Crown, a corporation sole, and also a body of persons, whether corporate or unincorporated.

Point of Supply for Water Services is the point at which the ownership of the Water Service passes to the Occupier.

Premises means either:

i. A property or allotment which is held under a separate certificate of title or for which a separate certificate of title may be issued and in respect to which a building consent has been or may be issued;

ii. A building or part of a building that has been defined as an individual unit by a cross lease unit title or company lease and for which a certificate of title is available;

iii. land held in public ownership (e.g. reserve) for a particular purpose; or

iv. individual units in buildings which are separately leased or separately occupied.

Pre-treatment means any processing of Trade Waste, as included in a Controlled or Conditional Trade Waste that is designed to reduce any detrimental characteristics in Wastewater, before discharge to the Wastewater Network. Pre-treatment in certain circumstances can also relate to Stormwater.

Private Stormwater Drain means that section of stormwater drain between the Occupier's Premises and the Point of Discharge through which Stormwater is conveyed from the Premises. This section of the drain is owned and maintained by the Occupier or a group of Occupiers.

Prohibited Trade Waste means Trade Waste that has, or is likely to have, any of the physical and chemical characteristics as set out in Schedule B of the Administration Manual.

Registration means the process followed by all Trade Premises in providing information to Council regarding Wastewater and Stormwater discharges.

Schedule of fees and charges means the list of items, terms and prices for services associated with the supply of water and discharge of wastewater, trade waste and stormwater as approved by Council. These fees and charges are covered in Schedule D of this Administration Manual in addition to Council's other schedules of fees and charges.

Sewage means the wastewater discharge from any fixtures or appliances used for sanitation (the activity of washing and/or excretion carried out in a manner or condition such as that the effect on public health is minimised) and may include Trade Waste; and means the same as Wastewater.

Sewage Sludge means the material settled out and removed from Sewage during the treatment process.

Sewer means any pipe that conveys Wastewater/Sewage.

Sewerage means infrastructure for the collection, treatment, disposal of Wastewater and Trade Waste, including all Public Sewers, pumping stations, Storage Tanks, Sewage treatment plants, outfalls and other related structures operated by Council and used for the reception, treatment and disposal of Wastewater. This is the same as the Wastewater Network.

Stormwater means all surface water run-off and associated Contaminants resulting from precipitation that enters or may enter the stormwater network as a result of a rain event.

Stormwater Characteristics means those constituents as specified in the Otago Regional Plan: Water, as set out in Schedule C of this Administration Manual.

Stormwater Drain means any passage, channel or pipe on, over or under the ground by which stormwater is conveyed.

Stormwater Network means the Stormwater Network including all public stormwater drains, channels, manholes, treatment and attenuation facilities and other structures for the reception and discharge of Stormwater vested in the Council or acquired or constructed or operated by or under the control of the Council.

Tankered Waste means any water or other liquid, including waste matter in solution or suspension, which is conveyed by vehicle for disposal, but excludes Domestic Sewage discharged directly from house buses, camper vans, caravans, buses and similar vehicles.

Temporary Discharge means any discharge of an intermittent or short duration and includes the short-term discharge of non-complying Trade Waste in terms of Schedule A of the Administration Manual Permitted Discharge from premises subject to an existing Trade Waste Consent.

Trade means a basic economic concept involving the buying and selling of goods and services, with compensation paid by a buyer to a seller, or the exchange of goods or services between parties.

Trade Premises means:

i. any premises used or intended to be used for any industrial or trade purpose;

ii. any premises used or intended to be used for the storage, transfer, treatment, or disposal of waste materials or for other waste management purposes, or used for composting organic materials;

iii. any other premises, work site, mobile facility, or vendor operation from which a contaminant is discharged in connection with any industrial or trade process; or

iv. any other premises discharging other than Domestic Sewage to the wastewater network and includes any land or premises wholly or mainly used for agricultural or horticultural purposes.

Trade Waste is any liquid or gas, with or without matter in suspension or solution, that is, or may be, discharged from a Trade Premise to the Wastewater Network in the course of any trade, commercial, educational or industrial process or operation, or in the course of any activity or operation of a like nature; and may include Condensing or Cooling Waters, and Stormwater which cannot be practically separated, or Domestic Sewage.

Trade waste application means an application, made in accordance with the Trade Waste Consent Application Form (available via the Council's website).

Trade Waste Consent means a consent granted by Council under this Bylaw allowing the discharge of Controlled or Conditional Trade Waste to the Wastewater Network.

Wastewater has the same meaning as Sewag**e and** means any water with matter in solution or suspension, domestic wastewater, or liquid trade waste that discharges to the wastewater network**.**

Wastewater Network means the system for collection, treatment and disposal of wastewater and trade waste, including all Sewers, pumping stations, and storage used by the Council for the reception, treatment and disposal of Wastewater and Trade Waste.

Water Services means water supply and Wastewater Services (Sewerage, treatment and disposal of Sewage and Stormwater drainage) (Section 124 Local Government Act 2002)

Water Main means a pipe or conduit that conveys water.

A5. Administrative Procedures

A6. Fees and Charges

A6.1. General

There are no charges made under the Bylaw for water supply or stormwater or domestic type wastewater discharges other than those under the Offences and Penalties provisions as set out in clause A19.2 of the Bylaw.

Clause A22 of the Bylaw references the Local Government Act 2020 in terms of Council's powers to prescribe fees and recover reasonable costs.

A6.2. Prescribed Charges

Charges are set out in Schedule D to this Administration Manual. These cover the following.

a) All trade businesses other than those identified in clause E3.1 of the Bylaw are required to register their trade waste discharges with the Council. This registration process (also described in clause A5 of this Administration Manual) will determine if the business activity requires a consent or not. There will be no charge for registering discharges with the Council.

b) "Permitted" trade waste premises, mobile facilities and vendor operations may incur fees and charges relating to administration and an inspection fee.

c) For "controlled" consents set fees are charged for administration and inspections, inspection fee, in additional sampling and testing will be charged at cost (should this be required).

d) For "conditional" consents

i. Set fees are charged for administration, inspection fee, sampling and testing; and

ii. Unit charges based on a "cost causative approach" calculation following the principles set out in "New Zealand Standard 9201: Part 23 – 2004 Model General Bylaws – Trade Waste" Section G6.3".

iii. The appropriate parameters for this approach have been deemed by Council as:

- Volume $ per cubic metre
- Total Suspended Solids $ per kg
- Total Chemical Oxygen Demand $ per kg
- Total Nitrogen $ per kg

Introduction of cost causative charges will commence 24 months following introduction of the Bylaw. The purpose of delaying the introduction of this approach will allow businesses holding conditional consents to either make changes to their discharges (to reduce the cost) or allow the business to budget for these additional costs. It also allows for water meters to be installed in these areas (further information on roll out of water metering is provided in clause B1 of this Administration Manual). Discharges from "conditional" trade waste customers will then be sampled and the sample results will be calculated using the "Cost Causative Cost Approach".

Conditional trade waste Occupiers will be responsible for payment of these charges.

e) Fees and charges relating to sampling and testing could also be incurred should Council's officer deem it necessary to confirm whether a discharge is "permitted" or should be classed as "controlled" or "conditional".

f) Tankered waste will incur a volume charge only. Costs associated with random testing of tankered waste will be paid for by Council.

Part B – Water Supply

These provisions supplement those set out in Part A "Requirements Common to all Water Services"(of this Administration Manual and the Bylaw) and Part B "Water Supply" of the Bylaw.

B1. Water Metering Status

The District, like many districts in New Zealand is faced with an increasing demand for water and high costs for implementing new supplies. The District has a comparatively high average water use when compared with many other districts in New Zealand. Peak day use is also high as a result of widespread irrigation through the summer months, reflective of the district's relatively dry climate. Future expansions to the water supply network are designed for this peak day.

Water metering is a tool to not only help provide accurate information on water use in the district, because it is not possible to efficiently manage what isn't measured, but also to help reduce peak demand during summer months when water resources are most stretched. Reduced demand can defer the need for network upgrades leading to both capital and operation cost saving for the rate payer.

Council is currently investigating the cost benefit of introducing universal water metering and potential volumetric pricing in the future. The introduction of district-wide water metering is a significant undertaking and the introduction of any form of widespread customer metering would only occur when the financial and other benefits from doing so can be clearly demonstrated.

Due to the presence of the algae *Lindavia intermedia* in Lakes Wakatipu and Wanaka customer meters are unlikely to function properly in the Queenstown and Wanaka networks until upgraded water treatment plants are constructed at both sites (current expected completion date 2024).

A comprehensive project plan, risk assessment and a communication plan will be prepared in advance of any district-wide metering roll out.

Part C – Stormwater

These provisions supplement those set out in Part A "Requirements Common to all Water Services" (of this Administration Manual and the Bylaw) and Part C "Stormwater" of the Bylaw.

C1. Contamination of Stormwater

All discharges to Council's reticulated stormwater network must meet the requirements of clause C5 of the Bylaw and Schedule C of the Administration Manual.

C2. Stormwater Management Plans

C2.1. Where a trade premise generates trade waste and there is a reasonable probability that accidents or other events may take place where trade waste could enter Council's stormwater network, Council may decide to require a the trade waste consent to also consider protection of the stormwater system from such events. In this situation the trade waste consent could include the preparation of a Stormwater Management Plan, which contains measures for protection of Council's stormwater network.

C2.2. A Stormwater Management Plan must include:

a) A suitably scaled drawing showing the site layout, boundaries, all private stormwater and wastewater drainage including the point or points of connection to the Council's stormwater drainage, relevant buildings and outdoor spaces (including their use);

b) A site assessment identifying all actual and potential sources of stormwater contamination;

c) Methods in place to prevent contamination of the Council's stormwater network;

d) Methods and timeframes proposed to control contamination of the Council's stormwater network;

e) A description of the maintenance procedures in place and proposed;

f) Spill prevention and spill response procedures;

g) Cleaner production, pollution prevention and waste minimisation procedures may be included as a condition of trade waste consent associated with the same site. Guidelines of procedures and practices for cleaner production are included in clause E14 of this Administration Manual; and

h) Other matters that Council may decide are required in respect to other features of the site in question.

Part D – Wastewater

These provisions supplement those set out in Part A "Requirements Common to all Water Services" (of this Administration Manual and the Bylaw) and Part D "Wastewater" of the Bylaw.

D1. Discharge of Wastewater to the Wastewater Network

D1.1. Acceptable and Prohibited Characteristics

a) Wastewater discharged to Council's wastewater network must not exceed the contaminant limits as set out in Schedule A of this Administration Manual.

b) Wastewater with prohibited characteristics as set out in Schedule B of this Administration Manual must not be discharged to Council's wastewater network.

D1.2. Disinfected/Super Chlorinated Water

Any water used during the repair and construction of water mains must be de- chlorinated to provide a residual chlorine level of less than 0.5 ppm prior to discharge into the wastewater network. Any chemical used to neutralise the chlorine must not introduce any substances that exceed the limits specified in Schedule A of this Administration Manual.

NOTE: No such water must be disposed of to any stormwater drain, water course, or water body receiving environment except in compliance with Schedule C of this Administration Manual.

D1.3. Swimming Pools and Spa Pool Water

Filter backwash water, from a swimming pool or spa pool draining facility must be discharged to the wastewater network. Water from a swimming pool and spa pool, other than filter backwash water, may only be discharged to the wastewater network once the residual chorine level is less than 0.5 ppm and only in quantities associated with a standard backwash of filters. If the reason for discharge is due to a chemical imbalance, i.e. a pH<6 or >9, then the Council must be consulted before the discharge occurs. All discharges other than backwash must be made after 8pm and before 7am. Discharges outside of the stipulated time requires Council approval. Council reserves the right to limit the rate and timing of the discharge. Discharges are not allowed less than two days after a rain event.

D1.4. Campervan / Motorhome Wastewater

All campervan/motor home and similar domestic type wastewater must be disposed of at a designated facility that complies with the current Dump Station Guide.

D1.5. Mobile Facilities and Vendor Operations

Based on the information contained in the Owner/Operator's registration of these activities the Council may decide to require a conditional trade waste consent for the Owner/Operator's discharges to the wastewater network. Where a consent is required, the provisions of conditional trade waste consents will apply.

D1.6. Impervious yard run off

a) For large impervious areas (such as but not limited to truck washing facilities), the provisions set out in Council's Land Development and Subdivision Code of Practice will apply and specific provision will be made for a permanent barrier which will prevent water from outside the confines of the facility from entering the wastewater network.

b) Where it is impractical to cover a large impervious area, consideration will be given to a system which detains run-off from the first foul flush for ultimate disposal to the wastewater network, with subsequent run-off disposal as uncontaminated stormwater into the Council's stormwater network.

Part E – Trade Waste

These provisions supplement those set out in Part A "Requirements Common to all Water Services" (of this Administration Manual and the Bylaw) and Part E "Trade Waste" of the Bylaw.

E1. Application for a Trade Waste Consent

The requirements for trade waste consents are detailed below. Further details regarding information requirements for consent applications and consideration criteria are provided in clause E2 and clause E3.

E1.1. Every Occupier who discharges, or is likely to discharge, trade waste or tankered waste and in some cases mobile facilities and vendor's operational wastes is required to apply using the prescribed Trade Waste Consents and Registration Application Forms (available via the Council's website) for a trade waste consent:

a) in the case of a trade premises or tankered waste operation that exists at 1 July 2021, an application must be made prior to 1 December 2021; or

b) in all other cases prior to the commencement of a discharge of trade waste.

E1.2. Every Occupier who discharges, or is likely to discharge trade waste with characteristics that may exceed the limits specified in a trade waste consent is required to apply for a variation of the trade waste consent.

E1.3. Every Occupier who changes or is likely to change an approved means of pre-treatment for a discharge that is permitted by a trade waste consent is required to apply for a variation of the trade waste consent.

E1.4. All applications must be made in the prescribed form and be accompanied by the application fees.

E1.5. No discharges of trade waste with volumes, characteristics or constituents prohibited by this Bylaw will be approved to be discharged into the wastewater network.

E1.6. Within 15 working days of receiving an application for a trade waste consent to discharge from any premises or tanker or mobile facility or vendor's operation or to vary a trade waste consent, the Council may require the applicant to:

a) submit any additional information which it considers necessary to determine the application;

b) submit a Trade Waste Management Plan; and

c) obtain an independent report or producer statement completed by a suitably experienced and qualified person to verify any or all information supplied by the applicant, including any management plan; and/or present an analysis of the trade waste together with a report interpreting those results.

E2. Information Requirements for Trade Waste Consent Applications

E2.1. The applicant must ensure that the application and every other document conveying required information is properly executed.

E2.2. The Council will acknowledge the consent application in writing within 5 working days of the receipt of the application. This will be an automated response generated via Council's online application process.

E2.3. On receipt of any trade waste consent application the Council may:

a) Require the applicant to submit any additional information which it considers necessary for the purpose of approving a consent;

b) Require the applicant to submit a Trade Waste Management Plan to the satisfaction of the Council (as per clause E11 of this Administration Manual); and in special circumstances a Stormwater Management Plan as set out in Clause C2.1 of this Administration Manual; and

c) Have the discharge sampled, tested or monitored.

E2.4. The Council will notify the applicant of any further information requirement within 15 working days of receipt of the application.

E3. Consideration Criteria for Consent Applications

E3.1. The Council is not required to issue a trade waste consent until it receives any charge or fee fixed by it in relation to the application consent.

E3.2. In considering any application for a trade waste consent to discharge from any trade premises or to discharge tankered waste or mobile facility or vendor's operations into the wastewater network on such a consent, the Council must have regard to the following matters:

a) The quality, volume, and rate of discharge of the trade waste from such premises or tanker;

b) The health and safety of the Council staff, and Council agents and the public;

c) The limits and/or maximum values for characteristics of trade waste as specified as permitted activities in Schedule A of this Administration Manual;

d) The extent to which the trade waste may react with other trade waste or wastewater to produce an undesirable effect, e.g. settlement of solids, production of odours, accelerated corrosion and deterioration of the wastewater network;

e) The nature of any of Council's wastewater treatment processes and the degree to which the trade waste is capable of being treated in Council's wastewater treatment plants;

f) The flows and velocities in Council's sewers and conveyance systems, and the materials of construction of all components of Council's wastewater network;

g) The capacity of Council's wastewater network, specifically including sewers, trunk conveyance and wastewater treatment plants;

h) The timing and balancing of trade waste flows into the wastewater network;

i) Any statutory requirements such as any Otago Regional Council resource consents relating to the discharge of raw or treated wastewater to receiving waters, the disposal of wastewater sludges, beneficial use of biosolids, and any discharge to air (including the necessity for compliance with any such resource consent, discharge permit or water classification);

j) The effect of the trade waste discharge on the ultimate receiving environment;

k) The possibility of unscheduled, unexpected or accidental trade waste related events and the degree of risk these could cause to humans, the wastewater network, the stormwater network or the receiving environment;

l) Consideration of other existing or future discharges;

m) The amenability of the trade waste to pre-treatment;

n) Requirements to control and isolate stormwater;

o) Requirements and limitations related to sewage sludge and biosolids quality, disposal, and/or reuse;

p) Cleaner production techniques, pollution prevention and waste minimisation practices.

q) Any Management Plan; and

r) Tankered and mobile facilities or vendor's operation waste being discharged at an approved location/s.

E4. Decision on Application

E4.1. The Council must determine an application for a trade waste Approval Notice or consent and issue its decision to either:

a) grant the application as a Permitted Trade Waste through the Approval Notice procedure where all the characteristics of the trade waste meet the parameters in Schedule A of this Administration Manual and does not exceed a maximum volume of trade waste of 2,000L/day;

b) grant the application as a Controlled Trade Waste consent where all the characteristics of the trade waste complies with all the physical and chemical characteristics set out in Schedule A and has a maximum volume of Trade Waste of no more than 2,000L/day and is subject to pre-treatment requirements as set by Council in Part D of both the Bylaw and this Administration Manual and also the conditional consent itself;

c) grant the application as a Conditional Trade Waste consent with conditions imposed on the discharge;

d) decline the application as the trade waste has prohibited characteristics as set out in Schedule B of this Administration Manual; or

e) decline the application and provide reasons for refusal.

E5. Conditions of Trade Waste Consent – General

E5.1. A trade waste consent to discharge may impose restrictions on trade waste discharges by:

a) specifying mass, volume, pH, temperature and concentration limits for any constituent or characteristic as set out in clause E6 of this Administration Manual; and

b) specifying the rate of discharge of any constituent or characteristic.

E5.2. The Council may at any time require an Occupier discharging trade waste as a permitted trade waste discharge to apply for a controlled or conditional trade waste discharge consent, if that discharge ceases to be a permitted trade waste discharge as defined in Schedule A of this Administration Manual and is not a prohibited trade waste discharge set out in Schedule B of this Administration Manual.

E5.3. Any consent may be granted subject to such conditions that the Council may impose, including but not limited to:

a) the part of the Council's wastewater network to which the discharge will be made;

b) the maximum daily volume of the discharge and the maximum rate of discharge, and the duration of maximum discharge;

c) the maximum limit or permissible range of any specified characteristics of the discharge, including concentrations and/or mass limits determined by Council;

d) the period or periods of the day during which the discharge, or a particular concentration, or volume of discharge may be made;

e) the degree of acidity, or alkalinity of the discharge at the time of discharge;

f) the temperature of the trade waste at the time of discharge;

g) the provision by, or for the Occupier, at the Occupier's expense, of screens, grease traps, silt traps or other pre-treatment works to control trade waste discharge characteristics to the consented levels;

h) the provision and maintenance at the Occupier's expense of inspection chambers, manholes or other apparatus or devices to provide safe and reasonable access to drains for sampling and inspection;

i) the provision and maintenance of a sampling and analysis programme, and flow measurement requirements, at the Occupier's expense;

j) the method or methods to be used for the measuring flow rates and/or volume and taking samples of the discharge for use in determining compliance with the Consent and for determining the amount of any trade waste charges applicable to that discharge;

k) the provision and maintenance by, and at the expense of, the Occupier of such meters or devices as may be required to measure the volume or flow rate of any trade waste being discharged from the premises, and for the calibration of such meters;

l) the provision and maintenance, at the Occupier's expense of such services, (whether electricity, water or compressed air or otherwise), which may be required, in order to operate meters and similar devices including safe sampling points of access as may be required;

m) at times specified, the provision in a Council approved format by the Occupier of all flow and/or volume records and results of analyses;

n) risk assessment of damage to the receiving environment due to an accidental discharge of a chemical or other contaminant;

o) the provision and implementation of a Management Plan;

p) cleaner production, pollution prevention and waste minimisation as set out in a Management Plan if required for that premise's trade waste consent. Clause E13 of this Administration Manual provides guidance on pre-treatment and clause E14 of this Administration Manual provides guidance on cleaner production, pollution prevention, and waste minimisation;

q) remote monitoring and/or control of discharges;

r) third party treatment, carriage, discharge or disposal of by-products of pre-treatment of trade waste (including sewage sludge and biosolids disposal and reuse);

s) the requirement to provide a bond or insurance in favour of the Council where failure to comply with the consent could result in damage to the Council's wastewater network, its treatment plants, or could result in the Council being in breach of any statutory obligation;

t) the amount, if any, of cooling water, condensing water or stormwater which cannot practically be separated from trade wastes, that may be included with the discharge;

u) the cessation of a consent to discharge putrescible wastes to the wastewater network when the Council has provided or arranged an alternative commercial collection and disposal system; and

v) a prescribed sampling and monitoring programme to be carried out by the Occupier of the trade premises or Operator of a tankered waste operation. Clause E12 of this Administration Manual sets out Council's provisions for sampling and monitoring.

E6. Conditions of Trade Waste Consent - Mass, Volume, Rate, Concentration, Temperature and pH Values

E6.1. Limits on the mass, volume, concentration, pH or temperature may be imposed on the trade waste discharger for any constituent. Any characteristic that is subject to mass limit restrictions shall also have its maximum concentration limited.

E6.2. When setting mass, volume and concentration limit restrictions for a particular constituent in a trade waste consent the Council must have regard to:

a) conditions in Council's wastewater network near the trade waste discharge point and elsewhere in the wastewater network;

b) the extent to which the available industrial capacity for the constituent was met during the Council's preceding financial year, and the expected levels of the constituent for the forthcoming financial year;

c) if the applicant uses cleaner production, pollution prevention and waste minimisation techniques;

d) if the applicant has established a programme to achieve cleaner production, pollution prevention and waste minimisation to the satisfaction of the Council within an agreed timeframe;

e) if in the opinion of the Council, there is any advantage to increasing the discharge of a particular constituent in exchange for decreasing the discharge of another constituent;

f) any requirements of the Council to meet resource consent conditions or regional plan rules;

g) any requirements of the Council to reduce the contaminant discharge of the trade waste or wastewater discharge;

h) how great a proportion the mass flow of a constituent of the discharge will be of the total mass flow of that constituent in the wastewater in Council's wastewater network;

i) the total mass of the constituent allowable in the wastewater, and the proportion (if any) to be reserved for future allocations of discharge of such constituents to other consent holders; and

j) if there is an interaction with other constituents which increases or decreases the effect of their characteristic on the Council's wastewater network including reticulation, treatment process, or receiving water (or land).

E7. Mobile Facilities and Vendor's Operations

Clause D1.5 of this Administration Manual sets out the requirements for Council's consideration of such discharges to Council's wastewater network and the procedures as to how Council may consider these discharges in certain instances to be a trade waste discharge.

E8. Discharges via Grease Traps, Oil and Grit Interceptors

In addition to the requirements of clause E13 of the Bylaw all grease traps and oil/grit separators must be regularly serviced and maintained to ensure:

a) The sediment layer in any trap does not exceed 20% of the depth of the volume of the trap; and

b) The fat/oil grease layer does not exceed 20% of the depth or volume of the trap.

Oil water separators should be inspected weekly and as soon as practical after any spillage occurs on site. These devices should be serviced if there is any significant oily material (more than 3mm) or sediment (more than 150mm) in the device.

E9. Operations not Considered Trade Waste

These are set out in clause E3.3 of the Bylaw.

E10. Trade Waste from Food Premises (Not Commercial)

Premises which prepare and serve food, but are not commercial in nature, may include:

- Marae;
- Churches;
- Community halls and public gathering places;
- Catering facilities within schools and early childhood centres; and
- Other facilities as identified at Council's discretion.

As per clause E14 of the Bylaw, these premises must fit grease traps and apply for a trade waste consent.

E11. Trade Waste Management Plans

E11.1. When required by Council a Trade Waste Management Plan must include a plan for the management of the operations from which the trade waste is produced. This must include but not be limited to:

a) A description of the operations producing the trade waste;

b) A description of pre-treatment devices and their operation;

c) Methods to ensure compliance with the conditions of the trade waste consent;

d) A description of maintenance procedures in place and any further proposed in respect to the trade operation producing the trade waste; and

e) Contingency management procedures.

E11.2. The Trade Waste Management Plan may also need to address the following matters as conditions of the Trade Waste Consent as determined by Council:

a) Cleaner production, pollution prevention and waste minimisation approaches used and/or further planned to be used. Clause E14 of this Administration Manual sets out the guidelines for these;

b) Reference to relevant industry Codes of Practice that are being followed; and

c) Other matters that Council may deem to be appropriate to a particular trade waste discharge.

E12. Sampling and Monitoring of Trade Waste

E12.1. Council may require sampling, testing and monitoring to be undertaken to determine if a discharge:

a) complies with the provisions of the Bylaw;

b) is to be classified as permitted, controlled, conditional, or prohibited; or

c) complies with the provisions of Schedule A of this Administration Manual for a permitted discharge and any trade waste consent to discharge.

E12.2. The taking, preservation, transportation, and analysis of the sample must be undertaken by an authorised officer or agent, or the person discharging, in accordance with accepted industry standard methods, or by a method specifically approved by the Council.

E12.3. Sampling point configuration and other requirements are as set out in Council's Land Development and Subdivision Code of Practice.

E12.4. The person discharging is responsible for all reasonable costs. Where a dispute arises as to the validity of the methods or procedures used for sampling or analysis, the dispute may be submitted to a mutually agreed independent arbitrator.

E13. Trade Waste Pre-treatment Requirements and Guidelines

Table 1 includes a range of trade waste discharging operations; their potential risks to the wastewater network; pre-treatment requirements for controlled consents, and pre-treatment guidelines for other discharge categories.

A number of these other categories will include for conditional consent discharges where that discharge is greater than 2,000 L/day and/or exceeds the permitted discharge criteria in Schedule A of this Administration Manual.

Table 1 Trade Waste Discharges – Risks to the Wastewater Network and Pre-treatment Requirements and Guidelines

Type of business activity	Risk to the wastewater network	Pre-treatment required for these "Controlled" Trade Wastes Refer Bylaw Clauses E12, E13, E14, E15 and E16
Food premises including: • Day-care centre • Nursing Homes • Hospitals • Retirement Villages All with cooking on site	• Fats, oil and grease can clog the wastewater network • Risk to the WWTP – toxic waste and waste with a high nutrient load is more difficult to treat and requires additional aeration • Emerging contaminants in cleaning chemicals pose a risk to the receiving environment and biosolids • Premises that operate for more than 10 hours/day are likely to exceed the allocated amount of water as allowed under a permitted activity	• Grease trap • Sink screens
Dentists	• Amalgam from fillings contaminate the biosolids and should be recycled	• Amalgam Trap
Car Washes Large areas roofed and bunded (Clause D1.6 of this Administration Manual)	• Hydrocarbons/grit • High water users (> 2m³/day) – causes capacity issues in the network • Emerging contaminants in cleaning chemical pose a risk to the receiving environment and contaminate the biosolids • Solvents and used oil pose a risk to the network if not stored correctly and requires to be collected for recycling purposes	• Oil/grit Interceptor
Pre-treatment Guidelines		
Hairdressers	• Hair can tangle around pumps in the pump station and assist in causing sewer blockages that can lead to sewer overflows	• Sink screens
Medical Facilities	• Risk to the WWTP – toxic waste is more difficult to treat and requires additional aeration • Emerging contaminants in cleaning chemicals pose a risk to the receiving environment and biosolids	• Sink screens and plaster arrestors
Automotive /Mechanical	• Hydrocarbons, oil and other solvents • Solvents and used oil pose a risk to the network if not stored correctly and requires to be collected for recycling purposes	• Oil / water interceptors

Type of business activity	Risk to the wastewater network	Pre-treatment required for these "Controlled" Trade Wastes Refer Bylaw Clauses E12, E13, E14, E15 and E16
Garbage Bin Cleaning	• Can clog wastewater network	• Basket Trap and Fixed Screen
Laundries	• High water users (> 2m³/day) – causes capacity issues in the network • Emerging contaminants, i.e. surfactants in washing powder pose a risk to the receiving environment and contaminate the biosolids	• Lint screens • May require cooling pit
Equipment Washing	• Clog wastewater networks	• Oil/grit/water separation
School Art Studio and Laboratories	• Wastewater network risks	• Grit trap and/or neutralisation/mixing chamber
Septic Tank Waste (Septage)	• Toxic waste can have a detrimental impact on the microbes that break down the waste in the wastewater treatment plant.	• No pre-treatment required • Private septic tank management required in accordance with good practice

E14. Cleaner Production, Pollution Prevention and Waste Minimisation Guidelines

Cleaner production, pollution prevention, and waste minimisation programmes should, at a minimum, address the following:

a) An overall approach to pollution prevention including where necessary stormwater contamination in addition to the various categories of trade waste discharge and wastewater discharge.

b) The effective use of water including adherence to Council's water demand management procedures.

c) Opportunities for reducing the contamination potential of trade waste constituents that enter the wastewater system and may be transferred through into Council's wastewater sludges and biosolids (for example, using alternative chemicals that are less toxic).

d) The effectiveness of material use and processes (by employing methodologies to minimise waste and the unnecessary consumption of materials, including water conservation).

e) The practice of good housekeeping (to prevent spoilage and contamination due to poor handling or storage).

SCHEDULE A – PERMITTED DISCHARGE CHARACTERISTICS

The nature and levels of the characteristics of any trade waste discharged to the Council's wastewater network shall comply at all times with the following requirements, except where the nature and levels of such characteristics are varied by Council as part of a consent to discharge a trade waste.

Physical characteristics

Ref No	Bylaw Requirements	Commentary from NZ Standard 9201: 2004 Part 23 Model General Bylaws – Trade Waste
Flow		
A.1.1	a) The 24-hour flow volume must be less than 2,000 litres (2 cubic metres). The maximum instantaneous flow rate must be less than 2.0 L/s.	Flows larger than the Guideline values should be Conditional Trade Waste Consent. Conditional Consents will be dependent on the Contaminant concentration/mass load.
Temperature		
A.1.2	The temperature must not exceed 40 °C.	Higher temperatures: • Cause increased damage to sewer structures; • Increase the potential for anaerobic conditions to form in the wastewater; • Promote the release of gases such as H_2S and NH_3 (can adversely affect the safety of operations and maintenance personnel); and • Reflect poor energy efficiency. It should be noted that this temperature has been reduced from 50°C to come into line with the ARMCANZ/ANZECC Guidelines for sewerage systems. A lower maximum temperature may be require for large volume discharges.
Solids		
A.1.3	a) Non-faecal gross solids must have a maximum dimension that shall not exceed 15 mm. b) The suspended solids	Gross solids can cause sewer blockages. In case of conditional consents fine screening may be appropriate High suspended solids contents can cause sewer blockages and overload the

Ref No	Bylaw Requirements	Commentary from NZ Standard 9201: 2004 Part 23 Model General Bylaws – Trade Waste
	content of any Trade Waste must have a maximum concentration that shall not exceed 2000 g/m^3. For significant industry this may be reduced to 600 g/m^3. c) The settleable solids content of any Trade Waste must not exceed 50mL/L. d) The total dissolved solids concentration in any Trade Waste must be subject to the approval of QLDC, having regard to the volume of the waste to be discharged, and the suitability of the wastewater network and the Wastewater Treatment Plant to accept such waste. e) At no time must the sediment layer in any trap exceed 20% of the depth or volume of the trap. f) Fibrous, woven, or sheet film or any other materials which may adversely interfere with the free flow of wastewater in the wastewater network or Wastewater Treatment Plant shall not be present.	treatment processes. Where potential for such problems is confirmed, a lower limit appropriate to the risk may be set. A lower limit may be set between 2000 g/m^3 and 600 g/m^3. The ANZECC Guidelines recommend a limit of 600 g/m^3. High total dissolved solids reduce effluent disposal options and may contribute to soil salinity. Where potential for such problems exists, a limit of 10,000 g/m^3 may be used as a guideline.

Ref No	Bylaw Requirements	Commentary from NZ Standard 9201: 2004 Part 23 Model General Bylaws – Trade Waste
Oil and grease		
A.1.4	a) There must be no free or floating layer. b) Fat, oil or grease must not exceed 100 g/m³ c) At no time must the fat, oil or grease layer exceed 20% of the depth or volume of the trap	Oil and grease can cause sewer blockages, may adversely affect the treatment process, and may impair the aesthetics of the receiving water. Where the Wastewater Treatment Plant discharges to a sensitive receiving water, lower values should be considered. If the WWA only has screening and/or primary treatment prior to discharge, it is recommended that oil and grease be reduced to 100 g/m^3. If quick break detergents are being used, it should be ensured that proper separation systems are being used by the Consent Holder. If not, oil will reappear in drainage systems as a free layer.
Solvents and other liquids		
A.1.5	a) There must be no free layer (whether floating or settled) of solvents or organic liquids.	b) Some organic liquids are denser than water and will settle in sewers and traps.
Emulsions of paint, latex, adhesive, rubber, plastic		

Ref No	Bylaw Requirements	Commentary from NZ Standard 9201: 2004 Part 23 Model General Bylaws – Trade Waste
A.1.6	a) Where such emulsions are not treatable these may be discharged into the wastewater network subject to the total suspended solids not exceeding 1000 g/m^3 or the concentration agreed with QLDC. b) QLDC may determine that the need exists for pre-treatment of such emulsions if they consider that Trade Waste containing emulsions unreasonably interferes with the operation of QLDC's Wastewater Treatment Plant, e.g. reduces % UVT (ultra violet transmission). Such emulsions of both treatable and non-treatable types, must be discharged to the wastewater network only at a concentration and pH range that prevents coagulation and blockage at the mixing zone in the public wastewater network.	'Treatable' in relation to emulsion wastewater, means the Total Organic Carbon content of the waste decreases by 90% or more when the wastewater is subjected to a simulated wastewater treatment process that matches the WWA treatment system. Emulsions vary considerably in their properties and local treatment works may need additional restrictions depending on the experience of the specific treatment plant and the quantity of emulsion to be treated. Emulsion may colour the WWA treatment plant influent such that % UVT is unacceptably reduced. Emulsions will coagulate when unstable and can sometimes cause sewer blockage. Emulsions are stable when dilute or in the correct pH range.
Radioactivity		
A.1.7	Radioactivity levels must not exceed National Radiation Laboratory Guidelines.	Refer National Radiation Laboratory *Code of safe* *practice for the use of unsealed radioactive materials* NRL C1.
Colour		
A.1.8	No waste must have colour or a	Colour may cause aesthetic impairment of

Ref No	Bylaw Requirements	Commentary from NZ Standard 9201: 2004 Part 23 Model General Bylaws – Trade Waste
	colouring substance that causes the discharge to be coloured to the extent that it impairs wastewater treatment processes or compromises the treated wastewater discharge Consent.	receiving waters, and adverse effects on lagoon treatment processes and ultra-violet disinfection. Where potential for such problems exists, a level of colour that is rendered not noticeable after 100 dilutions may be used as a Guideline. Where UV disinfection is used special conditions may apply.

Chemical Characteristics

Ref No	Bylaw Requirements	Commentary from NZS 9201: Part23:2004
pH value		
A.2.1	The pH must be between 6.0 and 10.0 at alltimes.	Extremes in pH: • Can adversely affect biological treatment processes; • Can adversely affect the safety of operations and/or maintenance personnel; • Cause corrosion of sewer structures; and • Increase the potential for the release of toxic gases such as H_2S and HCN. Relaxation of these limits to 5.5 and 11.0 is acceptable for low pressure premises which discharge into a large flow. Significant industries may need to be restricted to limits between 6.0 and 9.0.
Organic Strength		
A.2.2	Where there is no council treatment system for organic removal the BOD_5 must not exceed 1000 g/m³. For significant Industry this may be reduced to 600 g/m³	The loading on a treatment plant is affected by Biochemical Oxygen Demand BOD_5 rather than Chemical Oxygen Demand (COD). For any particular waste type

Ref No	Bylaw Requirements	Commentary from NZS 9201: Part 23: 2004
		there is a fixed ratio between COD and BOD_5. For domestic wastewater it is about 2.5:1 (COD: BOD_5), but can range from 1:1 to 100:1 for Trade Waste. Therefore BOD_5 is important for the treatment process and charging, but because of the time taken for testing, it is often preferable to use COD for monitoring. However, the use of COD testing must be balanced by the possible environmental effects of undertaking such tests due to the production of chromium and mercury wastes. Where a consistent relationship between BOD_5 and COD can be established the discharge may be monitored using the COD test. If the treatment plant BOD_5 capacity is not limited, and sulphides are unlikely to cause problems, there may be no need to limit BOD_5 High COD may increase the potential for the generation of sulphides in the wastewater. A BOD_5 limit which is too stringent may require
Maximum concentrations		
A.2.3	The maximum concentrations permissible for the chemical characteristics of an acceptable discharge are set out in the following tables: Table 1 – General Chemical Characteristics Table 2 – Heavy Metals Table 3 – Organic Compounds and Pesticides	Where appropriate, maximum daily limits (kg/day) for mass limit Permitted Discharges may also be given.

Table 1 — General Chemical Characteristics

(Mass limits may be imposed, refer to Clause E6.1 of this Administration Manual)

Characteristic	Maximum concentration (g/m^3)	Mass Limits (kg/day)	Reason for limit
MBAS (Methylene blue active substances)	500	1.5	MBAS is a measure of anionic surfactants. High MBAS can: • Adversely affect the efficiency of activated wastewater sludge plants; and • Impair the aesthetics of receiving waters. For Wastewater Treatment Plants that suffer from the effects of surfactants the maximum concentration could be reduced significantly, e.g. Sydney Water utilize a level of 100 g/m^3.
Ammonia (measured as N)			High ammonia: • May adversely affect the safety of operations and maintenance personnel; and • May significantly contribute to the nutrient load to the receiving environment.
— free ammonia	50	0.25	
— ammonium salts	200	1.0	
Kjeldahl nitrogen	150	1.0	High Kjeldahl nitrogen may significantly contribute to the nutrient load of the receiving environment. A value of 50 g/m^3 should be used as a guideline for sensitive receiving waters.
Total phosphorus (as P)	50	0.75	High phosphorus nitrogen may significantly contribute to the nutrient load of the receiving environment. A value of 10 g/m^3 should be used as a guideline for sensitive receiving waters.
Sulphate (measured as SO_4)	500 1500 (with good mixing)	2.5	Sulphate: • May adversely affect the wastewater network; and • May increase the potential for the generation of sulphides in the wastewater if the wastewater network is prone to becoming anaerobic.

Characteristic	Maximum concentration (g/m^3)	Mass Limits (kg/day)	Reason for limit
Sulphite (measured as SO_2)	15	0.075	Sulphite has potential to release SO_2 gas and thus adversely affect the safety of operations and maintenance personnel. It is a strong reducing agent and removes dissolved oxygen thereby increasing the potential for anaerobic conditions to form in the wastewater.
Sulphide—as H_2S on acidification	5	0.025	Sulphides in wastewater may: • Cause corrosion of the wastewater network, particularly the top non- wetted part of a sewer; • Generate odours in sewers which could cause public nuisance; and • Release the toxic H_2S gas that could adversely affect the safety of operations and maintenance personnel. Under some of the conditions above sulphide should be <2.0 g/m^3

Characteristic	Maximum concentration (g/m^3)	Mass Limits (kg/day)	Reason for limit
Chlorine (measured as Cl_2) Free chlorine Hypochlorite	3 30	0.015 0.15	Chlorine: • Can adversely affect the safety of operations and maintenance personnel; and • Can cause corrosion of the wastewater network. ARMCANZ/ANZECC Guidelines for sewerage systems utilize a figure of 10 g/m^3.
Dissolved aluminum	100	1.5	Aluminium compounds, particularly in the presence of calcium salts, have the potential to precipitate on a scale that may cause a sewer blockage.
Dissolved iron	100	1.5	Iron salts may precipitate and cause a sewer blockage. High concentrations of ferric iron may also present colour problems depending on local conditions.
Boron (as B)	25	0.125	Boron is not removed by conventional treatment. High concentration in wastewater may restrict irrigation applications. Final wastewater use and limits should be taken into account.
Bromine (as Br_2)	5	0.025	High concentrations of bromine may adversely affect the safety of operations and maintenance personnel.
Fluoride (as F)	30	0.15	Fluoride is not removed by conventional wastewater treatment, however pre-treatment can easily and economically reduce concentrations to below 20 g/m^3.
Cyanide — weak acid dissociable (as CN)	5	0.005	Cyanide may produce toxic atmosphere in the sewer and adversely affect the safety of operations and maintenance personnel.

Table 2 — Heavy Metals

(Mass limits may be imposed, refer to Clause E6.1 of this Administration Manual)

Metal	Maximum Concentration[1] (g/m^3)	Mass Limit[2] (kg/day)	Metal	Maximum Concentration (g/m^3)	Mass Limit (kg/day)
Antimony	10.0	0.025	Manganese	10.0	0.025
Arsenic	5.0	0.025	Mercury	0.05	0.0001
Barium	10.0	0.025	Molybdenum	10.0	0.025
Beryllium	0.005	0.0001	Nickel	10.0	0.050
Cadmium	0.5	0.001	Selenium	10.0	0.025
Chromium	5.0	0.050	Silver	2.0	0.010
Cobalt	10.0	0.025	Thallium	10.0	0.025
Copper	10.0	0.050	Tin	10.0	0.025
Lead	10.0	0.025	Zinc	10.0	0.050

Note:

Heavy metals have the potential to:

a) Impair the treatment process;

b) Impact on the receiving environment; and

c) Limit the reuse of wastewater sludge and effluent.

Where any of these factors are critical it is important that local acceptance limits should be developed.

The concentration of chromium includes all valent forms of the element. Chromium (VI) is considered to be more toxic than chromium (III), and for a discharge where chromium (III) makes up a large proportion of the characteristic, higher concentration limits may be acceptable. Specialist advice should be sought.

Metals will be tested as total, not dissolved. If sludge is used as a biosolid then metal concentration/mass are important such that the Biosolids Guidelines are met.

[1] It is intended that these maximum concentrations refer to the total metal fraction

[2] It is intended that these mass limits refer to the total metal fraction.

Table 3 — Organic compounds and pesticides

(Mass limits may be imposed, refer to Clause E6.1 of this Administration Manual)

Compound	Maximum concentration[3] (g/m^3)	Mass Limits[4] (kg/day)	Reason for limit
Formaldehyde (as HCHO)	50	0.25	Formaldehyde in the sewer atmosphere can adversely affect the safety of operations and maintenance personnel.
Phenolic compounds (as phenols) Excluding chlorinated phenols	50	0.25	Phenols may adversely affect biological treatment processes. They may not be completely removed by conventional treatment and subsequently impact on the environment.
Chlorinated phenols	0.02	0.001	Chlorinated phenols can adversely affect biological treatment process and impair the quality of the receiving environment.
Petroleum hydrocarbons	30	0.15	Petroleum hydrocarbons may adversely affect the safety of operations and maintenance personnel.
Halogenated aliphatic compounds 5	1	0.001	Because of their stability and chemical properties these compounds may: • Adversely affect the treatment process; • Impair the quality of the receiving environment; and • Adversely affect the safety of operations and maintenance personnel.
Monocyclic aromatic hydrocarbons	5	0.025	These compounds (also known as benzene series) are relatively insoluble in water, and are normally not a problem in Trade Waste. They may be carcinogenic and may adversely affect the safety of operations maintenance personnel.
Polycyclic (or polynuclear) aromatic hydrocarbons (PAHs) Including specifically: dibenzo [a,h] anthracene benzo [a] anthracene benzo[a] pyrene benzo [b] fluoranthene benzo [k] fluoranthene chrysene indeno [a,2,3-cd] pyrene	0.05	0.001	Many of these substances have been demonstrated to have an adverse effect on the health of animals. Some are also persistent and are not degraded by conventional treatment processes.

[3] Where several compounds are grouped into a generic type, the sum of individual concentrations is not to exceed the maximum listed

[4] Where several compounds are group into a generic type, the sum of individual mass quantities is not to exceed the maximum listed

[5] These compounds shall be accepted up to the given maximum concentration only when specifically approved

Compound	Maximum concentration[3] (g/m^3)	Mass Limits[4] (kg/day)	Reason for limit
Halogenated aromatic hydrocarbons (HAHs)	0.002	0.0001	Because of their stability, persistence and ability to bioaccumulate in animal tissue these compounds have been severely restricted by health and environmental regulators
Polychlorinated biphenyls (PCBs) Polybrominated biphenyls (PBBs) Including specifically the following congeners using the IUPAC nomenclature: PCB-28 PCB-52 PCB-77 PCB-81 PCB-101 PCB-105 PCB-114 PCB-118 PCB-123 PCB-126 PCB-138 PCB-153 PCB-156 PCB-157 PCB-167 PCB-169 PCB-180 PCB-189	0.002	0.0001	Because of their stability, persistence and ability to bioaccumulate in animal tissue these compounds have been severely restricted by health and environmental regulators
Pesticides (general) (includes insecticides, herbicides, fungicides and excludes organophosphate, organochlorine and any pesticides not registered for use in New Zealand)	0.002 each 0.2 in total	0.0001	Pesticides: • May adversely affect the treatment processes; • May impair the quality of the receiving environment; and • May adversely affect the safety of operations and maintenance personnel.
Organophosphate pesticides - excludes pesticides not registered for use in New Zealand - These compounds shall be accepted up to the given maximum concentration only when specifically approved.	0.1	0.0001	

[6] These compounds shall be accepted up to the given maximum concentration only when specifically approved

[7] Excludes pesticides not registered for use in New Zealand.

A.3.4 Inhibitor Chemicals

No waste being diluted at a ratio of 100 to 1 of wastewater may inhibit the performance of the wastewater treatment process, such that QLDC is significantly at risk, or prevented from achieving its environmental statutory requirements.

After dilution with de-chlorinated water, at a ratio of 15 to 1 of wastewater, a discharge which has an acute result when subjected to the Whole Effluent Toxicity Testing, will be deemed to have inhibitory chemicals. Whole Effluent Toxicity Testing will be undertaken using organisms selected by the QLDC.

SCHEDULE B – PROHIBITED CHARACTERISTICS

B1 Introduction

Schedule B defines prohibited characteristics.

Any discharge has prohibited characteristics if it has any solid, liquid or gaseous matters, or any combination or mixture of such matters, which by themselves or in combination with any other matters, will immediately or in the course of time:

a) Interfere with the free flow of wastewater in the wastewater network;

b) Damage any part of the wastewater network;

c) In any way, directly or indirectly, cause the quality of the treated wastewater or residual biosolids and other solids from any Wastewater Treatment Plant in the catchment to which the waste was discharged to breach the conditions of a consent issued under the RMA, or water right, permit or other governing legislation;

d) Prejudice the occupational health and safety risks faced by wastewater workers;

e) After treatment be toxic to fish, animals or plant life in the receiving waters;

f) Cause malodorous gases or substances to form which are of a nature or sufficient quantity to create a public nuisance; or

g) Have a colour or colouring substance that causes the discharge from any Wastewater Treatment Plant to receiving waters to be coloured.

The discharge has a prohibited characteristic if it has any amount of:

a) Harmful solids, including dry solid wastes and materials that combine with water to form a cemented mass;

b) Liquid, solid or gas which could be flammable or explosive in the wastes, including oil, fuel, solvents (except as allowed for in Schedule A of this Bylaw), calcium carbide, and any other material which is capable of giving rise to fire or explosion hazards either spontaneously or in combination with wastewater;

c) Asbestos;

d) The following organo-metal compounds;

   i. Tin (as tributyl tin and other organotin compounds)

   ii. Any organochlorine pesticides;

   iii. Genetic wastes, as follows: All wastes that contain or are likely to contain material from a genetically modified organism that is not in accordance with an approval under the HSNO. The

material concerned may be from premises where the genetic modification of any organism is conducted or where a genetically modified organism is processed;

iv. Any health care waste prohibited for discharge to a Wastewater Network by NZS 4304 or any pathological or histological wastes; or

v. Radioactivity levels in excess of the National Radiation Laboratory Guidelines.

e) Cytotoxic waste, liquid antibiotics or any pharmaceutical waste;

f) Perfluorooctane sulfonate (PFOS), Perfluorooctanoic acid (PFOA), Perfluorooctanoic sulfonic acid (PFHxS);or

Advice Note - Substance mass limit yet to be determined

g) Flushable wipes;

Advice Note – this topic is to be determined following receipt of the Australia/New Zealand Standard on this subject as expected in late 2020.

Prohibited Tanker Waste Streams:

a) Grease waste

b) Oil Interceptor Waste

c) Wine Waste

SCHEDULE C – STORMWATER DISCHARGE ACCEPTANCE CHARACTERISTICS

To comply with this Bylaw; stormwater discharges in Council's reticulated stormwater network from connected premises properties and other locations must:

a) Comply with all relevant sections of the Bylaw and Administration Manual;

b) Not contain any hazardous substances;

c) Not contain substances that are toxic to the aquatic ecosystem (as measured relative to the Australian and New Zealand (ANZ) Guidelines for Fresh and Marine Water Quality, 2018);

d) Not cause any conspicuous colour changes in the receiving water;

e) Not cause the production of any conspicuous oil, grease films, scums or floatable materials;

f) Not contain any wastes (including but not limited to wastewater or condensates) from a trade or industrial process or premise or a business, institutional or domestic premise;

g) Not have wastes from trade or industrial processes that should be discharged to a trade waste system, or suitable alternative subject to a Resource Consent;

h) Ensure that any water used during the repair, maintenance and/or construction of water mains, or the flushing or testing of water mains is de-chlorinated and screed as required prior to the discharge into the stormwater system. The water used will need to be de-chlorinated such that there is no detectable free or residual chlorine;If the water used during work as described above is discharged directly into adjacent water course a consent will need to be obtained from the Otago Regional Council as per the requirements in the Operative Regional Plan: Water for Otago; and

i) Meet the requirements of the Otago Regional Council's Operative Regional Plan: Water for Otago for permitted reticulated stormwater discharges as per section 12.B.1.8 of 1st September 2015 issue of this Plan (or a subsequent update of that Plan, or a replacement plan).

The requirements of section 12.B.1.8 are currently:

The discharge of stormwater from a reticulated stormwater system to water, or onto or into land in circumstances where it may enter water, is a permitted activity, providing:

(a) Where the system is lawfully installed, or extended, after 28 February 1998:

(i) The discharge is not to any Regionally Significant Wetland; and

(ii) Provision is made for the interception and removal of any contaminant which would give rise to the effects identified in Condition (d) of this rule; and

(b) The discharge does not contain any human sewage; and

(c) The discharge does not cause flooding of any other person's property, erosion, land instability, sedimentation or property damage; and

(d) The stormwater discharged, after reasonable mixing, does not give rise to all or any of the following effects in the receiving water:

(i) The production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials; or

(ii) Any conspicuous change in the colour or visual clarity; or

(iii) Any emission of objectionable odour; or

(iv) The rendering of fresh water unsuitable for consumption by farm animals; or

(v) Any significant adverse effects on aquatic life.

SCHEDULE D –SCHEDULE OF FEES AND CHARGES

The Cost of administering the Bylaw will be reviewed every 12 months and the Schedule of Fees and Charges updated accordingly. These fees and charges have been established at the time of drafting the bylaw and will be subject to review prior to Bylaw implementation in July 2021.

Operative Date: 1 July 2021 to 30 June 2022

Part E Trade Waste

1. Registration of all discharges with the Council	
Early application fee - within two months of commencement of Trade or within two months after published notification date (for existing premises)	$0
Standard application fee	$50
2. Trade Waste Application and Management Fees for Permitted Trade Wastes	
Administration Fee – consists of a flat fee to process the application.	$180
Initial inspection fee - if required to process the application.	$180
Non-compliance inspection fee	$270
Sampling Event – if required. (As per laboratory charges)	At cost
3. Trade Waste Application and Management Fees for Controlled Trade Wastes	
Administration Fee – consists of a flat fee to process the application.	$360
Initial inspection fee - to process the application.	$180
Scheduled Compliance inspection	$180
Non-compliance inspection	$270
Sampling Event – if required. (As per laboratory charges)	At cost

4. Trade Waste Application and Management Fees for Conditional Trade Wastes	
Administration Fee – consists of a flat fee to process the application.	$450
Initial inspection fee - required to process the application.	$180
Compliance inspection	$180
Non-compliance inspection	$270
Sampling Event (As per laboratory charges)	At cost
5. Trade Waste Application and Management Fees for Prohibited Trade Wastes	
Administration Fee – consists of a flat fee to process the application.	$450
Initial inspection fee - required to process the application.	$180
Sampling Event – if required. (As per laboratory charges)	At cost
For temporary discharge consents	
Administration Fee – consists of a flat fee to process the application.	$180
Initial inspection fee - if required to process the application.	$180
Sampling Event – if required. (As per laboratory charges)	At cost

Unit Tanker Waste Charges for Septage Waste will be reviewed after an initial period of 24 months and the Schedule of Fees and Charges updated accordingly. These rates will then be reviewed on a 3 yearly basis. These fees and charges have been established at the time of drafting the bylaw and will be subject to review prior to implementation in July 2021.

Operative Date: 1 July 2021 to 30 June 2023

Tanker Charges	
Septage Waste	$45 m^3

Unit Trade Waste Charges for Conditional Consents will be reviewed every 3 years and the Schedule of Fees and Charges updated accordingly. These fees and charges have been established at the time of drafting the bylaw and will be subject to review prior to implementation in July 2023.

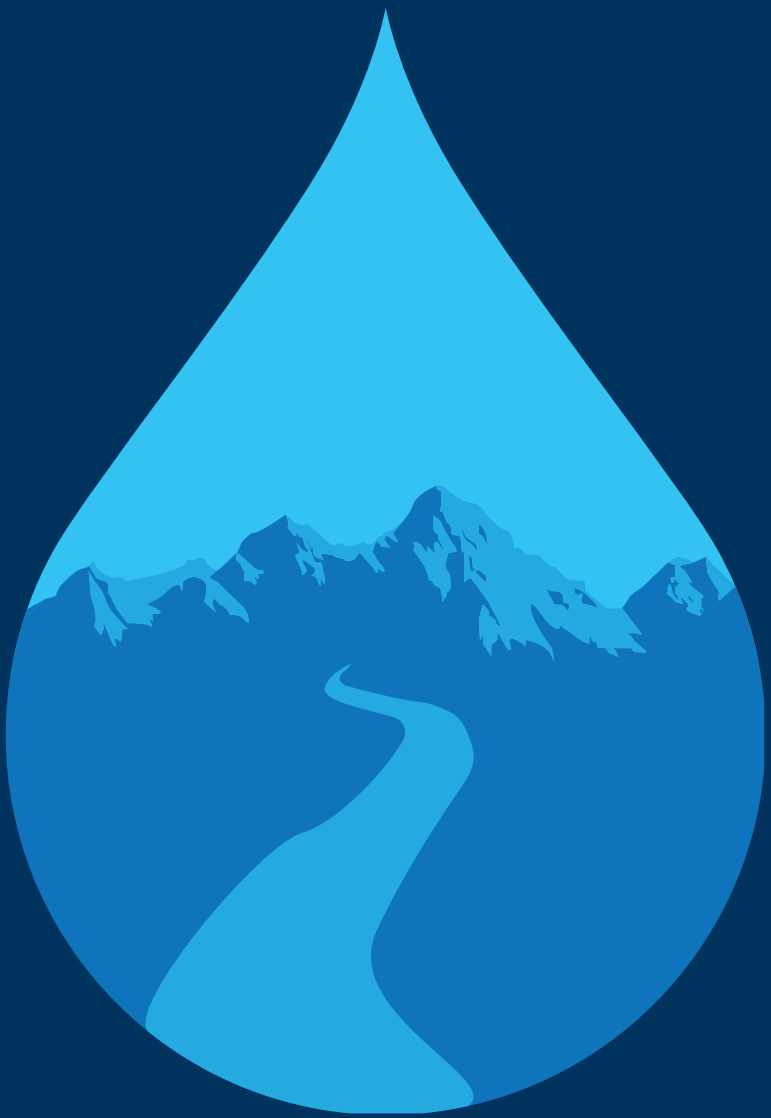
Operative Date: 1 July 2023 to 30 June 2026

Unit Trade Waste Charges for Conditional Consents		
Unit Charge Categories	**Wakatipu Ward**	**Wanaka Ward**
Volume per m^3	$0.31	$0.44
Total Suspended solids (TSS) per kg	$0.24	$0.50
Total Chemical Oxygen Demand (TCOD) per kg	$0.83	$1.76
Total Nitrogen (TN) per kg	$3.15	$5.57

Appendix 3

PROPOSED INTEGRATED THREE WATERS BYLAW

COVER REPORT



QUEENSTOWN LAKES DISTRICT COUNCIL

QUEENSTOWN LAKES DISTRICT COUNCIL

OUR ENVIRONMENT IS PRECIOUS

IT'S UP TO ALL OF US TO PROTECT IT FOR FUTURE GENERATIONS.

Help us develop a bylaw to take a holistic approach to providing safe drinking water, keeping our lakes, rivers and environment clean and looking after our infrastructure.

Not just for our people but everyone living and playing downstream from us.

QLDC Proposed Three Waters Bylaw

Providing safe drinking water and a clean, sustainable environment through high quality infrastructure.

QUEENSTOWN LAKES DISTRICT COUNCIL

CONTENTS

1. PROPOSED INTEGRATED THREE WATERS BYLAW

This report investigates the opportunity to improve management of the council's three waters responsibilities. The Three Waters Services are core infrastructure managed by the council, comprising of:

- The *Water Supply Network*: provides the supply of water on demand to the communities and businesses within the reticulation network.
- The *Stormwater System*: provides for the collection and discharge, treatment (in some cases) and discharge of stormwater to the receiving environment.
- The *Wastewater Network*: provides for the collection, treatment and discharge of wastewater. Wastewater includes domestic sewage and the industrial wastewater from trade premises is known as trade waste.

The stormwater network of pipes, roads and other devices also utilises the natural and built environment for the conveyance of stormwater. Therefore the term system has been adopted to describe the infrastructure that the council uses to manage stormwater. This captures the management of the natural and built environment beyond the council's reticulated network.

The wastewater and water supply assets across the district are made up of a number of discreet unconnected networks. However the policies and standards in place to manage these networks is the same. For ease of understanding this report describes these networks in the singular.

1.1. Background

Under the LGA, the council is able to make bylaws for the purposes of managing and protecting the three waters networks and the natural environment from which water is abstracted and into which wastewater and stormwater are discharged. There are a number of additional reasons why council should consider making these bylaws, these include:

- protecting the public from nuisance
- protecting, promoting, and maintaining public health and safety, and
- minimising the potential for offensive behaviour in public places.

Currently the council has an existing water supply bylaw that is due to be reviewed in 2025 and a trade waste bylaw, due for review in 2019 (if not reviewed the existing bylaw will be revoked). The water supply bylaw was reviewed in 2015 and the trade waste bylaw was a new bylaw adopted by the council in 2014.

The need for improved outcomes for the management of stormwater and wastewater has become evident with the increase in population, large scale business operations and the need to protect the natural receiving environment and council's infrastructure from harm.

One option being considered is an *Integrated Three Waters Bylaw* and an associated *Administrative Manual*. These are to be considered alongside the following four reports that have been prepared consistent with the requirements of the Local Government Act 2002 (**LGA**):

1. Findings from the Review of the Queenstown Lakes District Council *Trade Waste Bylaw 2014*
2. Findings from the review of the Queenstown Lakes District Council *Water Supply Bylaw 2015*

3. A determination report investigating the appropriateness of a *stormwater bylaw*
4. A determination report investigating the appropriateness of a *wastewater bylaw*

The findings reports are reviews of council's existing trade waste and water supply bylaws and the determination reports make recommendations about the use of a bylaw to manage stormwater and wastewater. All these reports include an option to use an *Integrated Three Waters Bylaw*.

Incorporating the wastewater and stormwater bylaws together with the water supply and trade waste bylaw (given that trade waste is discharged into the wastewater system) into one comprehensive document will allow council to take an integrated and consistent approach to the management of its three waters services and the associated networks. The networks include water abstraction and treatment, wastewater treatment and discharge and stormwater discharges as well as the water supply, distribution systems and wastewater and stormwater collection and conveyance systems.

1.2. Te Tiriti o Waitangi

Water management is critical to Māori as kaitiaki who are responsible for the wellbeing of tangata whenua and protecting, enhancing and restoring the mauri of freshwater bodies. The council recognises these kaitiaki responsibilities and wants to ensure an outcome where kaitiaki concerns are appropriately addressed where possible in the management of public systems and in relation to council policy and monitoring the performance of private systems.

Areas of concern to Māori as kaitiaki include water quality monitoring and treatment, pest control, waste disposal and water abstraction.

From previous work, the council recognises the developed principles for urban water quality management. These are listed in Appendix B of this report and serve as over-arching principles for urban water management.

Further consultation with Ngāi Tahu is expected to occur in the next phase when any proposed bylaw is developed and presented during the special consultation procedure as is consistent with Section 81 of the LGA.

1.3. Community Views on Water Management

In October 2019 (Issue 133 of Scuttlebutt) the council introduced the concept of a proposed *Integrated Three Waters Bylaw* that would cover all three water service networks to the public. This article is included in Appendix A of this report.

As part of introducing the concept of the *Integrated Three Waters Bylaw* to the community the council undertook a survey to understand how the community felt about water management in the district. 92 per cent of respondents surveyed supported the council taking more regulatory action to protect waterways (i.e. introducing an integrated bylaw, enforcing breaches and fining those responsible for causing pollution). Figure 1.1 shows that the majority of people surveyed in 2019 were very concerned about water quality in the district. Hence the reason that some of the community recently submitted against the council's proposal for a network discharge consent.

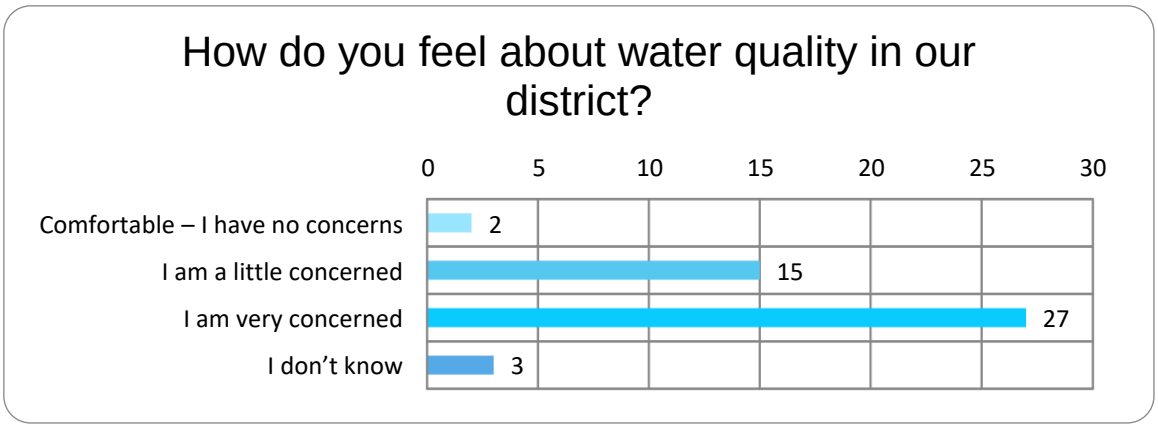


Figure 1.1 *Survey results about water quality across the district (2019) showed that the majority of those completing the survey were very concerned about water quality in the district.*

Consultation with the Minister (via the Ministry) of Health needs to occur in the next phase with respect to legislative requirements for adopting a trade waste bylaw.

1.4. Challenges

The challenge for the council to effectively manage three waters is becoming increasingly complex, due to:

- increased population growth associates with an increase in wastewater contamination loads; and
- a reduction in permeable land surfaces to support ground-soakage and ground-water recharge because of development pressures.

Climate change is expected to increase the intensity and frequency of heavy rainfall events, even in areas where mean annual rainfall is predicted to decrease.[1] A key challenge for councils is to be adaptive and responsive to new threats.

1.5. Objectives and advantages of an Integrated Three Waters Bylaw

The objective of an *Integrated Three Waters Bylaw* is to give effect to:

- the The Queenstown Lakes District Council Infrastructure Strategy 2015-2045, which states *"Providing safe drinking water is important to maintaining public health and compliance with legislation, as well as protecting the district's tourism-based economy"*

- Protect the Queenstown Lakes District Council's investments in existing and future water supply, wastewater and stormwater infrastructure, treatment plants and discharge facilities

- Ensure the protection, safety and health of Queenstown Lakes District Council personnel and the general public.

[1] Source: Queenstown Lakes District Council's Land Development and Subdivision Code of Practice April 2018.

- Promote water stewardship and cleaner production strategies that will give effect to Te Mana o Te Wai – Te Mana o Te Wai refers to the first right to water under the National Policy Statement for Freshwater Management.

This can be achieved by taking a holistic approach to infrastructure services in the district that is:

- Integrated;
- Effective;
- Efficient;
- Functional;
- Safe; and
- Sustainable.

There are a wide range of advantages of taking an integrated approach. These include:

- Protection of the built environment in an integrated, sustainable and planned manner will provide for positive environmental, social, cultural and economic outcomes that will follow through to future generations
- Provides a common framework that enables the council to control discharges which ultimately protects the receiving environment, public health and those people working on the networks
- Provides clear regulatory direction for council's role in decision making on what is discharged into the environment, regardless of the network/system
- Allows for a consistent approach across the district that will improve organisational efficiency that is effective and easily understood
- Future bylaw reviews will take an overall holistic approach to any issues that must be addressed in the district
- Ensures a consistent and holistic approach to the promotion of sustainable behaviours and activities including, water conservation, waste minimisation, cleaner production and on-site pre-treatment
- Fosters education focused on the integration to the three waters and their interaction with the natural water cycle and the receiving environment

1.6. Administrative Manual

It is proposed that the *Integrated Three Waters Bylaw* will be accompanied by an *Administration Manual*. The purpose of the *Administration Manual* is to provide material complementary to each of the three waters by bringing together those aspects which are of a more administrative nature and which may need regular review and updating. For example, a schedule referenced in the bylaw outlining methods for the control of contaminants that is likely to need updating regularly or public guidance documents. In taking this approach, it will simplify the administration of the bylaw, allow for administrative and technical processes to be kept up to date, and assist in interpretation of the bylaw.

Management of the *Administration Manual* would be conducted under delegated authority of the Bylaw, and will govern the implementation and operation of the bylaw. The *Administration Manual* will be a public document and available on the council's website alongside the bylaw.

In addition to making the bylaw simpler and more streamlined, the inclusion of an *Administration*

Manual is intended to make amendments simpler and more responsive to change. Amendments to the *Administration Manual* can be made by council resolution, with appropriate community engagement, and would not require the use of the Special Consultative Procedure, making decision-making more cost-effective and timely.

A legal opinion confirms the appropriateness of using an *Administrative Manual* approach and that such an approach would be beneficial to the council when implementing *the Integrated Three Waters Bylaw.*

1.7. New Zealand Bill of Rights Act 1990

In broad terms there is nothing about having an integrated bylaw that raises concerns in this regard. However an evaluation of consistency can only be made properly once the specific provisions of the bylaw are proposed.

This assessment will need to be reviewed when the draft bylaw is prepared, to ensure that there are no matters that are unreasonable, inappropriate or are a disproportionate response to the perceived problem.

2. FEES AND CHARGES

The costs associated with adopting an *Integrated Three Waters Bylaw* and *Administration Manual* are expected to include:

- Further development of the Trade Waste Management System (stage 1 complete) and the development of other internal and customer-facing channels, such as the council's website
- Administration Manual document management
- Staff training
- Public notices and other awareness raising activities

The nature of the costs associated with the development of an Integrated Bylaw have been provided for through the Annual Plan 20/21.

The prescribing of fees and charges by the bylaw are provided for in section 150 of the LGA. Fees and charges will be set by council resolution. This is done through the Long-term Plan, Annual Plan or other suitable process in accordance with the LGA.

In determining all fees and charges, s.150 (4) of the LGA requires that the council not recover more than the reasonable costs that it incurs for the matter for which the fee is charged.

3. RISKS

The risks associated with adopting an *Integrated Three Waters Bylaw* and *Administration Manual* are expected to include:

- Legal challenge
- Cultural issues
- Community resistance to increased levels of regulatory management.

The nature and scale of risks will be assessed in later stages of the project as the draft bylaw is prepared and stakeholders are given an opportunity to assess impacts and risks.

4. RECOMMENDATIONS

It is recommended that the council:

(a) make a bylaw which manages its three waters services (Integrated Three Waters Bylaw);

(b) revoke the water supply and trade waste bylaws once the Integrated Three Waters Bylaw comes into force; and

(c) make an Administrative Manual to accompany the Integrated Three Waters Bylaw which deals with matters of an administrative nature and which may need regular review and updating.

4.1. Stormwater Management

Stormwater discharges are best managed through the use of a bylaw to protect the development and maintenance of stormwater systems and to control stormwater discharges on private and public lands in a manner which delivers on the council's commitments and aligns with council strategies and legislation.

The form of the bylaw will be developed further in the next phase, with general controls to apply across the district, with a risk-based approach to specific activities and behaviours.

To give effect to the overall objectives of the Integrated Three Waters Bylaw the following five core functional objectives have been identified to facilitate the provision of effective and efficient stormwater discharge in the region. These are to:

1. Control the discharge of contaminants into the public stormwater network.
2. Enable the council to meet relevant objectives, policies and standards for discharges from public stormwater systems.
3. Protect the land, structures and natural features that make up the public stormwater systems.
4. Prevent the unauthorised discharge of stormwater into public stormwater systems and ensure that private stormwater systems are not causing a nuisance or harm to the public system.
5. Define the obligations of the council, installers, owners and the public in matters related to the discharge of stormwater and management of stormwater systems.

For the full Stormwater Determination Report - see **Attachment F** of the Agenda Report.

4.2. Wastewater Management

The following wastewater bylaw objectives have been developed to give effect to the overall objectives of the Integrated Three Waters Bylaw and to align the council with its business strategy and key legislative requirements, i.e. to meet its functional objective, which is to facilitate the provision of an effective, efficient and safe wastewater network:

1. To protect the wastewater network from damage, misuse and interference

2. To enable the council to meet relevant objectives, policies, standards and resource consents for discharges from the wastewater network
3. To protect the land, structures and infrastructure of the wastewater network
4. To protect public health and safety
5. To prohibit a range of specified substances/contaminants being discharged to the wastewater network, consistent with the schedule of prohibited trade wastes.

The bylaw should be complimented with an education programme that raises awareness of the contaminants in the trade waste schedule and other matters pertaining to the efficient and effective operation of the wastewater network.

Key components of the wastewater treatment plant are discussed in Appendix D of this report.

For the full Wastewater Determination Report - see **Attachment G** of the Agenda Report.

4.3. Trade Waste Management

In the next phase of the *Integrated Three Waters Bylaw* and *Administration Manual*, investigate the appropriate form for the bylaw in response to the following recommendations:

1. Adjust the current trade waste discharge parameters to ensure they align with current legislation and promote cleaner production.
2. Produce a set of guidelines and/or controls (as appropriate) that will incentivise and support industry to source products that are environmentally preferable or readily biodegradable and enhance the performance of the wastewater network.
3. Investigate a waste tracking system to assist with pre-treatment cleaning schedules and to ensure waste streams are dealt with appropriately.
4. Develop controls for the use of trade waste agreements instead of trade waste consents for those industries that financially contribute to the wastewater network rather that investing in a water recycling system, i.e. high water users.
5. Amend the bylaw to ensure all trade premises are captured to ensure a fair and comprehensive management approach, this will include amending the categories and schedules of the bylaw to capture all trading premises (as defined in the bylaw).
6. Staff develop a plan to report on trade waste discharges relevant to compliance requirements as well as benchmarking the quality of wastewater entering the wastewater network.

For the full Trade Waste Findings Report - see **Attachment D** of the Agenda Report.

4.4. Water Supply Management

The report finds that a bylaw is still the most appropriate way to address perceived problems and provide safe drinking water that maintains public health and is compliant with the following objectives:

1. To deliver the council's infrastructure strategy, that states "providing safe drinking water is important to maintaining public health and compliance with legislation, as well as protecting the district's tourism-based economy"; and
2. To effectively manage and regulate water supply in the district.

Staff recommend that the bylaw be incorporated into the new *Integrated Three Waters Bylaw*, with the following amendments:

1. New requirements for connections and disconnections
2. Rules for managing water meter issues
3. Controlling activities that cause water pressure to reduce
4. Improve backflow prevention procedures
5. Ensure standard definitions across the three waters.

Although a review of the water supply bylaw is technically not required until 2025, the need for some updating of the water supply bylaw coupled with the proposal for council to implement an *Integrated Three Waters Bylaw* further confirms the appropriateness of updating the water supply bylaw now.

For the full Water Supply Findings Report - see **Attachment E** of the Agenda Report.

Note: A full list of the legislative and policy drivers that have informed this review are attached as Appendix C to the cover report.

Appendix A: Scuttlebutt Article

WE ALL HAVE A PART TO PLAY

Wastewater flows easily through the pipes when only human waste and toilet paper is flushed, and when only soapy water is put down the drain. You can take steps to help reduce wastewater overflows in our district.

SO WHAT HAPPENS WHEN OUR WASTEWATER DOESN'T FLOW EASILY?

When blockages and breaks occur, the flow of wastewater is restricted. This can result in a build-up of pressure in our pipes and can cause wastewater to back up. Sometimes this wastewater back up results in an overflow into our environment, typically out of manholes or at our pump stations.

If these overflows can't happen at a pump station or from a manhole there is a risk that wastewater will release back up through our toilets, showers and sinks. This expoeure to wastewater could affect our health and wellbeing.

WHAT'S SAFE TO PUT DOWN THE SINK, OR TOILET?

Flushing anything other than pee, poo and paper can cause pipe blockages, so does putting fats and oils down the sink. If you're not sure, here's a simple checklist of what's safe to put down the sink or toilet:

- ✓ Water
- ✓ Human waste
- ✓ Toilet paper
- ✓ Soaps
- ⊘ Food
- ⊘ Fats
- ⊘ Sanitary items
- ⊘ Wet wipes
- ⊘ Building materials
- ⊘ Hazardous liquids (including garden chemicals)
- ⊘ Unused medication

WHAT ELSE CONTRIBUTES TO BLOCKAGES AND BREAKS?

Blockages can also be caused when cafes and restaurants pour fats down the sink. We're working with businesses on ways to better manage the way that fat and other trade wastes are disposed of to reduce the likelihood of blockages occurring.

Breaks in our wastewater pipes are also caused by tree roots. Before planting large tree varieties, you can ask us for information about the location of pipes to help to avoid this.

WHAT ABOUT STORMWATER DRAINS?

We've all heard stories of people who wash out their paintbrushes or construction waste into a stormwater drain. Cigarette butts and hazardous liquids like motor oil and radiator fluid are a big no no.

The only thing that should go down stormwater drains is rainwater.

INTEGRATED THREE WATER BYLAW

High growth in our district means more water is being used, more sewerage needs catered for and more education is required to ensure businesses, residents and visitors know how to do the right thing to protect our environment.

Currently we have an existing Water Supply Bylaw 2015 (due to be reviewed in 2020) and a Trade Waste Bylaw 2014 (due to be reviewed this year). We've also recently identified the need to introduce a stormwater and wastewater bylaw to cater for increased demand on infrastructure.

Integrating these bylaws would allow us to take a more holistic approach to providing safe drinking water, keeping our lakes, rivers and environment clean and looking after our infrastructure.

Over the past month we asked for your ideas to feed into a proposed integrated Three Waters Bylaw. We're working through this feedback now and will share more about next steps in the December Scuttlebutt.

To read more head to **letstalk.qldc.govt.nz/proposed-3-waters-bylaw**

Appendix B: Urban Water Principles

These urban water principles were designed to mitigate the adverse effects, the design, management and use of urban areas are having on water ecosystems and resources.

The principles are to be used as a guide by decision-makers at all levels to promote the creation of water sensitive urban spaces by drawing on mātauranga, the lessons of the past and international best practice, the needs of our present communities and a vision of a sustainable, resilient future.

Protect and enhance ecosystem health of all receiving environments. Use integrated planning to ensure that decisions made upstream protect downstream receiving environments, such as streams, lakes, wetlands and terrestrial ecosystems, groundwater, estuaries, and the ocean.

Co-design with nature an integrated and regenerative approach to urban development. Use nature-based or green infrastructure engineering solutions where possible to mimic or work with processes found in the natural environment. Retain, restore and enhance existing elements of the natural drainage system, and integrate these elements into the urban landscape.

Address pressures on waterbodies close to source. Urban water ecosystems are under increased pressure from a wide range of contaminants, modified flow characteristics and altered channel form. These pressures can be either acute (such as a spill or pollution incident) or chronic, created by the cumulative effects of these pressures over time. Mitigating these pressures at or close to their source prevents degradation downstream.

Recognise and respect mana motuhake – the whakapapa and relationship that mana whenua have with water ecosystems in their rohe. Mana motuhake means the authority (mana) gained through self-determination and control over one's own destiny. Mana whenua communities have this authority in their customary 'rohe' or territory and have special cultural relationships with ecosystems in these areas. It is important to proactively engage mana whenua in designing urban environments within their rohe so that they can have a meaningful role in shaping the outcome.

Identify and consider the community values for urban water and reflect them in decision-making. Communities often have strong aspirations and values for their urban spaces, including values for environmental sustainability, sense of place, and general amenity and liveability. Urban planning and design processes should create opportunities for communities to express their values and for decision-makers to reflect these goals in their decisions.

Optimise environmental, social and cultural benefits when investing in buildings and infrastructure. When considering options for investment, prioritise options that provide multiple benefits. Investment decisions should take lifecycle costs of buildings and infrastructure into account and generate an enduring well-being gain.

Uphold and foster kaitiakitanga and custodianship of urban water ecosystems. Everyone has a responsibility to care for the health of our urban water bodies. Because of this, it is important that all community members can connect with these water bodies and are encouraged and empowered to take direct action to maintain and restore ecosystem health.

Collect and share information to promote common understanding of urban water issues, solutions and values. Meaningful and transparent data and information is necessary to improve both the design and use of our urban environments. Improving access to quality information can

support integrated catchment planning and water sensitive design, while information for urban residents and businesses on current and emerging issues and solutions can foster positive behaviour change and the acceptance of new policy and technology.

Increase resilience to natural hazards and climate change. To improve the resilience of urban communities, we need to design water sensitive systems and landscapes which reflect the environmental characteristics of the area and are resilient to natural disasters and change.

Conserve and reuse water resources. Drinking water, wastewater and stormwater are each valuable resources and we should reduce their consumption and/or production and maximise their reuse. This includes increasing water-use efficiency by reducing potable water demand and maximising the use of greywater and stormwater[2]

[2] Urban Water Principles Recommendations of the Urban Water Working Group, Phase 1 (2018), Retrieved from Then Ministry for the Environment https://www.mfe.govt.nz/sites/default/files/media/Fresh%20water/Phase-I-Report-Urban-Water-Working-Group-Urban-Water-Principles-final.pdf

Appendix C: Legislation Framework and Policy Alignment

Key legislative instruments, policies and principles that inform and align with the investigations carried out as part of the *Integrated Three Waters Bylaw* and *Administration Manual*.

Legislation

Building Act 2004 and Building Code 2002: The Building Act regulates plumbing and drainage. G14 directs local authorities to the requirements for oil and water interceptors discharging to council infrastructure.

The Building Act also empowers councils to issue Notices to Fix where drainage is not performing. Determinations under the act continue to provide national guidance to licensed building practitioners and drainage engineers.

Local Government Act 2002: Section 145 of the Local Government Act (LGA) 2002 (LGA, 2002) allows territorial authorities to make bylaws for the purposes of protecting the public from nuisance, and protecting, promoting, and maintaining public health and safety.

Section 142 of the LGA, 2002 allows local authorities to prosecute for offences against the bylaw, however there are no powers for the council to issue infringement notices with a financial penalties currently.

Health Act 1956: The Council recognises its responsibilities and obligations set out under the Health Act, which enables local authorities to make bylaws for the protection of public health. Every person who contravenes or fails to comply with any bylaw made under the Health Act commits an offence and is liable to a fine and, in the case of a continuing offence, to a further fine for every day on which the offence has continued.

A local authority may, after the conviction of any person for a continuing offence against any bylaw, apply to the court for an injunction to restrain the action.

Health and Safety at Work Act 2015: Is enforced by WorkSafe New Zealand. The Act protects workers and other persons against harm to their health, safety and welfare by eliminating or minimising risks arising from work.

Resource Management Act 1991: The purpose of the Resource Management Act 1991 (RMA) is to ensure the continued protection and enhancement of the environment, and the sustainable management of natural physical resources. The RMA is the overarching legislation that deals with the discharge of contaminants and s15 of the RMA prohibits unauthorised discharges of contaminants to water and land.

Hazardous Substances and New Organisms Act 1996: Regulates hazardous substances that may be present in stormwater discharges.

Waste Minimisation Act 2008: *The enactment of the Waste Minimisation Act (WMA) in 2008 represented a fundamental change in the Government's approach to managing and minimising waste. The WMA recognises the need to focus efforts higher on the waste hierarchy in terms of reducing and recovering waste earlier in its life cycle, shifting the focus away from treatment and disposal.*

The purpose of the WMA (section 3) is to *"encourage waste minimisation and a decrease in waste disposal in order to protect the environment from harm and to provide environmental, social,*

economic and cultural benefits". Waste management in New Zealand is underpinned by the Government's core policy document in this area, *The New Zealand Waste Strategy* (NZWS). The NZWS has two goals:

- Reducing the harmful effects of waste, and
- Improving the efficiency of resource use.

Section 44 of the WMA requires that councils "have regard to" the NZWS, or other such policy that is subsequently developed, when developing waste management initiatives. The NZWS's approach seeks to ensure that waste management initiatives are appropriate to local situations and desired community outcomes.

Proposed Wastewater National Environmental Standard and Proposed Water Services Act: The Governments Essential Freshwater National Programme proposes a National Environmental Standard on Wastewater Discharges and the use of risk management requirements for stormwater. Topics covered in the recent publication[3] include nationally consistent measures for stormwater, national guidance on stormwater policy and network management. Water sensitive design and green infrastructure are topics that will be included.

The Government's Three Waters Review: The Three Waters Review is a cross-government initiative led by the Minister of Local Government to review how to improve the regulation and supply arrangements of three waters nationwide. One outcome of the review has been the introduction to Parliament of the Taumata Arowai – Water Services Regulator Bill, which establishes a new regulatory body responsible for administering and enforcing a new drinking water regulatory system (including the management of risks to sources of drinking water).

Regulations and National Guidelines

National Policy Statement for Freshwater Management 2017 (NPS-FM) and the proposed strengthened version 2019: Central Government[4] through the Ministry for the Environment are currently strengthening and clarifying the requirements to manage freshwater in a way that gives effect to the Te Mana o te Wai. This refers to the integrated and holistic health and wellbeing of waters from the mountains to the sea. Urgency is being given to this as set out in the proposed NPS-FM 2019 as part of Government's Essential Freshwater National Direction Programme. The overall aim of the new NPS-FM 2019 is that the health and wellbeing of the water will be put first in decision making as part of a holistic approach. The NPS-FM drives the Otago Regional Water Plan as is discussed below.

The Governments Essential Freshwater National Programme proposes a National Environmental Standard on Wastewater Discharges and the use of risk management requirements for stormwater.

[3] Essential Freshwater action for healthy waterways – New Zealand Government September 2019

[4] Essential Freshwater action for healthy waterways – New Zealand Government September 2019

These and other requirements will all have an input and bearing on the need for and implementation of any proposed wastewater bylaw.

Otago Regional Water Plan - Plan Change 6A (water quality): The Otago Regional Water Plan has been developed under the Resource Management Act 1991 (RMA, 1991). The RMA, 1991 allows for specific policy statements to be developed which have an impact on the management of water and water bodies. Plan change 6A (water quality) was deemed operative on the 1st of May 2014.

The discharge of stormwater, Rule 12.4 of the Otago Region Water Plan (plan change 6A), is a permitted activity, providing the stormwater discharged, after reasonable mixing, does not give rise to all or any of the following effects in the receiving water:

- The production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials; or
- Any conspicuous change in the colour or visual clarity; or
- Any emission of objectionable odour; or
- The rendering of fresh water unsuitable for consumption by farm animals;
- Any significant adverse effects on aquatic life.

One of the objectives of the plan is to "maintain or enhance the quality of water in Otago's lakes and rivers so that it is suitable to support their natural and human use values and people's use of water".

The plans objectives can be achieved by encouraging and supporting voluntary initiatives, i.e. implementing codes of practice, management guidelines and systems developed by local authorities, industry, resource users and other interest groups as appropriate; and practical mechanisms that influence the protection of waterways.

These and other requirements will all have an input and bearing on the need for and implementation of the proposed stormwater bylaw.

Compliance with regional consents in relation to current and future discharges to land or water: Resource consents usually include conditions to protect the environment. Consented activities are monitored by Otago Regional Council to make sure that the conditions are being met.

Guidelines for the Safe Application of Biosolids to Land in New Zealand: Traditionally, sewage sludge has been regarded as a waste product, and most commonly managed by disposal to landfill. However, disposal to landfill is becoming increasingly expensive and the production of methane gas from sludge in landfills is inconsistent with our *Kyoto Protocol* commitments. The conversion of sewage sludge into biosolids and the controlled application of biosolids to land provide an opportunity to take advantage of the fertilising and soil conditioning properties of this resource whilst avoiding the disposal issues. The draft document, Good Practice for the Beneficial Use of Organic Waste Products on Land, once approved, will supersede the 2003 biosolids guidelines. These guidelines have the potential to actively contribute to waste minimisation and minimise carbon emissions. Using biosolids appropriately for these purposes reduces the reliance of mining virgin material and other carbon-intensive activities, as well as finding sustainable and environmentally beneficial outcomes for organic materials that are currently viewed as waste.

Other Local and Regional Policies

The Otago Urban Water Quality Strategy

The strategy was adopted by Otago Regional Council on the 27th September 2017, and the focus now is to shift towards implementing activities to deliver on the goals set out in the strategy.

The strategy is part of a wider vision, led by Otago Regional Council, to better manage Otago's water quality and achieve our regional vision: "Caring for Otago's environment: enabling communities to thrive"

A key issue identified in the strategy is the degradation of our water bodies caused by the cumulative effect of development around our waterbodies. This risk threatens what we value about our water and could become a problem if not addressed.

Otago Regional Council is seeking to work together with our district and city councils to deliver activities and programmes that will achieve the desired water quality outcomes to maintain and improve the quality of our water bodies for the generations to come. Councils are expected to improve how stormwater and wastewater are regulated [5]

Queenstown Lakes – Environmental Management Plans **(EMPs)**: The ultimate objective of this guideline is to ensure that the Queenstown Lakes District's environmental values are appropriately protected from land development activities through the following:

Ensure that the capability of environmental managers is commensurate with the inherent environmental risks encountered.

Outline the environmental elements that must be managed on land development projects within the district.

Provide a clear set of expectations of the information that must be included in EMPs for acceptance by QLDC so that EMPs are clear to follow and capable of appropriately and comprehensively protecting environmental values present at specific sites and beyond.

Ensure that all land development sites have nominated environmental representatives that can oversee day-to-day environmental management, associated with land development sites within the district.

Provide consent holders and their contractors and consultants with a record keeping system that demonstrates that environmental management is undertaken efficiently and effectively.

Queenstown Lakes District Council's Land Development and Subdivision Code of Practice April 2018.

Queenstown Lakes District Council's Catchment Management Plans (in progress): These include catchment objectives for water quantity, quality and operational requirements.

QLDC Asset Management Policy: The Asset Management Policy sets out QLDC's commitment and direction for asset management and defines the key principles that underpin infrastructure asset management practices at QLDC. QLDC's asset management objectives are:

[5] Urban Water Quality Strategy 2017. Retrieved from, Otago Regional Council: https://www.orc.govt.nz/plans-policies-reports/strategies/urban-water-quality-strategy-2017

- To deliver more efficient use and maintenance of existing infrastructure assets;
- To best manage demand for new assets with better integration with the district plan and other non-infrastructure approaches
- To progressively improve the transparency and robustness (effectiveness) of investment decision making through evidence based investment (better business case approach)
- To continuously develop the capacity and capability of our staff in asset management and risk management
- To regularly measure and advance the maturing of our asset management practices

QLDC Infrastructure Asset Management Strategy: The Infrastructure Asset Management Strategy gives effect to QLDC's Asset Management Policy and outlines the strategic issues facing Queenstown Lakes District Council (QLDC) as they relate to core infrastructure over the next thirty years. The strategic objectives for three waters management identified in the Strategy are:

- to ensure no contamination of public water supply attributed to three waters infrastructure;
- adverse effects on the environment from three waters infrastructure are managed/mitigated; and
- ensure compliance with resource consents.

QLDC Three Waters Asset Management Plan 2018/19 to 2027/28: This plan sets detailed performance targets for key outcomes in relation to three waters service delivery.

Queenstown's Strategic Direction: The strategy sets out the over-arching strategic direction for the management of growth, land use and development in a manner that ensures sustainable management of the Queenstown Lakes District's special qualities. To enable our community outcomes the strategic direction is to ensure efficient and effective infrastructure.

Vision beyond 2050: A series of defining principles (or vision statements), intended to be carried into the future and brought to life through additional outcomes that define what we hope for, hear or experience in day-to-day life in the Lakes District.

Economic Development Strategy: The economic development strategy focuses on delivering key and supporting economic development priorities, namely,

- Enhance the quality of our natural, business and living environments
- Facilitate the growth of knowledge-based sector
- Encourage higher contribution visitor activity
- Future proof infrastructure

Appendix D Key parts of the wastewater network

This section discusses council's two largest wastewater treatment plants in the district.
Once at the treatment plant the wastewater is treated using a biological treatment process. The treatment process requires the wastewater to be treated to a standard that complies with our discharge consent limits as set out by Otago Regional Council. Project Shotover in Queenstown and Project Pure in Wanaka are the districts major wastewater treatment facilities.

Project Shotover Wastewater Treatment Plant includes two secondary treatment processes which are blended prior to tertiary treatment and discharge. The newly constructed activated sludge plant is designed to treat approximately 63% of the flows (up to 215 L/s), with the original pond-based treatment system treating the balance.

- The Modified Ludzack-Ettinger (MLE) process has been developed to simultaneously remove BOD, ammonia, and nitrate/nitrite. The process uses a combination of an anoxic and aerobic zone. Nitrification (ammonia removal) occurs in the aerobic zone. The mixed liquor, high in nitrate from nitrification, is recycled to the anoxic zone (by the internal recycle) for denitrification.

The MLE process can achieve a 6 to 8 mg/l Total Nitrogen discharge, depending on the characteristic of wastewater influent quality.

- The Oxidation Pond process consists of 2 Primary Oxidation (Facultative) Ponds with Aeration and a Maturation Pond (Pond 3).

The combined tertiary treatment process comprises UV disinfection and the final discharge of treated effluent to the sub-surface land disposal field adjacent to the Shotover River.

Figure 1: Phot of the Shotover Wastewater Treatment Plant in Queenstown. Sourced from http://www.eis.co.nz/projects/shotover-waste-water-treatment-plant-queenstown-nz

In Wanaka, Project Pure Wastewater Treatment Plant consists of an influent grit and a screening system that is followed by two Sequential Biological Reactors (SBRs). The SBRs alternate between fill, aerobic, anoxic, and settling and decanting cycles to ensure the tank is always accepting effluent. Treated (denitrified) effluent is decanted off the top of the SBRs into the decant tank while settled sludge is removed off the bottom of the tank and stored in the waste activated sludge tank. The sludge is centrifuged to a dry solids content greater than 20%. Treated effluent is pumped from the decant tank, through UV disinfection and discharges to a sub-surface land disposal system.

Appendix 4

QUEENSTOWN LAKES DISTRICT COUNCIL

TRADE WASTE BYLAW 2014

QUEENSTOWN LAKES DISTRICT COUNCIL TRADE WASTE BYLAW 2014

PART 1 – ADMINISTRATION

1 TITLE AND COMMENCEMENT

a) The Queenstown Lakes District Council makes the Queenstown Lakes District Council Trade Waste Bylaw 2014.
b) This bylaw is made pursuant to sections 145, 146 and 148 of the Local Government Act 2002.
c) This bylaw is "The Queenstown Lakes District Council Trade Waste Bylaw 2014".
d) This bylaw applies to all premises that discharge trade waste as well as all tankered waste discharged within the Queenstown Lakes District.

2 PURPOSE

a) The purposes of this bylaw are to:
   i. protect the water quality within the district's rivers and lakes;
   ii. give effect to Queenstown Lakes District Council's obligations under National Environmental Standards and Regional Plan rules, and achieve compliance with the resource consents that apply within the Queenstown Lakes District;
   iii. protect the health, safety and wellbeing of people within the Queenstown Lakes District;
   iv. ensure that the Queenstown Lakes District Council can meet its obligations under the Resource Management Act 1991 and the Local Government Act 2002;
   v. protect the wastewater network (including the treatment plant) from substances that have a detrimental effect on its operation and asset life;
   vi. optimise the capacity of wastewater infrastructure and treatment assets;
   vii. ensure compliance with resource consent conditions;
   viii. provide a basis for monitoring discharges from industry and trade premises;
   ix. encourage waste minimisation; and
   x. encourage water conservation.

3 SCOPE

a) This bylaw provides for the:
   i. establishment of three grades of trade waste: Permitted, Conditional and Prohibited;
   ii. acceptance of long-term, intermittent, or temporary discharges of trade waste that are controlled or permitted into the wastewater network and the exclusion of prohibited trade waste;
   iii. specification of permitted discharges so that the capacity of the wastewater network is not exceeded;
   iv. regulation of trade waste that may increase the operational and maintenance costs of the wastewater network and treatment system;
   v. prohibition of trade waste that decreases the effectiveness of the wastewater treatment system;

vi. correct storage of materials in order to protect the wastewater network from spillage of hazardous substances;
vii. pre-treatment of waste before it is accepted for discharge to the wastewater network;
viii. dischargers of trade waste to be required to undertake sampling and monitoring of trade waste to ensure compliance with the bylaw;
ix. Council to accept or refuse a trade waste discharge of specified characteristics;
x. charges to be set to cover the cost of administration and monitoring of a trade waste scheme;
xi. disconnection of premises from the wastewater network in the event of unauthorised discharges of trade waste; and
xii. use of enforcement powers, including penalties to be applied to persons who discharge or permit discharges of trade waste in a manner that does not comply with this bylaw.

4 OTHER LEGAL REQUIREMENTS NOT AFFECTED

a) Compliance with this bylaw does not remove the need to comply with all other applicable Acts, regulations, bylaws, regional plans, district plans or resource consents.

5 INTERPRETATION

a) Any expression used in this bylaw, which is not defined, shall have the same meaning as given to such expression in any of the following legislation: the Resource Management Act 1991, the Building Act 1991, the Local Government Act 2002, the Health Act 1956, and any subsequent amendments.
b) In the event that the provisions of this bylaw conflict with the provisions of the Local Government Act 2002, the provisions of the Local Government Act 2002 shall prevail.
c) Explanatory notes and additional information following the clauses of this bylaw are for information purposes only, do not form part of this bylaw and may be made, amended, revoked or replaced by the Council at any time.
d) The words used in this bylaw have the following meanings:
Approved Device means a device that meets the accuracy and other specifications set by the Council for measurement or monitoring of waste characteristics.

Conditional trade waste means a trade waste which has, or is likely to have no prohibited characteristics and which exceeds any one or more of the characteristic set out in Schedule 1A of this bylaw.

Consent means a trade waste consent, with conditions given in writing by the Queenstown Lakes District Council to an owner or occupier of a trade premises with a wastewater service connection.

Discharge includes emit, deposit, and allow to escape on a continuous, intermittent or temporary basis.

Food business has the same meaning as section 10 of the Food Act 2014[1].

Food premises means premises from which a food business operates.

Hazardous materials means raw material, products or wastes containing corrosive, toxic, biocidal, radioactive, flammable, or explosive materials, or any material which when mixed with the wastewater stream is likely to generate toxic, flammable, explosive or corrosive materials or any other material likely to be deleterious to the Council Sewer or the health and safety of Council staff and the public; or any hazardous substance as defined in the Hazardous Substances and New Organisms Act 1996.

Management plan means the plan for management of trade waste operations on the Premises, and may include provision for cleaner production, waste minimization, monitoring and recording of discharges, contingency management procedures, and any relevant industry Code of Practice.

Permitted trade waste means a trade waste with the characteristics set out in Schedule 1A of this bylaw.

Person includes a person, the Crown, a corporation sole, and also a body of persons, whether corporate or unincorporated.

Point of discharge is the connection point between the wastewater network and a private drain.

Premises means either:

i. a property or allotment which is held under a separate certificate of title or for which a separate certificate of title may be issued and in respect to which a building consent has been or may be issued; or
ii. a building or part of a building that has been defined as an individual unit by a crosslease, unit title or company lease and for which a certificate of title is available; or
iii. land held in public ownership (e.g. reserve) for a particular purpose; or
iv. individual units in buildings which are separately leased or separately occupied.

Prohibited trade waste means a trade waste with the characteristics set out in Schedule 1B of this bylaw.

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[1] Section 10 of the Food Act 2014 provides: "**food business**—

(a) means a business, activity, or undertaking that trades in food (whether in whole or in part); and

(b) includes a business, activity, or undertaking that—

(i) sells food on the Internet; or

(ii) is declared by the Governor-General, by Order in Council made under section 393, to be a food business for the purposes of this Act; but

(c) does not include a business, activity, or undertaking—

(i) merely because it carries on a business other than trading in food and, in the course of doing so, acts as an intermediary between persons who trade in food by providing, for reward, a place (including mobile premises) or services (for example, an Internet service provider or an auction site on the Internet); or

(ii) that is declared by the Governor-General, by Order in Council made under section 393, not to be a food business for the purposes of this Act."

Tankered Waste means water or other liquid, including waste matter in solution or suspension, which is conveyed by vehicle for disposal, but excludes Domestic Sewage discharged directly from house buses, caravans, buses and similar vehicles.

Temporary discharge means any discharge of an intermittent or short duration and includes the short-term discharge of an unusual waste from Premises subject to an existing Consent.

Trade Premises means:

i. any premises used or intended to be used for any industrial or trade purpose; or
ii. any premises used or intended to be used for the storage, transfer, treatment, or disposal of waste materials or for other waste management purposes, or used for composting organic materials; or
iii. any other premises from which a contaminant is discharged in connection with any industrial or trade process; or
iv. any other premises discharging other than domestic sewage to the wastewater network and includes any land or premises wholly or mainly used for agricultural or horticultural purposes.

Trade Waste is any liquid or gas, with or without matter in suspension or solution, that is or may be discharged from a Trade Premises to the Council's wastewater network in the course of any trade or industrial process or operation, or in the course of any activity or operation of a like nature; and excludes condensing or cooling waters and stormwater which cannot be practically separated, or domestic sewage.

Wastewater means water or other liquid, including waste matter in solution or suspension, discharged by any method from any Premises to the wastewater network.

Wastewater Network means the system for collection, treatment and disposal of wastewater and trade waste, including all sewers, pumping stations, storage tanks, sewage treatment plants, outfalls, and other related structures operated by the Council and used for the reception, treatment and disposal of trade waste.

PART 2 – DISCHARGE OF TRADE WASTE TO THE WASTEWATER NETWORK

1 DUTY TO CONTROL DISCHARGES

a) No person may discharge trade waste into the wastewater network, in a manner contravenes this bylaw.
b) No person may discharge trade waste with constituents or characteristics that exceed the parameters specified in schedule 1A unless a trade waste consent has first been obtained.
c) No person may discharge solid waste into the wastewater network.
d) No person may discharge trade waste with constituents or characteristics in a manner that contravenes a trade waste consent.
e) No person may discharge, or allow to be discharged tankered waste into the wastewater network other than at an approved location.

f) No person may make any false or inaccurate statement or disclosure as to the contents of any tankered waste or any trade waste.
g) No person may discharge trade waste with constituents or characteristics that are specified as prohibited in Schedule 1B.
h) The Council may prohibit the discharge of trade waste which contravene this bylaw by removing, closing or modifying the wastewater connection access point in a manner that prevents a discharge of trade waste from the premises.
i) Occupiers of trade premises shall maintain service and maintenance contracts for pre-treatment devices at the occupier's expense.
j) The occupier must, at its expense, use processes, equipment or storage facilities to control:
    i. the quality, quantity and rate of trade waste discharged from the trade premises; and
    ii. the constituents, or characteristics in trade waste in accordance with any trade waste consent conditions;

    prior to the point of discharge into the wastewater network.

2 CONTROL OF TRADE WASTE DISCHARGES

a) Where the trade waste includes, or is likely to include, fats, grease or oils in excess of 100 grams per 1000 litres each day:
    i. grease traps must be installed at the trade premises; and
    ii. occupiers must use and maintain the grease traps.

3 CONTROL OF TRADE WASTE FROM FOOD PREMISES

a) Refuse or garbage grinders and macerators shall not be used to dispose of solid waste from food premises to the wastewater network unless approved by Council.

Explanatory note: *premises such as Marae, churches, public halls and facilities, school catering facilities or kitchens must fit grease traps and obtain a trade waste consent.*

4 NO DILUTION OF TRADE WASTE

a) No person may add or permit the addition of any potable, condensing, cooling water or stormwater to any trade waste stream in order to vary the characteristics of the waste, unless the Council has granted a trade waste consent;

5 DISCHARGE OR STORAGE OF HAZARDOUS MATERIALS

a) No person may discharge hazardous waste into the wastewater network.
b) No person shall store at any trade premises raw material, products or waste containing:
    i. corrosive, toxic, biocidal, radioactive, flammable, or explosive materials; or any material which, when mixed with the wastewater stream, is likely to generate toxic, flammable, explosive or corrosive materials in quantities likely to be hazardous; or
    ii. any other material likely to be harmful to the wastewater network or the health and safety of people;

without taking all reasonable steps to prevent entry into the wastewater network from leakage, spillage or other mishap.

PART 3 – TRADE WASTE CONSENTS

1 APPLICATION FOR A TRADE WASTE CONSENT

a) Every person who discharges, or is likely to discharge, trade waste or tankered waste is required to apply in the prescribed form for a trade waste consent:
   i. in the case of trade premises or tankered waste operation that exists at 1 August 2015, an application must be made prior to 1 December 2015; or
   ii. in all other cases prior to the commencement of a discharge of trade waste.

b) Every person who discharges, or is likely to discharge trade waste with characteristics that may exceed the limits specified in a trade waste consent is required to apply for a variation of the trade waste consent.

c) Every person who changes or is likely to change an approved means of pre-treatment for a discharge that is permitted by a trade waste consent is required to apply for a variation of the trade waste consent.

d) All applications must be made in the prescribed form and be accompanied by the application fees.

e) No discharges of trade waste with volumes, characteristics or constituents prohibited by this bylaw shall be approved to be discharged into the wastewater network.

f) Within 10 working days of receiving an application for a trade waste consent to discharge from any premises or to vary a trade waste consent, the Council may require the applicant to:
   i. submit any additional information which it considers necessary to determine the application;
   ii. submit a trade waste management plan;
   iii. obtain an independent report or producer statement completed by a suitably experienced and qualified person to verify any or all information supplied by the applicant, including any management plan; and/or
   iv. present an analysis of the trade waste together with a report interpreting those results.

2 DECISION ON APPLICATION

a) The Council must determine an application for a trade waste consent and issue its decision to either:
   i. grant the application as a permitted trade waste where the characteristics of the trade waste meet the parameters in schedule 1A; or
   ii. grant the application as a conditional trade waste discharge consent and inform the applicant of the decision and the conditions imposed on the discharge by issuing the appropriate notice of consent to the discharge; or
   iii. decline the application and notify the applicant of the decision giving a statement of the reasons for refusal (this may include a requirement that the applicant enter into a specific trade waste agreement with the Council); or
   iv. Decline the application as the trade waste has prohibited characteristics.

3 APPLICATION CONSIDERATION CRITERIA

a) The Council is not required to issue a trade waste consent until it receives any charge or fee fixed by it in relation to the application consent.
b) In considering any application for a trade waste consent to discharge from any trade premises or to discharge tankered waste into the wastewater network on such a consent, the Council must have regard to the following matters:
    i. the quality, volume, and rate of discharge of the trade waste from such premises or tanker.
    ii. the health and safety of people.
    iii. the limits and/or maximum values for characteristics of trade waste as specified in Schedule 1A of this Bylaw.
    iv. the extent to which the trade waste may react with other trade waste or wastewater to produce an undesirable effect, e.g. settlement of solids.
    v. production of odours, accelerated corrosion and deterioration of the wastewater network.
    vi. the flows and velocities in the wastewater network and the material or construction of the wastewater network.
    vii. the capacity of the wastewater network and other facilities.
    viii. the nature of any wastewater treatment process and the degree to which the trade waste is capable of being treated in the wastewater treatment plant.
    ix. the timing and balancing of flows into the wastewater network.
    x. any statutory requirements relating to the discharge of raw or treated wastewater to receiving waters, the disposal of wastewater sludges, beneficial use of biosolids, and any discharge to air (including the necessity for compliance with any Resource Consent, discharge permit or water classification).
    xi. the effect of the trade waste discharge on the ultimate receiving environment.
    xii. the conditions on Resource Consents for the wastewater network and the residuals from it.
    xiii. the possibility of unscheduled, unexpected or accidental events and the degree of risk these could cause to humans, the wastewater network or the environment.
    xiv. consideration of other existing or future discharges.
    xv. the amenability of the trade waste to pre-treatment.
    xvi. existing pre-treatment works on the premises and the potential for their future use.
    xvii. cleaner production techniques and waste minimisation practices.
    xviii. requirements and limitations related to wastewater sludge disposal and reuse.
    xix. requirements to control and isolate stormwater.
    xx. any Management Plan.
    xxi. tankered waste being discharged at an approved location/s.
    xxii. whether it would be more appropriate for the discharge to be controlled pursuant to a trade waste agreement.

4 CONDITIONS OF TRADE WASTE CONSENT – GENERAL

a) A trade waste consent may be granted for a period of up to 5 years.
b) A trade waste consent to discharge may impose restrictions on trade waste discharges by:

i. specifying mass, volume, pH, temperature and concentration limits for any constituent or characteristic; and
ii. specifying the rate of discharge of any constituent or characteristic.

c) Any consent may be granted subject to such conditions that the Council may impose, including but not limited to:
   i. the particular public part of the wastewater network to which the discharge will be made;
   ii. the maximum daily volume of the discharge and the maximum rate of discharge, and the duration of maximum discharge;
   iii. the maximum limit or permissible range of any specified characteristics of the discharge, including concentrations and/or mass limits determined by the processing officer;
   iv. the period or periods of the day during which the discharge, or a particular concentration, or volume of discharge may be made;
   v. the degree of acidity, or alkalinity of the discharge at the time of discharge;
   vi. the temperature of the trade waste at the time of discharge;
   vii. the provision by, or for the Consent Holder, at the Consent Holder's expense, of screens, grease traps, silt traps or other pre-treatment works to control trade waste discharge characteristics to the consented levels;
   viii. the provision and maintenance at the Consent Holder's expense of inspection chambers, manholes or other apparatus or devices to provide safe and reasonable access to drains for sampling and inspection;
   ix. the provision and maintenance of a sampling and analysis programme, and flow measurement requirements, at the Consent Holder's expense;
   x. the method or methods to be used for the measuring flow rates and/or volume and taking samples of the discharge for use in determining compliance with the Consent and for determining the amount of any trade waste charges applicable to that discharge;
   xi. the provision and maintenance by, and at the expense of, the Consent Holder of such meters or devices as may be required to measure the volume or flow rate of any trade waste being discharged from the premises, and for the calibration of such meters;
   xii. the provision and maintenance, at the Consent Holder's expense of such services, (whether electricity, water or compressed air or otherwise), which may be required, in order to operate meters and similar devices including safe sampling points of access as may be required;
   xiii. at times specified, the provision in a Council approved format by the Consent Holder to the Council of all flow and/or volume records and results of analyses;
   xiv. risk assessment of damage to the environment due to an accidental discharge of a chemical;
   xv. the provision and implementation of a management plan;
   xvi. waste minimisation and management;
   xvii. cleaner production techniques;
   xviii. remote monitoring and/or control of discharges;
   xix. third party treatment, carriage, discharge or disposal of by-products of pre-treatment of trade waste (including sewage sludge disposal);
   xx. the requirement to provide a bond or insurance in favour of the Council where failure to comply with the consent could result in damage to the Council's Sewerage System, its treatment plants, or could result in the Council being in breach of any statutory obligation;

xxi. the amount, if any, of cooling water, condensing water or stormwater which cannot practically be separated from trade wastes, that may be included with the discharge;
xxii. the cessation of a consent to discharge putrescible wastes to the wastewater network when the Council has provided or arranged an alternative commercial collection and disposal system; and
xxiii. a prescribed sampling and monitoring programme to be carried out by the consent holder or occupier of the trade premises or tinkered waste operation.

5 TANKERED WASTE

a) Tankered waste shall not be discharged into the Council's wastewater network by any person or Consent Holder not compliant with the Liquid and Hazardous Wastes Code of Practice.
b) Council may accept tankered waste for discharge at an approved location.
c) Tankered waste shall:
   i. be transported by a Consent Holder to discharge domestic septic tank or industrial wastes;
   ii. have material safety data sheets (MSDS) supplied to Council detailing the contents of a waste; and
   iii. be tested to determine their character if the contents of the waste are not known. Specialist advice on pre-treatment or acceptance may be required. The cost of all testing and advice shall be borne by the Consent Holder.
d) To prevent cross-contamination between tanker loads, the tanker shall be thoroughly washed prior to collecting a load for disposal into the wastewater network.
e) The discharger of tankered waste must give 24 hours' notice for the disposal of wastes other than those sourced from domestic septic tanks.

6 CONDITIONS OF TRADE WASTE CONSENT FOR TANKERED WASTE - MASS, VOLUME, RATE, CONCENTRATION, TEMPERATURE AND PH VALUES

a) Limits on the mass, volume, concentration, pH or temperature may be imposed for any constituent. Any characteristic that is subject to mass limit restrictions shall also have its maximum concentration limited.
b) When setting mass, volume and concentration limit restrictions for a particular constituent in a trade waste consent the Council must have regard to:
   i. conditions in the wastewater network near the trade waste discharge point and elsewhere in the wastewater network;
   ii. the extent to which the available industrial capacity for the Constituent was met during the Council's preceding financial year, and the expected levels of the Constituent for the forthcoming financial year;
   iii. if the applicant uses cleaner production techniques;
   iv. if the applicant has established a programme to achieve a programme to achieve cleaner production techniques to the satisfaction of the Council within a satisfactory period;
   v. if in the opinion of the Council, there is any advantage to increasing the discharge of a particular constituent in exchange for decreasing the discharge of another constituent;

vi. any requirements of the Council to meet resource consent conditions or regional plan rules;
vii. any requirements of the Council to reduce the pollutant discharge of the trade waste or wastewater;
viii. how great a proportion the mass flow of a constituent of the discharge will be of the total mass flow of that characteristic in the wastewater;
ix. the total mass of the constituent allowable in the wastewater, and the proportion (if any) to be reserved for future allocations of discharge of such constituents to other consent holders; and
x. if there is an interaction with other constituents which increases or decreases the effect of their characteristic on the wastewater network including reticulation, treatment process, or receiving water (or land).

7 REVIEW OF TRADE WASTE CONSENT

a) The Council may at any time during the term of a trade waste consent, by written notice to the consent holder review the trade waste consent and vary any condition of the trade waste consent where a change to a condition is necessary:
   i. following a review of the performance of pre-treatment devices or processes;
   ii. to meet any new Resource Consent imposed on the discharge from the Council's Wastewater network; and/or
   iii. to comply with any other legal requirements that must be met by the Council.

8 TRANSFER OF TRADE WASTE CONSENT

a) A trade waste consent to discharge shall be issued in the name of the given Consent Holder.
b) The Consent Holder shall not, unless written approval is obtained from Council:
   i. transfer to any other party the rights and responsibilities provided for under this bylaw, and under the consent; or
   ii. allow a point of discharge to serve another premises, or the private drain to that point to extend by pipe, or any other means, to serve another premises.
c) Transfer of a trade waste consent on change of ownership of a premises shall not be unreasonably withheld if the characteristics of the wastewater remain unchanged.
d) When an occupier ceases to occupy a premises from which trade waste are discharged into the wastewater network, any trade waste consent shall terminate, unless a transfer is effected prior to vacating the premises.
e) The consent holder remains liable for the failure to meet any obligations existing at the date of termination notwithstanding termination of the trade waste consent.

9 CANCELLATION OF TRADE WASTE CONSENT

a) The Council may suspend or cancel any consent to discharge at any time following not less than 20 working days' notice, to the consent holder or person discharging or person allowing a discharge of any trade waste, where in the opinion of an enforcement officer:

i. the consent holder has failed to comply with any condition of the trade waste consent;
ii. the consent holder has failed to maintain control over the discharge;
iii. the consent holder is discharging or allowing the discharge of any prohibited trade waste;
iv. the consent holder has failed to provide and when appropriate update a Management Plan as required for a conditional trade waste consent; and/or
v. the consent holder has failed to pay any applicable fees.

b) The Council may suspend or cancel any trade waste consent to discharge at any time following not less than 24 hours' notice to the Consent Holder or person discharging any trade waste or tankered waste where in the opinion of an enforcement officer:
   i. any breach of a Resource Consent held by the Council, has arisen from (whether wholly or partly) by the trade waste discharge;
   ii. any act or omission of the consent holder is, or is likely to:
      (a) adversely affect the safety of the wastewater network;
      (b) damage to any part of the wastewater network;
      (c) adversely affect the health of any person;
      (d) adversely affect the safety of any person; or
      (e) adversely affect the environment; and/or
   iii. it is necessary for the Council to comply with any other legal requirement.

PART 5 – ENFORCEMENT

1 POWERS OF ENTRY

a) All enforcement officers or authorised agents of the Council, or any analyst may enter any premises believed to be discharging trade waste at any time in order to determine any characteristics of any actual or potential discharge by:
   i. taking readings and measurements;
   ii. carrying out an inspection; and
   iii. taking samples for testing, of any solid, liquid, or gaseous material or any combination or mixture of such materials being discharged.

2 MONITORING OF TRADE WASTE

a) As determined by the Council sampling, testing and monitoring may be undertaken to determine if a discharge:
   i. complies with the provisions of this Bylaw;
   ii. is to be classified as permitted, conditional, or prohibited; or
   iii. complies with the provisions of Schedule 1A of this bylaw for a permitted discharge and any trade waste consent to discharge.
b) The taking, preservation, transportation, and analysis of the sample shall be undertaken by an authorised officer or agent, or the person discharging, in accordance with accepted industry standard methods, or by a method specifically approved by the Council.
c) Sampling must be undertaken using the sampling procedure set out in Schedule 1C.
d) The person discharging shall be responsible for all reasonable costs. Where a dispute arises as to the validity of the methods or procedures used for sampling or analysis, the dispute may be submitted to a mutually agreed independent arbitrator.

3 ENFORCEMENT

a) The Council may use all its powers under the Local Government Act 2002 to enforce this bylaw.

4 OFFENCES AND PENALTIES

a) Every person who contravenes or permits a contravention of this bylaw commits an offence.
b) Every person who commits an offence under this bylaw is liable to a penalty under section 242(4) of the Local Government Act 2002, or to a penalty under the Health Act 1956.

5 ADMINISTRATIVE INFORMATION

a) These bylaws are made under the Local Government Act 2002.
b) These bylaws are administered by the Queenstown Lakes District Council.
c) The initial resolution to make this Bylaw was passed by the Queenstown Lakes District Council at an ordinary meeting of the Council held on the 27 November 2014 and was confirmed, following consideration of submissions received during the special consultative procedure, by a resolution of the Council at a subsequent ordinary meeting of the Council on 30 July 2015.

The common seal of the Queenstown Lakes District Council is attached in the presence of:

Mayor: Vanessa van Uden

Chief Executive:

Date: 24.11.15

SCHEDULE 1A - PERMITTED DISCHARGE CHARACTERISTICS

1A.1 Introduction

1A.1.1 The nature and levels of the characteristics of any Trade Waste discharged to QLDC's wastewater network shall comply at all times with the following requirements, except where the nature and levels of such characteristics are varied by QLDC as part of a consent to discharge Trade Waste.

1A.2 Physical Characteristics

1A.2.1 Flow

Bylaw Requirements	Commentary from NZS 9201: Part 23: 2004
a) The 24-hour flow volume shall be less than 2 m^3. b) The maximum instantaneous flow rate shall be less than 2.0 L/s.	Flows larger than the Guideline values should be Conditional Trade Waste Consent. Conditional Consents will be dependant on the Contaminant concentration/mass load.

1A.2.2 Temperature

Bylaw Requirements	Commentary from NZS 9201: Part 23: 2004
The temperature shall not exceed 40 °C.	Higher temperatures: • Cause increased damage to sewer structures; • Increase the potential for anaerobic conditions to form in the wastewater; • Promote the release of gases such as H_2S and NH_3 (can adversely affect the safety of operations and maintenance personnel); and • Reflect poor energy efficiency. It should be noted that this temperature has been reduced from 50°C to come into line with the ARMCANZ/ANZECC Guidelines for sewerage systems. A lower maximum temperature may be require for large volume discharges.

1A.2.3 Solids

Bylaw Requirements	Commentary from NZS 9201: Part 23: 2004
a) Non-faecal gross solids shall have a maximum dimension that shall not exceed 15 mm.	Gross solids can cause sewer blockages. In case of conditional consents fine screening may be appropriate
b) The suspended solids content of any Trade Waste shall have a maximum concentration that shall not exceed 2000 g/m^3. For significant industry this may be reduced to 600 g/m^3.	High suspended solids contents can cause sewer blockages and overload the treatment processes. Where potential for such problems is confirmed, a lower limit appropriate to the risk may be set. A lower limit may be set between 2000 g/m^3 and 600 g/m^3. The ANZECC Guidelines recommend a limit of 600 g/m^3.
c) The settleable solids content of any Trade Waste shall not exceed 50mL/L.	
d) The total dissolved solids concentration in any Trade Waste shall be subject to the approval of QLDC, having regard to the volume of the waste to be discharged, and the suitability of the wastewater network and the Wastewater Treatment Plant to accept such waste.	High total dissolved solids reduce effluent disposal options and may contribute to soil salinity. Where potential for such problems exists, a limit of 10,000 g/m^3 may be used as a guideline.
e) Fibrous, woven, or sheet film or any other materials which may adversely interfere with the free flow of wastewater in the wastewater network or Wastewater Treatment Plant shall not be present.	

1A.2.4 Oil and grease

Bylaw Requirements	Commentary from NZS 9201: Part 23: 2004
a) There shall be no free or floating layer.	Oils and greases can cause sewer blockages, may adversely affect the treatment process, and may impair the aesthetics of the receiving water. Where the Wastewater Treatment Plant discharges to a sensitive receiving water, lower values should be considered.
b) Fat, oil or grease shall not exceed 100 g/m^3	If the WWA only has screening and/or primary treatment prior to discharge, it is recommended that oil and grease be reduced to 100 g/m^3. If quick break detergents are being used, it should be ensured that proper separation systems are being used by the Consent Holder. If not, oil will reappear in drainage systems as a free layer.

1A.2.5 Solvents and other organic liquids

Bylaw Requirements	Commentary from NZS 9201: Part 23: 2004
There shall be no free layer (whether floating or settled) of solvents or organic liquids.	Some organic liquids are denser than water and will settle in sewers and traps.

1A.2.6 Emulsions of paint, latex, adhesive, rubber, plastic

Bylaw Requirements	Commentary from NZS 9201: Part 23: 2004
a) Where such emulsions are not treatable these may be discharged into the wastewater network subject to the total suspended solids not exceeding 1000 g/m^3 or the concentration agreed with QLDC.	'Treatable' in relation to emulsion wastewater, means the Total Organic Carbon content of the waste decreases by 90% or more when the wastewater is subjected to a simulated wastewater treatment process that matches the WWA treatment system.
b) QLDC may determine that the need exists for pre-treatment of such emulsions if they consider that Trade Waste containing emulsions unreasonably interferes with the operation of QLDC's Wastewater Treatment Plant, e.g. reduces % UVT (ultra violet transmission).	Emulsions vary considerably in their properties and local treatment works may need additional restrictions depending on the experience of the specific treatment plant and the quantity of emulsion to be treated.
c) Such emulsions of both treatable and non-treatable types, shall be discharged to the wastewater network only at a concentration and pH range that prevents coagulation and blockage at the mixing zone in the public wastewater network.	Emulsion may colour the WWA treatment plant influent such that % UVT is unacceptably reduced. Emulsions will coagulate when unstable and can sometimes cause sewer blockage. Emulsions are stable when dilute or in the correct pH range.

1A.2.7 Radioactivity

Bylaw Requirements	Commentary from NZS 9201: Part 23: 2004
Radioactivity levels shall not exceed National Radiation Laboratory Guidelines.	Refer National Radiation Laboratory *Code of safe practice for the use of unsealed radioactive materials* NRL C1.

1A.2.8 Colour

Bylaw Requirements	Commentary from NZS 9201: Part 23: 2004
No waste shall have colour or colouring substance that causes the discharge to be coloured to the extent that it impairs wastewater treatment processes or compromises the treated wastewater discharge Consent.	Colour may cause aesthetic impairment of receiving waters, and adverse affects on lagoon treatment processes and ultra-violet disinfection. Where potential for such problems exists, a level of colour that is rendered not noticeable after 100 dilutions may be used as a Guideline. Where UV disinfection is used special conditions may apply.

1A.2.9 Liquid Waste from Pharmacies

These are generally products returned by customers in accordance with the Health and Disability Services Standards – Pharmacy Services Standard NZS 8134.7:2010.

Limits (except containing cytotoxic ingredients, which are prohibited, refer 1B.2.2(i))

Volume Limit	Active Concentration
10 Litres	125mg / 5 ml
5 Litres	250mg / 5 ml
3 Litres	Above 250mg / 5ml

1A.3 Chemical Characteristics

1A.3.1 pH value

Bylaw Requirements	Commentary from NZS 9201: Part 23: 2004
The pH shall be between 6.0 and 10.0 at all times.	Extremes in pH: • Can adversely affect biological treatment processes; • Can adversely affect the safety of operations and/or maintenance personnel; • Cause corrosion of sewer structures; and • Increase the potential for the release of toxic gases such as H_2S and HCN. Relaxation of these limits to 5.5 and 11.0 is acceptable for low pressure premises which discharge into a large flow. Significant industries may need to be restricted to limits between 6.0 and 9.0.

1A.3.2 Organic Strength

Bylaw Requirements	Commentary from NZS 9201: Part 23: 2004
Where there is no council treatment system for organic removal the BOD_5 shall not exceed 1000 g/m³. For significant Industry this may be reduced to 600 g/m³	The loading on a treatment plant is affected by Biochemical Oxygen Demand BOD_5 rather than Chemical Oxygen Demand (COD). For any particular waste type there is a fixed ratio between COD and BOD_5. For domestic wastewater it is about 2.5:1 (COD: BOD_5), but can range from 1:1 to 100:1 for Trade Waste. Therefore BOD_5 is important for the treatment process and charging, but because of the time taken for testing, it is often preferable to use COD for monitoring. However, the use of COD testing shall be balanced by the possible environmental effects of undertaking such tests due to the production of chromium and mercury wastes. Where a consistent relationship between BOD_5 and COD can be established the discharge may be monitored using the COD test. If the treatment plant BOD_5 capacity is not limited, and sulphides are unlikely to cause problems, there may be no need to limit BOD_5 High COD may increase the potential for the generation of sulphides in the wastewater. A BOD_5 limit which is too stringent may require the installation of Pre-treatment systems by some Consent Holders, imposing unnecessary costs because the most cost effective treatment method may be the WWA treatment plant. The concentration and mass loads of BOD_5 may be set to reflect WWA treatment plant capacity: e.g. ARMCANZ/ANZECC Guidelines for sewerage systems use a concentration of 600 g/m³.

1A.3.3 Maximum concentrations

Bylaw Requirements	Commentary from NZS 9201: Part 23: 2004
The maximum concentrations permissible for the chemical characteristics of an acceptable discharge are set out in the following tables: Table 1 - General Chemical Characteristics Table 2 - Heavy Metals Table 3 - Organic Compounds and Pesticides	Where appropriate, maximum daily limits (kg/day) for mass limit Permitted Discharges may also be given.

Table 1 — General Chemical Characteristics

(Mass limits may be imposed, refer to clause 4.2 of this Bylaw)

Characteristic	Maximum concentration (g/m^3)	Mass Limits (kg/day)	Reason for limit
MBAS (Methylene blue active substances)	500	1.5	MBAS is a measure of anionic surfactants. High MBAS can: • Adversely affect the efficiency of activated wastewater sludge plants; and • Impair the aesthetics of receiving waters. For Wastewater Treatment Plants that suffer from the effects of surfactants the maximum concentration could be reduced significantly, e.g. Sydney Water utilise a level of 100 g/m^3.
Ammonia (measured as N)			High ammonia: • May adversely affect the safety of operations and maintenance personnel; and • May significantly contribute to the nutrient load to the receiving environment.
— free ammonia	50	0.25	
— ammonium salts	200	1.0	
Kjeldahl nitrogen	150	1.0	High Kjeldahl nitrogen may significantly contribute to the nutrient load of the receiving environment. A value of 50 g/m^3 should be used as a guideline for sensitive receiving waters.
Total phosphorus (as P)	50	0.75	High phosphorus nitrogen may significantly contribute to the nutrient load of the receiving environment. A value of 10 g/m^3 should be used as a guideline for sensitive receiving waters.
Sulphate (measured as SO_4)	500 1500 (with good mixing)	2.5	Sulphate: • May adversely affect the wastewater network; and • May increase the potential for the generation of sulphides in the wastewater if the wastewater network is prone to becoming anaerobic.
Sulphite (measured as SO_2)	15	0.075	Sulphite has potential to release SO_2 gas and thus adversely affect the safety of operations and maintenance personnel. It is a strong reducing agent and removes dissolved oxygen thereby increasing the potential for anaerobic conditions to form in the wastewater.
Sulphide — as H_2S on acidification	5	0.025	Sulphides in wastewater may: • Cause corrosion of the wastewater network, particularly the top non-wetted part of a sewer; • Generate odours in sewers which could cause public nuisance; and • Release the toxic H_2S gas that could adversely affect the safety of operations and maintenance personnel. Under some of the conditions above sulphide should be <2.0 g/m^3

Characteristic	Maximum concentration (g/m^3)	Mass Limits (kg/day)	Reason for limit
Chlorine (measured as Cl_2) Free chlorine Hypochlorite	 3 30	 0.015 0.15	Chlorine: • Can adversely affect the safety of operations and maintenance personnel; and • Can cause corrosion of the wastewater network. ARMCANZ/ANZECC Guidelines for sewerage systems utilize a figure of 10 g/m^3.
Dissolved aluminium	100	1.5	Aluminium compounds, particularly in the presence of calcium salts, have the potential to precipitate on a scale that may cause a sewer blockage.
Dissolved iron	100	1.5	Iron salts may precipitate and cause a sewer blockage. High concentrations of ferric iron may also present colour problems depending on local conditions.
Boron (as B)	25	0.125	Boron is not removed by conventional treatment. High concentration in wastewater may restrict irrigation applications. Final wastewater use and limits should be taken into account.
Bromine (as Br_2)	5	0.025	High concentrations of bromine may adversely affect the safety of operations and maintenance personnel.
Fluoride (as F)	30	0.15	Fluoride is not removed by conventional wastewater treatment, however pre-treatment can easily and economically reduce concentrations to below 20 g/m^3.
Cyanide — weak acid dissociable (as CN)	5	0.005	Cyanide may produce toxic atmosphere in the sewer and adversely affect the safety of operations and maintenance personnel.

Table 2 — Heavy Metals

(Mass limits may be imposed, refer to clause 4.2 of this Bylaw)

Metal	Maximum Concentration[1] (g/m^3)	Mass Limit[2] (kg/day)	Metal	Maximum Concentration (g/m^3)	Mass Limit (kg/day)
Antimony	10.0	0.025	Manganese	10.0	0.025
Arsenic	5.0	0.025	Mercury	0.05	0.0001
Barium	10.0	0.025	Molybdenum	10.0	0.025
Beryllium	0.005	0.0001	Nickel	10.0	0.050
Cadmium	0.5	0.001	Selenium	10.0	0.025
Chromium	5.0	0.050	Silver	2.0	0.010
Cobalt	10.0	0.025	Thallium	10.0	0.025
Copper	10.0	0.050	Tin	10.0	0.025
Lead	10.0	0.025	Zinc	10.0	0.050

Note:

Heavy metals have the potential to:

a) Impair the treatment process;
b) Impact on the receiving environment; and
c) Limit the reuse of wastewater sludge and effluent.

Where any of these factors are critical it is important that local acceptance limits should be developed.

The concentration of chromium includes all valent forms of the element. Chromium (VI) is considered to be more toxic than chromium (III), and for a discharge where chromium (III) makes up a large proportion of the characteristic, higher concentration limits may be acceptable. Specialist advice should be sought.

Metals will be tested as total, not dissolved. If sludge is used as a biosolid then metal concentration/mass are important such that the Biosolids Guidelines are met.

[1] It is intended that these maximum concentrations refer to the total metal fraction

[2] It is intended that these mass limits refer to the total metal fraction.

Table 3 — Organic compounds and pesticides

(Mass limits may be imposed, refer to 4.2)

Compound	Maximum concentration[3] (g/m^3)	Mass Limits[4] (kg/day)	Reason for limit
Formaldehyde (as HCHO)	50	0.25	Formaldehyde in the sewer atmosphere can adversely affect the safety of operations and maintenance personnel.
Phenolic compounds (as phenols) Excluding chlorinated phenols	50	0.25	Phenols may adversely affect biological treatment processes. They may not be completely removed by conventional treatment and subsequently impact on the environment.
Chlorinated phenols	0.02	0.001	Chlorinated phenols can adversely affect biological treatment process and impair the quality of the receiving environment.
Petroleum hydrocarbons	30	0.15	Petroleum hydrocarbons may adversely affect the safety of operations and maintenance personnel.
Halogenated aliphatic compounds[5]	1	0.001	Because of their stability and chemical properties these compounds may: • Adversely affect the treatment process; • Impair the quality of the receiving environment; and • Adversely affect the safety of operations and maintenance personnel.
Monocyclic aromatic hydrocarbons	5	0.025	These compounds (also known as benzene series) are relatively insoluble in water, and are normally not a problem in Trade Waste. They may be carcinogenic and may adversely affect the safety of operations maintenance personnel.
Polycyclic (or polynuclear) aromatic hydrocarbons (PAHs) Including specifically: dibenzo [a,h] anthracene benzo [a] anthracene benzo[a] pyrene benzo [b] fluoranthene benzo [k] fluoranthene chrysene indeno [a,2,3-cd] pyrene	0.05	0.001	Many of these substances have been demonstrated to have an adverse effect on the health of animals. Some are also persistent and are not degraded by conventional treatment processes.

[3] Where several compounds are grouped into a generic type, the sum of individual concentrations is not to exceed the maximum listed

[4] Where several compounds are group into a generic type, the sum of individual mass quantities is not to exceed the maximum listed

[5] These compounds shall be accepted up to the given maximum concentration only when specifically approved

Compound	Maximum concentration[3] (g/m^3)	Mass Limits[4] (kg/day)	Reason for limit
Halogenated aromatic hydrocarbons (HAHs)	0.002	0.0001	Because of their stability, persistence and ability to bioaccumulate in animal tissue these compounds have been severely restricted by health and environmental regulators
Polychlorinated biphenyls (PCBs) Polybrominated biphenyls (PBBs) Including specifically the following congeners using the IUPAC nomenclature: PCB-28 PCB-52 PCB-77 PCB-81 PCB-101 PCB-105 PCB-114 PCB-118 PCB-123 PCB-126 PCB-138 PCB-153 PCB-156 PCB-157 PCB-167 PCB-169 PCB-180 PCB-189	0.002	0.0001	Because of their stability, persistence and ability to bioaccumulate in animal tissue these compounds have been severely restricted by health and environmental regulators
Pesticides (general) (includes insecticides, herbicides, fungicides and excludes organophosphate, organochlorine and any pesticides not registered for use in New Zealand)	0.002 each 0.2 in total	0.0001	Pesticides: • May adversely affect the treatment processes; • May impair the quality of the receiving environment; and • May adversely affect the safety of operations and maintenance personnel.
Organophosphate pesticides[6 7] - excludes pesticides not registered for use in New Zealand - These compounds shall be accepted up to the given maximum concentration only when specifically approved.	0.1	0.0001	

[6] These compounds shall be accepted up to the given maximum concentration only when specifically approved

[7] Excludes pesticides not registered for use in New Zealand.

1A.3.4 Inhibitor Chemicals

No waste being diluted at a ratio of 100 to 1 of wastewater shall inhibit the performance of the wastewater treatment process, such that QLDC is significantly at risk, or prevented from achieving its environmental statutory requirements.

After dilution with de-chlorinated water, at a ratio of 15 to1 of wastewater, a discharge which has an acute result when subjected to the Whole Effluent Toxicity Testing, will be deemed to have inhibitory chemicals. Whole Effluent Toxicity Testing will be undertaken using organisms selected by the QLDC.

SCHEDULE 1B - PROHIBITED CHARACTERISTICS

1B.1 Introduction

1B.1.1 Schedule 1B defines Prohibited Trade Wastes.

1B.2 Prohibited Characteristics

1B.2.1 Characteristics

Any discharge has prohibited characteristics if it has any solid, liquid or gaseous matters, or any combination or mixture of such matters, which by themselves or in combination with any other matters, will immediately or in the course of time:

a) Interfere with the free flow of wastewater in the wastewater network;

b) Damage any part of the wastewater network;

c) In any way, directly or indirectly, cause the quality of the treated wastewater or residual biosolids and other solids from any Wastewater Treatment Plant in the catchment to which the waste was discharged to breach the conditions of a consent issued under the RMA, or water right, permit or other governing legislation;

d) Prejudice the occupational health and safety risks faced by wastewater workers;

e) After treatment be toxic to fish, animals or plant life in the receiving waters;

f) Cause malodorous gases or substances to form which are of a nature or sufficient quantity to create a public nuisance; or

g) Have a colour or colouring substance that causes the discharge from any Wastewater Treatment Plant to receiving waters to be coloured.

1B.2.2 Discharge has a prohibited characteristic if it has any amount of:

a) Harmful solids, including dry solid wastes and materials that combine with water to form a cemented mass;

b) Liquid, solid or gas which could be flammable or explosive in the wastes, including oil, fuel, solvents (except as allowed for in Schedule 1A of this Bylaw), calcium carbide, and any other material which is capable of giving rise to fire or explosion hazards either spontaneously or in combination with wastewater;

c) Asbestos;

d) The following organo-metal compounds: Tin (as tributyl and other organotin compounds);

e) Any organochlorine pesticides;

f) Genetic wastes, as follows: All wastes that contain or are likely to contain material from a genetically modified organism that is not in accordance with an approval under the HSNO. The material concerned may be from premises where the genetic modification of any organism is conducted or where a genetically modified organism is processed;

g) Any health care waste prohibited for discharge to a Wastewater Network by NZS 4304 or any pathological or histological wastes; or

h) Radioactivity levels in excess of the National Radiation Laboratory Guidelines.

i) Pharmaceutical liquid waste containing cytotoxic ingredients.

SCHEDULE 1C - SAMPLING PROCEDURE

1C.1 Sampling equipment

1C.1.1 Sample containers

The laboratory responsible for analysing the samples should be consulted about the type of container that should be used for sample collection and subsequent sample, storage and transportation. Desirable factors to be considered when selecting sample containers are:

a) High resistance to breakage;

b) Good sealing efficiency;

c) Ease of reopening;

d) Good resistance to temperature extremes;

e) Practical size, shape and mass;

f) Good potential for cleaning and re-use;

g) Availability and cost; and

h) Ability to be clearly labelled.

The sample container needs to prevent losses due to adsorption, volatilisation and contamination by foreign substances. Plastic containers are recommended for most characteristics. Some exceptions exist where glass containers only should be used, examples of such analyses include:

a) Oil and grease;

b) Hydrocarbons;

c) Detergents; and

d) Pesticides.

1C.1.2 Apparatus

The sampling procedures set out in this section assume the use of manual sampling equipment. The simplest equipment used for taking effluent samples consists of a bucket, ladle, or wide-mouthed container that may be mounted on a handle of a suitable length. The volume should not be less than 100 ml. Where manual samples are to be used for the preparation of composite samples, the volume of the bucket, ladle or container should be well defined and known to a precision of within ±5 %. Manual samples can also be taken with a Ruttner or Kemmerer sampler, consisting of a 1 litre to 3 litre volume tube with a hinged lid at each end of the tube, or other samplers operating on a similar principle.

Manual sampling equipment should be made of an inert material that does not influence the analyses that will be carried out on the samples later.

Before starting sampling, the equipment should be cleaned with detergent and water, or as directed by the equipment manufacturer, and finally rinsed with water. The sampling equipment may be washed before use in the wastewater stream from which the sample is taken in order to minimise the risk of contamination. Special attention should be paid to rinsing after cleaning, if the analyses under study are detergents. The sampling equipment cannot be washed in the waste stream where this will influence the analysis carried out later (e.g. analysis of oil and grease, and microbiological analysis).

1C.1.3 Sampling Locations

Safety precautions: In all cases when selecting sampling locations, health and safety aspects should be observed.

The sampling location shall be the first manhole or other access point upstream of the point of discharge, unless, because of poor mixing or some other reason, a location giving more representative samples can be found.

The sampling location should be kept clean by removing scale, sludge, bacterial film etc. from the walls.

If turbulent flow conditions do not exist at the sampling location they shall be induced by restricting the flow, for example with a baffle or weir. The restriction should be made in such a way that sedimentation upstream of the restriction does not occur. The sampling intake point should always be located downstream of the restriction. The inlet of the sampling equipment should preferably face the direction of flow, but may face downstream if too many blockages result. If mixing is good just upstream of the obstacle, then the intake can be located there, taking care that sediment is not sampled and ensuring that the intake remains below liquid level.

As a general rule, the sampling point should be one-third of the wastewater depth below the surface.

It may be necessary to sample the surface by skimming, in order that qualitative information about emulsified and floating material can be obtained. Guidance on the choice of suitable containers for this sampling technique should be sought from the receiving laboratory.

1C.1.4 Choice of sampling methods

Types of sample

It is common to distinguish between two sample types:

1. Spot (or grab) samples; and
2. Composite samples.

Spot sample

A spot sample is defined as a discrete sample taken randomly (with regard to time and/or location) from the Trade Waste.

In a spot sample, the whole sample volume is taken at one time. Spot samples are useful for determining the wastewater composition at a certain time. In cases with small variations in the volume and composition of the waste stream, a spot sample can be representative of the composition during a longer period.

For certain determinations, spot samples only can be used. For example, oil and grease, dissolved oxygen, chlorine and sulphide. Here the result will differ if the analyses are not carried out (or started) immediately after collection of the sample, and if the whole sample volume is not used at a time.

Composite sample

A composite sample is defined as two or more samples or sub-samples, mixed together in appropriate known proportions (either discretely or continuously), from which the average result of a desired characteristic may be obtained. The proportions are usually based on time or flow measurements.

Composite samples are prepared by mixing a number of spot samples or by collection of a continuous fraction of the waste stream.

In sampling, each of the spot samples should be greater than 50 ml in volume. Often it is advisable that spot samples are 200 ml to 300 ml in volume, to ensure the collection of representative samples.

Instantaneous composite sample

An instantaneous sample is a composite sample taken using the following method:

- Three spot samples of the discharge shall be taken at intervals of not less than 1 minute nor more than 5 minutes.
- The 3 spot samples must be combined using equal volumes of all 3 samples to obtain the instantaneous sample.

An instantaneous sample shall be used for all routine compliance monitoring unless otherwise specified.

Four-hour average composite sample

A 4-hour average sample is a composite sample taken using the following method:

- No less than 12 spot samples shall be taken from the discharge at reasonably even intervals over the whole period.
- The intervals between the samples must not be less than 5 minutes nor more than 30 minutes.
- The samples shall be mixed using equal volumes of all samples to obtain the 4-hour average sample.

The 4-hour flow period used when taking a 4-hour average sample shall be a continuous period of 4 hours during which the discharge is occurring and:

1. Shall as far as practical be representative of the discharge occurring on a typical working day, and
2. Shall exclude periods of decreased discharge prior to or after the day's operations.

Twenty-four hour flow proportionate sample

A 24-hour flow proportionate sample is obtained using the following method:

- Spot samples shall be taken from the discharge over a continuous 24-hour period.
- The samples shall be taken at reasonably even intervals over the whole period.
- The intervals between the samples must not be less than 15 minutes nor more than 60 minutes.
- Whenever more than one sample is taken within a 60 minute period the samples must be of equal quantity and maybe stored with other samples taken during that 60 minute period in a common container.

If the discharge usually flows for a period less than 24 hours then no less than 18 spot samples shall be taken as described in paragraph a) above, to represent the nominated 24-hour period.

The 24-hour flow proportionate sample is then obtained by taking a part of the contents of each container and mixing all such samples together. The size of the part of each container sample that is used shall be in direct proportion to the volume of discharge that occurred from the time a sample was first placed in the particular container to the time a sample was first placed in the next container.

Automatic Sampling

Automatic sampling machines facilitate recovery of time proportional samples during the entire working day. Typically a sampler machine is able to collect at least 24 samples. The sample period is determined by consideration of the daily duration of the

Trade Waste discharge and the number of samples able to be collected by the sampler machine. The volume of each sample is sized such that the total volume collected during the sampling period is 5 litres or more.

Flow proportional samples are obtained by taking samples each time a pre-set wastewater volume is measured as passing through the sample point. The pre-set wastewater volume is usually determined by dividing the expected total daily discharge by the number of samples to be taken (minimum typically 24). The volume of each sample is sized such that the total volume collected during the sampling period is 5 litres or more.

1C.1.5 Frequency, number and timing for samples

Frequency and number of samples

Analyses shall be based on sampling discharge periods that are representative of peak discharge. Such analyses shall be undertaken at a frequency of at least once per year unless otherwise specified in the Trade Waste Discharge Consent. The samples should be composite samples, unless the determinations to be carried out prohibit the use of a composite sample. The choice of the necessary number of samples taken during each year should be decided on the basis of when the peak discharge occurs and the size of the discharge in relation to the total discharge from all industry in the Hamilton City area served.

Sampling programme

The objective of a sampling programme often dictates when and how a sample is collected.

When sampling Trade Waste, allowance should be made for the following sources of variation in quality:

- Diurnal variations (i.e. within-day variability);
- Variations between days of the week; and
- Variations between seasons (if applicable).

If the identification of the nature and magnitude of peak load are important, sampling should be restricted to those periods when peak loads are known to occur.

The most appropriate type of sampling method (grab or composite) may be dependent on the magnitude of the variation in quality.

Relating the times of sampling to the particular process being monitored may be very important when considering discharges that are either seasonal or operated on a batch basis. In either case, the discharge will not be continuous and the sampling programme will need to take this fact into account.

If taking more than one sample, the samples should normally be taken at fixed intervals during the whole control period. The control period shall normally be one month.

Sampling period

The overall sampling period may vary from a few hours, where tracing studies on volatile organics are being monitored, to several days, where stable inorganic species are being monitored.

This subclause deals with the selection of the period over which a composite sample has to be taken. When selecting the period, the following two factors should be considered:

- The objective of the sampling. For example, it may be necessary to assess the average organic load in a flow over several 24-hour periods, in which case diurnal flow proportional composite samples will be adequate.

- The stability of the sample. In the example given in (a), it would not necessarily be practical to extend the sampling period to longer than 24 hours, since the organic component in the sample under study may deteriorate.

- The stability of the sample may often limit the duration of the sampling period. In such cases, reference should be made to the specific analytical techniques to be employed and the receiving laboratory should be consulted, so correct preservative measures can be used.

Sample preservation and storage

The most common way of preserving wastewater samples is to cool to a temperature between 0 °C and 4 °C. When cooled to this temperature and stored in the dark, most samples are normally stable for up to 24 hours. For some determinants, long-term stability may be obtained by deep freezing (below 18 °C).

When collecting composite samples during extended periods, preservation should be an integral part of the sampling operation.

It may be necessary to use more than one sampling device, to allow both preserved and unpreserved samples to be taken.

The laboratory responsible for analysing the samples should always be consulted with regard to the selection of the preservation method and subsequent transport and storage.

Transportation of samples

a) Samples may include infectious substances;

b) Segregation of packages of dangerous goods for road transport is necessary;

c) Wastewater is classified in the Land Transport Rule Dangerous Goods 1999 Rule 45001 as Class 6.2 — Infectious Substance and may be carried by road and air transport as a Diagnostic Specimen in limited amounts;

d) By road the maximum volume of liquid in any one package should not be greater than 5 litres. By air the limit per package is 4 litres;

e) Containers shall be sufficiently robust to remain intact and continue to contain goods safely and without leaking for normal conditions of handling and loading;

f) Three layers of packaging shall be used;

g) Primary containers and one other layer of packaging shall be leak proof;

h) Ensure that you have filled out the appropriate documentation; and

i) Check with the laboratory that you are using, that they supply containers that meet the required standards.

Sample identification and records

A printed form for the sampling report should as a minimum include at least the following information:

- Name of the trade premises;
- Trade Waste Consent number;
- Sampling point;
- Date, start and stop of sampling;
- Time, start and stop of sampling;
- Duration of the sampling period;
- Details of the sampling method;
- Preservation method;
- Details of any field tests;
- Name of the person who carried out the sampling; and
- Information required for a complete chain of custody.

There are many publications that may assist in the development of a sampling programme. These include:

AS/NZS 5667:...	Water quality — Sampling
• Part 1:1998	Guidance on the design of sampling programs, sampling techniques and the preservation and handling of samples
• Part 10:1998	Guidance on sampling of waste waters
BS 6068:...	Water quality
• Part 6:...	Sampling
• Section 6.10:1993	Guidance on sampling of waste waters
BS EN 25667-1: 1994	Water quality. Sampling. Guidance on the design of

BS 6068-6.1:1981	sampling programmes
BS EN 25667-2: 1993 BS 6068-6.2:1981	Water quality. Sampling. Guidance on sampling techniques
BS EN 5667-3: 2003 BS 6068-6.3:2003	Water quality. Sampling. Guidance on the preservation and handling of water samples

New Zealand Municipal Wastewater Monitoring Guideline

Appendix 5

Water Supply Bylaw 2015

Queenstown Lakes District Council

Date of making: 26 November 2015
Commencement: 1 December 2015

This bylaw is adopted pursuant to section 146 of the Local Government Act 2002

Contents

Part 1 – Preliminary

1 Title

1.1 This Bylaw is the Queenstown Lakes District Council Water Supply Bylaw 2015 (**Bylaw**).

2 Commencement and area of application

2.1 This Bylaw shall come into force on the 1st day of December 2015 and will apply to the area controlled by the Queenstown Lakes District Council (**Council**).

3 Repealed bylaw

3.1 As from the day this Bylaw comes into force, the Queenstown Lakes District Council Water Supply Bylaw 2008 shall be repealed.

3.2 All approvals, permits and other acts of authority which originated under any bylaws hereby repealed, and all applications and other acts of parties and generally all documents, matters, acts and things which so originated and are continuing at the commencement of the Bylaw remain as if they had originated under this Bylaw.

3.3 The revocation of the bylaws specified in clause 3.1 above shall not prevent any legal proceedings, criminal or civil being taken to enforce those bylaws and any such proceedings shall continue to be dealt with and completed as if the bylaws had not been repealed.

4 Scope

4.1 This Bylaw is made under the authority of the Local Government Act 2002 for the supply of water to its customers by the Council. The supply and sale of water by the Council:

(a) is subject to the following statutory Acts and Regulations:

(i) Building Act 2004

(ii) Building Regulations 1992 Schedule 1 (**New Zealand Building Code**)

(iii) Fire Service Act 1975

(iv) Health Act 1956

(v) Local Government Act 2002 (**LGA 2002**)

(vi) Local Government (Rating) Act 2002

(vii) Resource Management Act 1991 (**RMA**)

(viii) Health (Drinking Water) Amendment Act 2007

(b) takes into consideration the following Relevant Codes and Standards:

(i) Drinking Water Standards for New Zealand 2005

(ii) BS EN 14154-3:2005 Water meters. Test methods and equipment

(iii) SNZ PAS 4509:2008 New Zealand Fire Service fire-fighting water supplies code of practice

(iv) Water NZ Boundary Backflow Prevention for Drinking Water Supplies Code of Practice June 2013

(v) NZWWA Water Meter Code of Practice 2003.

5 Interpretation

5.1 When interpreting this Bylaw use the definitions set out in clause 6.1 unless the context requires otherwise. If you see any reference to a repealed enactment read that as a reference to its replacement.

5.2 For the purpose of this Bylaw, the word 'shall' refers to practices that are mandatory for compliance with this Bylaw while the word 'should' refers to practices that are advised or recommended.

6 Definitions

6.1 In this Bylaw, unless the context otherwise requires:

Approved or Approval means approved in writing by Council, either by resolution of the Council or by any authorised officer of Council or other person authorised to give such approval on behalf of Council.

Backflow means the unplanned reversal of flow of water or mixtures of water and Contaminants into the water supply system.

Buried services means all public mains, valves, pump stations and other underground utilities under the responsibility of the Council and other service providers.

Contaminant has the same meaning as defined in Section 2 of the RMA.

Council means the Queenstown Lakes District Council or any officer authorised to exercise the authority of the Council.

Customer means the person who uses, or has obtained the right to use or direct the manner of use of, water supplied by Council.

Demand Management Plans are plans for implementing demand management measures in each Water Supply Area.

Detector check valve means a check (non-return) valve which has a positive closing pressure and a metered bypass to measure flows typically associated with leakage or unauthorised use on a dedicated fire supply.

Extraordinary supply means a category of on demand supply including all purposes for which water is supplied other than ordinary supply and which may be subject to specific conditions and limitations as determined by Council.

Fees and charges means the list of items, terms, and prices for services associated with the supply of water as adopted by the Council in accordance with the LGA 2002 and the Local Government (Rating) Act 2002.

Hose means any flexible or moveable tube for conducting water and includes a water sprinkler, soaker or any form of similar water distributing device whether held by hand or not.

Meter means a Council owned meter which measures and records the flow of water supplied.

Level of Service means the measurable performance standards on which the Council undertakes to supply water in any water supply area to its customers, stated in the Council's 10 year plan.

On demand supply means a supply which is available on demand directly from the point of supply, subject to the agreed Level of Service as set out in the Council's 10 year plan.

Ordinary supply means a category of on demand supply used solely for domestic purposes.

Person means a natural person, corporation sole or a body of persons whether corporate or otherwise.

Point of supply means the point on the water pipe leading from the water main to the premises, which marks the boundary of responsibility between the Customer and Council, irrespective of property boundaries.

Potable means water that does not contain or exhibit any determinands to any extent that exceeds the maximum acceptable values (other than aesthetic guideline values) specified in drinking water standards issued under the Health Act 1956.

Premises means premises including the following:

(a) A property or allotment which is held under a separate certificate of title or for which a separate certificate of title may be issued and in respect to which a building consent has been or may be issued; or

(b) A building or part of a building that has been defined as an individual unit by a cross-lease, unit title or company lease and for which a certificate of title is available; or

(c) Land held in public ownership (e.g. reserve) for a particular purpose.

Public notice means public notice as defined in the LGA 2002.

Restricted flow supply means a type of water supply connection where a small flow is supplied through a flow control device, and storage is provided by the customer to cater for the Customer's demand fluctuations.

Restrictor means a flow control device fitted to the service pipe to limit the flow rate of water to a Customer's premises.

Roading authority means a territorial authority or New Zealand Transport Authority (**NZTA**).

Service pipe means the section of water pipe between a water main and the point of supply.

Service valve means the valve at the Customer end of the service pipe.

Sprinkler means a revolving spray, sprinkler pipe, or any form of mechanical device used to distribute water for garden, lawn watering or domestic purposes but does not include a hand held hose, or a contrivance installed exclusively for the purpose of extinguishing fires.

Storage tank means any tank having a free water surface under atmospheric pressure to which water is supplied across an air gap separation.

Supply pipe means the section of pipe between the point of supply and the Customer's premises through which water is conveyed to the premises.

Water Supply Area means an area serviced by a reticulated water supply system that is intended to supply water for specified purposes

via restricted flow supplies and/or on demand supplies, but not necessarily with a firefighting capability.

Water Supply System means all those components of the network between the point of abstraction from the natural environment and the point of supply. This includes, but is not limited to, wells, infiltration galleries, intake structures, open raw water storage ponds/lakes, falling mains, treatment plants, treated water reservoirs, trunk mains, service mains, rider mains, pump stations and pumps, valves, hydrants, scour lines, service pipes, boundary assemblies, meters, backflow prevention devices, restrictors and service valves.

Water unit means the basis of measurement for a restricted flow supply as prescribed by the level of service.

Part 2 – Protection of water supply

Subpart 1 - Water supply system

7 Access to system

7.1 No person other than Council and its agents shall have access to any part of the water supply system, except to connect to the point of supply, subject to subpart 1 of part 3, and to operate the service valve.

8 No person to connect to, or interfere with a water supply system

8.1 Except as set out in 7, 9 and 10, no person shall make any connection to, or otherwise interfere with, any part of the water supply system.

9 Fire hydrants

9.1 Only the attending Fire Service/s shall gain access to and draw water from fire hydrants for the purpose of fighting fires, training, and hydrant testing.

10 Other uses

10.1 The right to gain access to, and draw water from, the water supply for uses other than firefighting (for example, flow testing or pipe flushing) shall be restricted to:

(a) Council or its agents; and

(b) Persons who have approval to draw water from the water supply for uses other than firefighting. Such persons shall comply with all conditions of the Approval. Council may revoke any approval with immediate effect if it believes that the

conditions of approval are being or have been breached or in order to implement water restrictions.

10.2 Without prejudice to other remedies available, Council may remove and hold any equipment used by any person to gain access to or draw water from a fire hydrant, and assess and recover the value of water drawn without authorisation and any other associated costs.

11 Working around buried services

11.1 Council shall keep permanent records ('as-builts') of the location of its buried services. This information shall be available for inspection at no cost to users. Charges may be levied to cover the costs of providing copies of this information.

11.2 Any person proposing to carry out excavation work shall view any available as-built information to establish whether or not Council services are located in the vicinity. At least five working days notice in writing shall be given to Council of an intention to excavate in the vicinity of its services. Where appropriate, Council shall mark out to within ±0.5m on the ground the location of its services, and nominate in writing any restrictions on the work it considers necessary to protect its services. Council may charge for this service.

11.3 When excavating and working around buried services, all reasonable steps shall be taken to ensure the services are not damaged, and that bedding and backfill are reinstated in accordance with the appropriate Council specification.

11.4 Any damage which occurs to a Council service shall be reported to Council immediately. The person causing the damage shall reimburse Council with all costs associated with repairing the damaged service, and any other costs Council incurs as a result of the incident.

Subpart 2 – Spillages and adverse events

12 Spillages and adverse events

12.1 In the event of a spillage, or any event which may compromise the water supply, the person responsible for the event shall advise Council immediately. This requirement shall be in addition to those other notification procedures which are required for other authorities.

Part 3 – Conditions of supply

Subpart 1 - Application for supply

13 Initial application

13.1 Every application for a supply of water shall be made in writing on the standard Council form accompanied by the prescribed charges. The applicant shall provide all the details required by Council.

13.2 On receipt of an application Council shall, after consideration of the matters in clause 21.1 and subpart 4 of part 3, either:

(a) Approve the application and inform the applicant of the type of supply, the level of service, the size of the connection and any particular conditions applicable; or

(b) Refuse the application and notify the applicant of the decision giving the reasons for refusal.

13.3 For the agreed level of service to the applicant, Council shall determine the sizes of all pipes, fittings and any other equipment, up to the point of supply. Council shall supply and install the service pipe up to the point of supply at the applicant's cost or may allow the supply and installation of the service pipe to be carried out by approved contractors.

13.4 The applicant shall have the authority to act on behalf of the owner of the premises for which the supply is sought, and shall produce written evidence of this if required.

13.5 An approved application for supply which has not been actioned within six months of the date of application will lapse unless a time extension has been approved. Any refund of fees and charges shall be at the discretion of Council.

14 Change of use

14.1 Where a Customer seeks a change in the level of service or end use of water supplied to premises, and/or the supply changes or vice versa, a new application for supply shall be submitted by the Customer.

15 Prescribed charges

15.1 Charges applicable at the time of connection may include:

(a) Payment to Council for the cost of the physical works required to provide the connection;

(b) A development contribution charge determined in accordance with the LGA 2002;

(c) A financial contribution charge determined in accordance with the RMA.

Subpart 2 - Point of supply

16 Responsibility for maintenance

16.1 Council shall own and maintain the service pipe and fittings up to the point of supply. The Customer shall own and maintain the supply pipe beyond the point of supply.

17 Single ownership

17.1 For individual customers the point of supply shall be located as shown in figure 1 Type 2 or as close as possible where fences, walls, or other permanent structures make it difficult to locate it at the required position. Any other positions shall require specific approval.

17.2 For each individual Customer there shall be only one point of supply, unless otherwise approved by Council.

17.3 The typical layout at a point of supply is shown in figure 2.

17.4 Council gives no guarantee of the serviceability of the valve located on the service pipe. Where there is no Customer stopcock, or where maintenance is required between the service valve and the Customer stopcock, the customer may use the service valve to isolate the supply. However, Council reserves the right to charge for maintenance of this valve if damaged by such Customer use.

Figure 1 – Point of supply locations - Individual customers

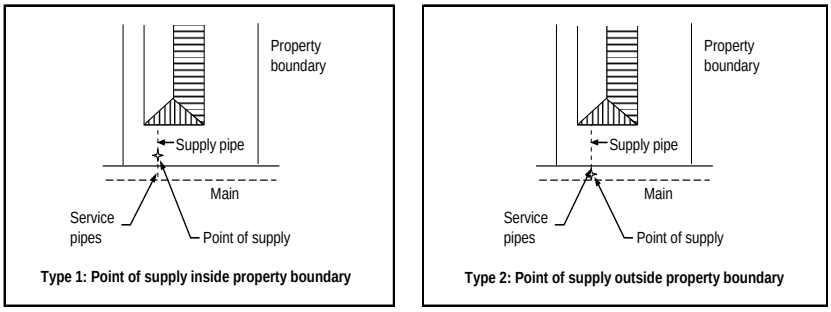
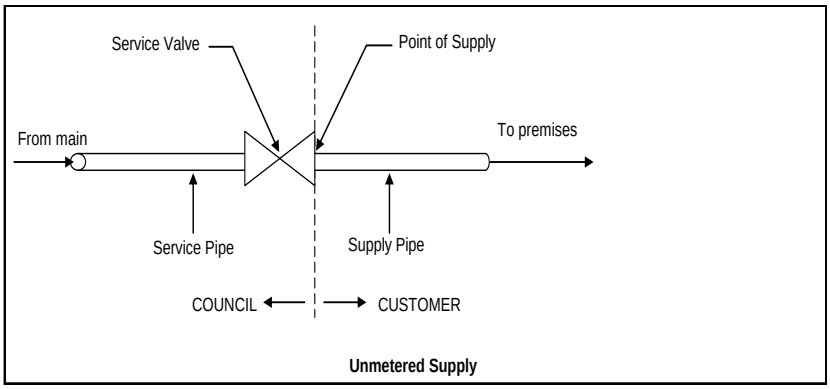
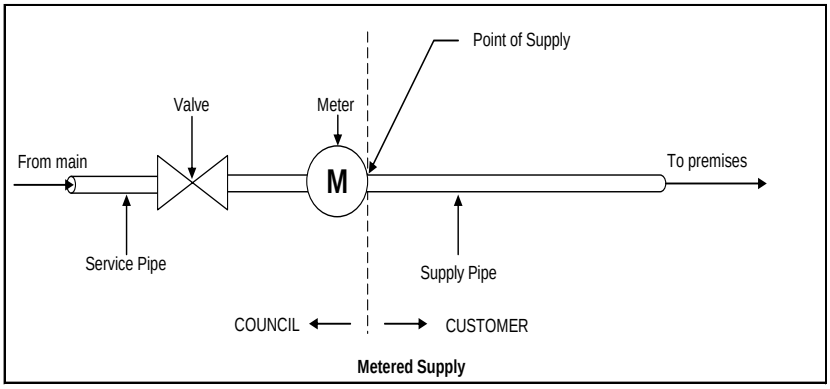
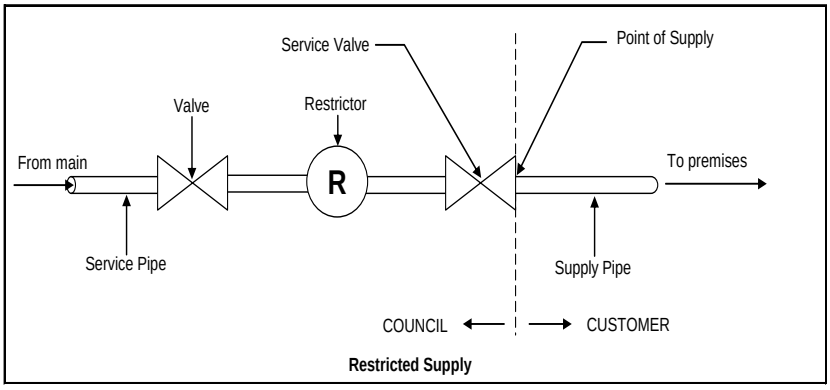


Figure 2 – Typical layouts at point of supply







18 Multiple Ownership

18.1 The point of supply for the different forms of multiple ownership of premises and/or land shall be:

(a) For Company Share/Block Scheme (Body Corporate) — as for single ownership.

(b) For Leasehold/Tenancy in Common Scheme (Cross Lease), Strata Title, Unit Title (Body Corporate) and any other form of multiple ownership — each Customer shall have an individual supply with the point of supply determined by agreement with Council. In specific cases other arrangements may be acceptable, subject to individual approval by Council.

(c) For a multiple ownership supply which was in existence prior to the coming into effect of this Bylaw, the point of supply shall be the arrangement existing at that time, or as determined by agreement with Council for any individual base.

Subpart 3 - Access to, and about point of supply

19 Rights of access

19.1 Where the point of supply is on private property the Customer shall allow Council access to, and about the point of supply between 7.30 am and 6.00 pm on any day for:

(a) Meter reading without notice; or

(b) Checking, testing and maintenance work with notice being given whenever possible.

19.2 For access outside the specified hours (such as for night time leak detection), Council shall give notice to the Customer.

19.3 Where access is not made available for any of the above times and a return visit is required by Council, an appropriate charge may be imposed to cover the cost of the return visit.

19.4 In an emergency, such as a Civil Defence Emergency or when there is a fault requiring immediate rectification, the Customer must allow authorised Council officers free and unimpeded access to and about the point of supply at any hour.

20 Maintenance of access

20.1 The Customer shall maintain the area in and around the point of supply keeping it free of soil, growth, or other matter or obstruction which prevents, or is likely to prevent, convenient access.

21 Level of service

21.1 Council shall provide water in accordance with the level of service contained in the 10 year plan. For those periods where the level of service allows non-compliance with the specified value(s), Council should make every reasonable attempt to achieve the specified value(s).

Subpart 4 - Types of supply

22 General

22.1 Supplies shall be classified as either 'on demand' or 'restricted flow' and the use of water from the supply shall be either 'ordinary' or 'extraordinary'.

23 On demand supply

23.1 Every premise within a Water Supply Area shall be entitled to an ordinary supply of water subject to the following conditions:

(a) The exclusion of its use for garden watering under any restrictions made by Council under 29;

(b) Payment of the appropriate charges in respect of that property;

(c) Payment of any other charges or costs associated with subdivisional development; and

(d) Any other relevant conditions of this Bylaw.

23.2 Council shall be under no obligation to provide an extraordinary supply of water (see also the provisions of subpart 5 of part 3 and 34).

24 Restriction or prohibition of use

24.1 The Council may at any time, by public notice, restrict or prohibit the use of water for any one or more of the following purposes:

(a) The use of irrigation systems of any sort, or other outside watering; and

(b) Any other reason Council sees as reasonable in the circumstances that apply at the time.

24.2 Any action contrary to the public notice shall be a breach of this Bylaw.

24.3 Any such restriction or prohibition applies until public notice is given that the restriction or prohibition has been rescinded.

25 Metering

25.1 An ordinary use of water may be metered.

25.2 Extraordinary use and restricted flow supply shall normally be metered and charged for in accordance with clause 53. Where the use is for fire protection only, this supply shall not normally be metered.

Subpart 5 - Continuity of supply

26 Supply

26.1 Council does not guarantee the uninterrupted supply of water to any Customer or other user. No compensation shall be payable on account of any water supply being restricted or shut off, whether for the purpose of demand management, laying of water mains, effecting

repairs to a reticulated water supply system, attaching of new services or for any other purpose.

26.2 Where works of a permanent or temporary nature are planned which will affect an existing supply, Council shall consult with, or inform or give notice to all known customers likely to be substantially affected, within the required time period stated in the Levels of Service for the Water Supply Area.

27 Pressure

27.1 Council does not guarantee any specified maximum or minimum pressure in the water distribution and reticulation system within any Water Supply Area, and no compensation shall be payable on account of any change or inconsistency of pressure in the supply of water in any Water Supply Area.

28 Uninterrupted service

28.1 If a Customer has a particular requirement for an uninterrupted level of service (flow, pressure, or quality), it shall be the responsibility of that customer to provide any storage, back-up facilities, or equipment necessary to provide that level of service.

29 Demand management

29.1 The Customer shall comply with any restrictions which may be approved by Council to manage high seasonal or other demands. Such restrictions shall be advised by public notice.

29.2 Even when such restrictions apply, Council shall take all practicable steps to ensure that an adequate supply for domestic purposes is provided to each point of supply.

30 Payment

30.1 No compensation or other payment is payable by Council in relation to any restriction or prohibition made.

31 Maintenance and repair

31.1 Wherever practical, Council shall make every reasonable attempt to notify the Customer of a scheduled maintenance shutdown of the supply before the work commences. Where immediate action is required and notification is not practical, Council may shut down the supply without notice.

32 Liability

32.1 Council shall endeavour to meet the level of service requirements of 21, but shall not be liable for any loss, damage or inconvenience which

the Customer (or any person using the supply) may sustain as a result of deficiencies in, or interruptions to, the water supply.

Subpart 6 - Fire protection connection

33 Connection application

33.1 Any proposed connection for fire protection shall be the subject of a specific application (on the standard Council form) made to Council for approval. Any such connection shall be subject to the conditions specified by Council.

34 Design

34.1 It shall be the Customer's responsibility to ascertain in discussion with Council and monitor whether the supply available is adequate for the purpose of fire protection. A Council approved detector check valve shall be fitted on any meter bypass.

35 Fire protection connection metering

35.1 Where the supply of water to any premises is metered, Council may allow the supply of water for the purposes of firefighting to be made in a manner which bypasses the meter, provided that the drawing of water is possible only in connection with the sounding of an automatic fire alarm or the automatic notification of the fire brigade.

35.2 Any unmetered connection provided to supply water to a fire protection system shall not be used for any purpose other than firefighting and testing the fire protection system unless the fire protection system is installed in accordance with NZS 4517 – Fire sprinkler system for houses.

35.3 Where a fire connection has been installed or located so that it is likely or possible that water may be drawn from it by any person for purposes other than firefighting, Council may require the supply to be metered.

36 Fire hose reels

36.1 Where the supply of water to any premises is metered, fire hose reels shall be connected only to the metered supply, not to the fire protection system. The water supply to fire hose reels shall comply with the requirements of NZS 4503 – Hand operated fire-fighting equipment.

37 Charges

37.1 Water used for the purpose of extinguishing fires shall be supplied free of charge. Where the fire protection connection is metered and water has been used for firefighting purposes, Council shall estimate

the quantity of water so used, and credit to the customer's account an amount based on such an estimate.

38 Ongoing testing and monitoring

38.1 Customers intending to test fire protection systems in a manner that requires a draw-off of water shall obtain the approval of Council beforehand. Water used for routine flushing and flow testing does not constitute waste but the quantity of water used may be assessed and charged for by Council.

Subpart 7 - Backflow prevention

39 Customer responsibility

39.1 It is the Customer's responsibility (under the Health Act 1956, and the Building Act 2004) to take all necessary measures on the customer's side of the point of supply to prevent water which has been drawn from Council's water supply from returning to that supply. These include:

(a) Backflow prevention either by providing an adequate air gap, or by the use of an approved backflow prevention device;

(b) The prohibition of any cross-connection between Council water supply ;and

(c) Any other water supply (potable or non-potable);

(d) Any other water source;

(e) Any storage tank;

(f) Any other pipe fixture or equipment containing chemicals liquids gases or other non-potable substances.

40 Unmanaged risk

40.1 Notwithstanding 39, Council may fit a backflow prevention device on Council side of the point of supply where the customer cannot demonstrate that the risk of backflow is adequately managed. Council may recover all costs associated with the supply and installation of the backflow prevention device from the Customer.

Subpart 8 - Council Equipment and Inspection

41 Care of water supply system

41.1 The customer shall take due care not to damage any part of the water supply system, including but not limited to pipe work, valves, meters, restrictors, chambers, and backflow prevention devices.

42 Inspection

42.1 Subject to the provisions of the LGA 2002, the Customer shall allow Council, with or without equipment, access to any area of the premises for the purposes of determining compliance with these conditions.

Subpart 9 - Meters and restrictors

43 Installation

43.1 Where required by Council, flow meters and restrictors shall be supplied and installed. Council reserves the right to recover any associated costs.

43.2 All meters and restrictors shall remain the property of the Council, and shall be maintained by Council.

43.3 Where on demand supplies are not universally metered, the Council where it considers water use is unusually high, reserves the right to fit a meter at the customer's cost, and charge accordingly.

44 Requirements for new developments

44.1 All new connections in any Water Supply Area shall meet the requirements of the Demand Management Plan for that Water Supply Area, including, but not limited to:

(a) installation of restrictors;

(b) installation of meters; and

(c) installation of water efficient fixtures and appliances.

45 Location

45.1 Meters and restrictors shall be located in a position where they are readily accessible for reading and maintenance, and if practicable immediately on Council side of the point of supply (see figure 2).

46 Accuracy

46.1 Meters and restrictors shall be tested as and when required by the Council to ensure:

(a) In respect of a meter, performance within plus or minus 5% of its reading;

(b) In respect of a restrictor, performance within plus or minus 10% of its rated capacity.

46.2 Testing shall be undertaken in accordance with the New Zealand Water Meter Code of Practice. Any Customer who disputes the accuracy of a meter or restrictor may apply to Council for it to be tested provided that it is not within three months of the last test. If the test shows non-compliance with the accuracy above, the Customer shall not be charged for the test. If the test shows compliance, the Customer shall pay a fee in accordance with Council current fees and charges.

47 Adjustment

47.1 For connections where volume based charging is utilized, if any meter, after being tested, is found to register a greater or lesser consumption than the quantity of water actually passed through such a meter, Council shall make an adjustment to the next invoice due, in accordance with the results shown by such tests, backdated for a period at the discretion of Council but not exceeding 12 months, and the Customer shall pay a greater or lesser amount according to the adjustment.

47.2 Where a meter is under-reading by more than 20% or has stopped, Council reserves the right to charge for the amount of water assessed as having been used over the past billing period, taking into account any seasonal variations in demand.

47.3 Where a meter is over-reading, Council shall make appropriate adjustments to the customer's invoice(s), based on a period of similar use and backdated to when it is agreed the over-reading is likely to have occurred.

48 Estimating consumption

48.1 For connections where volume based charging is utilized, if any meter is out of repair or ceases to register, or has been removed, Council shall estimate the consumption for the period since the previous reading of such meter (based on the average of the previous four billing periods charged to the Customer) and the Customer shall pay according to such an estimate. Provided that when by reason of a large variation of consumption due to seasonal or other causes, the average of the previous four billing periods would be an unreasonable estimate of the consumption, Council may take into consideration other evidence for the purpose of arriving at a reasonable estimate, and the Customer shall pay according to such an estimate.

48.2 The Customer shall be liable for the cost of water which passes through the meter regardless of whether this is used or is the result of leakage.

48.3 Where the seal or dial of a meter is broken, Council may declare the reading void and estimate consumption as described above.

49 Incorrect accounts

49.1 For connections where volume based charging is utilized, where a situation occurs, other than as provided for in 47, where the recorded consumption does not accurately represent the actual consumption on a property, the account shall be adjusted using the best information available to Council. Such situations include, but are not limited to, misreading of the meter, errors in data processing, meters assigned to the wrong account, and unauthorised supplies.

49.2 Where an adjustment is required, in favour of Council or the Customer, this shall not be backdated more than 12 months from the date the error was detected.

50 Faulty Meters

50.1 Where a meter is found to be faulty due to no fault of the customer, the Council will replace or recalibrate the faulty meter, at no cost to the Customer.

51 Plumbing system

51.1 Quick-closing valves, pumps, or any other equipment which may cause pressure surges or fluctuations to be transmitted within the water supply system, or compromise the ability of Council to maintain its stated levels of service shall not be used on any piping beyond the point of supply. In special circumstances such equipment may be approved by Council.

52 Prevention of waste

52.1 The Customer shall not intentionally allow water to run to waste from any pipe, tap, or other fitting, nor allow the condition of the plumbing within the property to deteriorate to the point where leakage or wastage occurs.

52.2 Council provides water for consumptive use, not as an energy source. The Customer shall not use water or water pressure directly from the supply for driving lifts, machinery, eductors, generators, or any other similar device, unless specifically approved.

52.3 The Customer shall not use water for a single pass cooling system or to dilute trade waste prior to disposal, unless specifically approved.

53 Payment

53.1 The Customer shall be liable to pay for the supply of water and related services in accordance with Council fees and charges prevailing at the time.

53.2 Council may recover all unpaid water charges as prescribed in the Local Government (Rating) Act 2002, sections 57 to 82.

54 Transfer of rights and responsibilities

54.1 The Customer shall not transfer to any other party the rights and responsibilities set out in this Bylaw.

54.2 A supply pipe shall serve only one Customer, and shall not extend by hose or any other pipe beyond that customer's property.

54.3 In particular and not in limitation of the above any water which the Customer draws from Council supply shall not be provided to any other party without approval of Council.

55 Change of ownership

55.1 In the event of a premises changing ownership, Council shall record the new owner as being the Customer at that premises. Where a premise is metered, the outgoing Customer shall give Council five working days notice to arrange a final meter reading.

56 Disconnection at the customer's request

The Customer shall give 20 working days notice in writing to Council of the requirement for disconnection of the supply. Disconnection shall be at the customer's cost.

Part 4 – Breaches and offences

57 Breaches of conditions of supply

57.1 The following are deemed breaches of the conditions to supply water:

(a) An incorrect application for supply which fundamentally affects the conditions of supply (part 3) or decision to approve the application;

(b) Failure by the Customer to meet and comply with the conditions of supply for that customer's premises as determined by Council;

(c) Failure to meet any obligation placed on the Customer under all current Acts and Regulations;

(d) Frustration of Council's ability to adequately and effectively carry out its obligations;

(e) An act or omission including but not limited to any of the following:

(i) Interference with the water supply system

(ii) Failure to comply with water use restrictions or prohibitions introduced by Council for any specified purpose

(iii) Bypassing or tampering with Council water meters and restrictors

(iv) Failure to pay the appropriate charges by the due date

(v) Failure to repair a leak, or in any way wilfully allowing water to run to waste, or to be misused

(vi) The fitting of quick-closing valves, pumps, or any other equipment which may cause pressure surges or fluctuations to be transmitted within the water supply system, or compromise the ability of Council to maintain its stated levels of service (subject to 21)

(vii) Use of a fire hydrant in contravention of this Bylaw or without formal written approval from Council

(viii) Failure to prevent backflow (see subpart 7 of part 3)

(ix) Introduce, or allow to be introduced, any contaminant into the water supply system

(x) Connection to the water supply without formal written approval from Council

(xi) Using water or water pressure directly from the supply for driving lifts, machinery, eductors, generators, or any other similar device, unless specifically approved by Council

(xii) Using water for a single pass cooling or heating system, or to dilute trade waste prior to disposal, unless specifically approved

(xiii) Extending by hose or any other pipe a private water supply beyond that customer's property

(xiv) Providing water drawn from Council supply to any other party without approval of Council

(xv) Failure to comply with demand management measures stated in the Demand Management Plan for the relevant Water Supply Area.

(f) Any other act or omission which has not been described above but which contravenes the reasonable interpretation of the conditions to supply water.

57.2 In the event of a breach, Council shall serve notice on the Customer advising the nature of the breach and the steps to be taken to remedy it. If, after one week, the Customer persists in the breach, Council reserves the right to reduce the flow rate of water to the Customer without notice. In such an event the full service of the supply shall be re-established only after payment of the appropriate fee and remedy of the breach to the satisfaction of Council.

57.3 In addition, if the breach is such that Council is required to disconnect the supply for health or safety considerations, such disconnection should be carried out forthwith.

58 Interference with equipment

58.1 Any tampering or interfering with Council equipment, either directly or indirectly, shall constitute a breach. Without prejudice to its other rights and remedies, Council shall be entitled to estimate (in accordance with 48) and charge for the additional water consumption not recorded or allowed to pass where a meter or restrictor has been tampered with, and recover any costs incurred.

59 Offences and Penalties

59.1 Any person who breaches these Bylaws commits an offence and is liable, on summary conviction, to the penalty set out in, section 242(2) of the LGA 2002.

Explanatory Notes:

The Queenstown Lakes District Council Water Supply Bylaw 2015

This bylaw was adopted pursuant to a resolution passed by the Queenstown Lakes District Council on 26 November 2015 in accordance with Section 146 of the Local Government Act 2002.

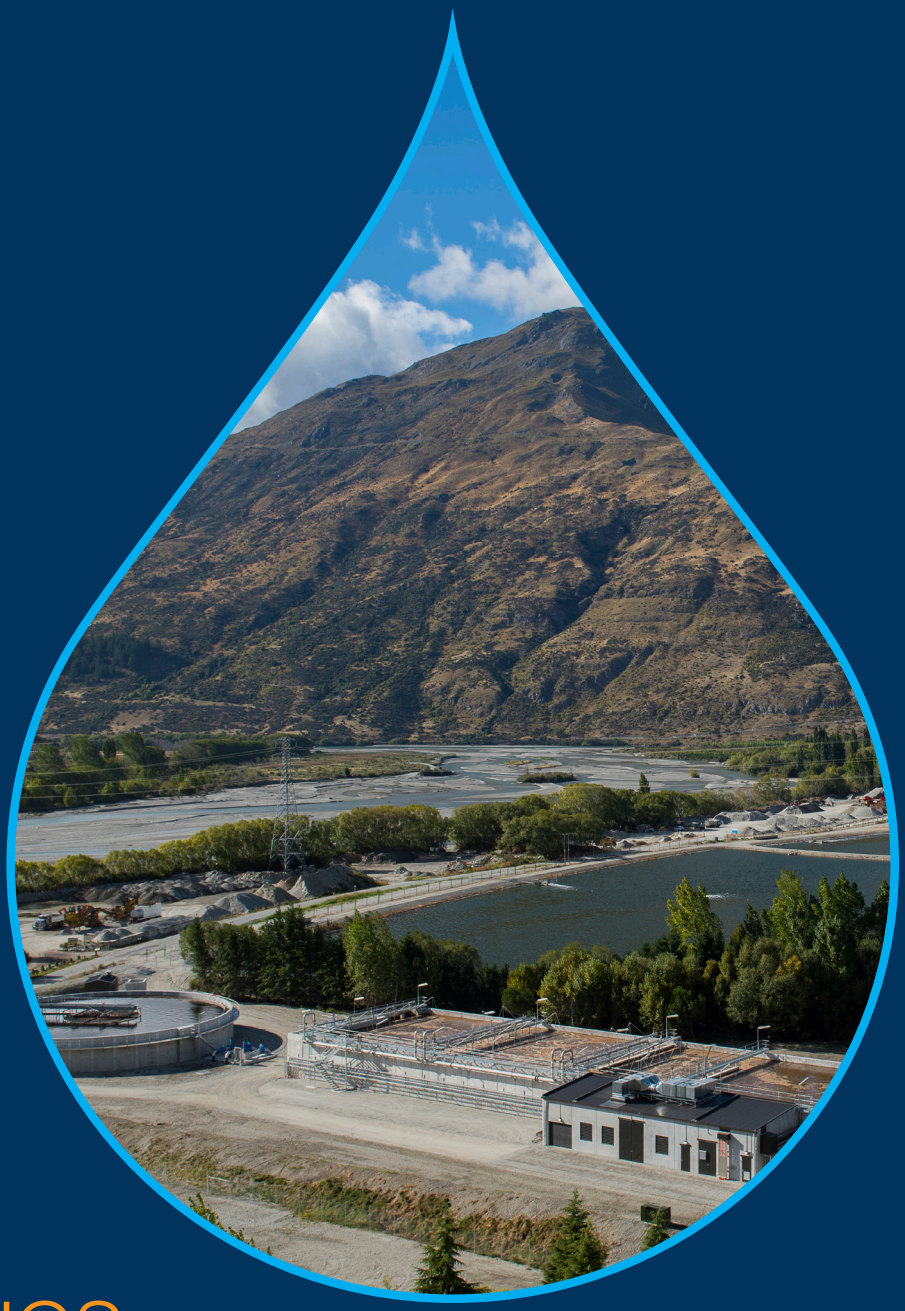
Mayor

Chief Executive Officer

Appendix 6

TRADE WASTE BYLAW 2014

2020 REVIEW



FINDINGS REPORT

QUEENSTOWN LAKES DISTRICT COUNCIL

CONTENTS

1. SUMMARY OF KEY FINDINGS

According to stakeholders, the council's bylaw has had a positive impact on trade waste discharges in the district, by minimising the build-up of fat in the wastewater network most notably around high density food premises. CCTC footage of the CBD has demonstrated a reduction of approximately 80% build-up of fat in the sewer network. However, breaches of the bylaw do still occur. Volumetric monitoring is not feasible throughout the district and the council has had to rely on other sources of data to understand those premises who pose the greatest risks to the network. Other sources of data have included:

- Trade Waste surveying.
- Surveys of research across sectors in other NZ jurisdictions to understand likely demand for network capacity. This research indicates that laundromats, car wash facilities and restaurants that operate for longer than 10 hours a day pose the most significant risk to the wastewater network.

There have been some emergent issues which the bylaw has not been able to provide effective response to in its current form. These include:

- There has been a decrease in the volumes of hazardous waste, such as used engine oil being recycled compared to the past. This suggests illegal discharges to the wastewater network may be occurring.
- Understanding and limiting harm posed by emergent contaminants.

The key findings of this review are that:

- If the council amends the bylaw, the reviewed bylaw will benefit from improved system readiness and critically organisational awareness of the importance of trade waste.
- Illegal discharges of trade waste to land and the natural stormwater network are not being captured by the bylaw and whilst this is not a problem for the bylaw, it presents challenges for an integrated approach to water management.
- The consenting regime in the current bylaw needs to be updated to capture industry sectors using an appropriate risk-based approach.
- Fee setting in the annual plan; lags in implementing technology; resourcing constraints with compliance monitoring need to be factored into the bylaw's implementation so that businesses enjoy a smooth transition to enhanced management. Rate payers should feel assured that investment in the management and administration of the bylaw is appropriately/fairly funded by consent holders.
- To change behaviours to be more sustainable and consistent with other council strategies and policies (e.g. waste minimization, smoke-free, etc.) the bylaw should be supported with appropriate behavioural tools and educational initiatives to improve recycling, product stewardship, approved product systems etc.

2. INTRODUCTION

2.1 Purpose of the Report

This report presents findings on the operation of the Queenstown Lakes District Council's Trade Waste Bylaw 2014 (**Bylaw**). The council has a statutory responsibility under the Local Government Act 2002 (**LGA**) to review new bylaws within five years of making them. The Bylaw was adopted on 27 November 2014 and came into force on 30 July 2015. The Bylaw will be automatically revoked if not reviewed by November 2021.

2.2 Scope of the Review

The scope of this review includes:

- Stakeholder feedback about how the Bylaw is influencing behaviours.
- Review of existing QLDC policies and initiatives that are relevant to trade waste.
- Review of relevant regulations.

2.3 Background

Trade waste is any liquid that is discharged from a business process or trade premises to the wastewater network.

Typically, trade waste is sourced from premises such as restaurants, dentists, butchers, take-away bars, bakeries and automotive dealers. The largest contributors of trade waste in the region include premises such as laundries, car rentals (that include valet services), septic tank collection services and restaurants that operate for more than 10 hours a day for seven days of the week.

Prohibited trade wastes such as toxic chemicals and compounds, landfill leachate, petroleum products, heavy metals, latex, emulsifiers, paints and paint products also have the potential to enter the wastewater network.

Trade waste is regulated differently to domestic wastewater. Compared to domestic wastewater, trade waste may contain higher concentrations of substances which could harm people's health or the environment, corrode and/or block wastewater pipes and other wastewater facilities, create odours or place extra demands on the district's wastewater treatment plants and result in non-compliance of the council's discharge consents.

The Council provides a reticulated wastewater service to approximately 21 660 residential properties in the district and approximately 2893 non-residential properties. An average volume of 14 521 m^3 of wastewater is produced in the district daily. The wastewater travels through the wastewater network via approximately 551 km of wastewater pipe and requires 65 pump stations to move the wastewater to seven wastewater treatment plants. More information about the district's wastewater network is outlined in Appendix D of the Cover Report.

3. THE BYLAW

The purpose of the Bylaw is to:

- protect the water quality within the district's rivers and lakes.

- give effect to Queenstown Lakes District Council's obligations under National Environmental Standards and Regional Plan rules, and achieve compliance with the resource consents that apply within the Queenstown Lakes District.
- protect the health, safety and wellbeing of people within the district.
- ensure that the council can meet its obligations under the Resource Management Act 1991 and the Local Government Act 2002.
- protect the wastewater network (including the treatment plant) from substances that have a detrimental effect on its operation and asset life.
- optimise the capacity of wastewater infrastructure and treatment assets.
- ensure compliance with resource consent conditions.
- provide a basis for monitoring discharges from industry and trade premises.
- encourage waste minimisation, cleaner production and encourage water conservation.

These purposes are consistent with the objectives in the New Zealand Model General Bylaws NZS9201: Part 23:2004 (referred to below).

Parts 3 and 4 of the Bylaw outline how the council will consider applications for consent and the conditions that may be imposed on the consent holder, especially for “conditional” trade waste discharges.

3.1 The Importance of Protecting the Wastewater Infrastructure

Due to the characteristics of trade waste discharges, the network as well as the performance of the wastewater treatment plant can be placed at risk if the discharges are not properly regulated. All five wastewater treatment plants in the district rely on biological treatment processes, i.e. microbes to break down waste products. Once these waste products have been broken down they will be safe to discharge to the receiving environment.

A biological wastewater treatment plant is designed to treat domestic waste, i.e. toilet paper, bathroom and kitchen waste that is readily biodegradable. However, it is vulnerable to trade waste discharge characteristics that exceed modelled parameters.

Trade waste contaminants can have a detrimental effect on the microbial population of the plants resulting in effluent discharge from the treatment plants that does not comply with resource consent conditions, designed to protect the receiving environment. Once these microbes have been affected by toxic contaminants they may take several weeks to regain organic strength, i.e. Biological Oxygen Demand (BOD) and be able to treat wastewater to an acceptable level again.

Trade waste discharges that exceed the limits for BOD and fats oil and grease (FOG) may also have the following effect on the wastewater network:

- block wastewater pipes
- damage pumps
- cause odours and accelerated corrosion of the wastewater network
- overload treatment plants
- costlier to treat than domestic wastewater.

A key reason that the Bylaw was adopted by the council was to protect this key infrastructure network from abuse and mitigate the discharge of non-compliant effluent to the receiving environment.

To meet the objectives trade premises are required to be consented and comply with the minimum standards as set out in the Bylaw. Table 1 outlines the trade waste categories managed in the Bylaw.

Permitted trade waste	Conditional trade waste	Prohibited trade waste
Trade waste discharge that complies with the characteristics set out in Schedule 1A of the bylaw	Trade waste discharge that is likely to have no prohibited characteristics but exceed any one or more of the characteristics as set out in Schedule 1A of the bylaw	Trade waste discharge with characteristics set out in Schedule 1B of the bylaw

Table 1: Trade waste categories

Permitted	Conditional	Prohibited
• Must meet the discharge limits as set out in Schedule 1A of the bylaw • Must have no prohibited characteristics • Discharge limit may not exceed 2m³ per day • Flow rate may not exceed 2.0L per second • Trade premise contenting is required • Trade waste management plan is required • Trade waste consent conditions are based on a risk assessment • Trade Waste discharges are monitored for compliance • Non-compliances are actively managed • Continuous improvements and education required	• Exceeds the discharge limits that are set out in Schedule 1A but not Schedule 1B of the bylaw • Must have no prohibited characteristics • Discharge limit exceeds 2m³ per day • Flow rate exceeds 2.0L per second • Trade waste consent is required • Trade waste management plan is required • Trade waste consent conditions are based on a risk assessment • Trade waste discharges are monitored for compliance • Non-compliances are actively managed • Continuous improvements and education required	• Trade waste with prohibited characteristics, i.e. exceeds the limits of Schedule 1B of the bylaw, i.e. characteristics that interfere with the free flow of wastewater, a risk to the health and safety of any person or the environment, genetic waste, flammable explosives or radioactive

Table 2: Lays out the criteria for the three trade waste categories controlled in the bylaw.

Further analysis of the trade premise types, their risks to the wastewater network and pre-treatment conditions that support the Bylaw compliance are presented in Table 3 below.

Type of business activity	Risk to the wastewater network	Pre-treatment required
Food premises	• Fats, oil and grease can clog the sewer network • Risk to the WWTP – toxic waste and waste with a high nutrient load is more difficult to treat and requires additional aeration • Emerging contaminants in cleaning chemicals pose a risk to the receiving environment and biosolids • Premises that operate for more than 10 hours/day are likely to exceed the allocated amount of water as allowed under a permitted consent	• Grease trap • Sink screens
Dentists	• Amalgam from fillings contaminate the biosolids and should be recycled	• Amalgam Trap
Hairdressers	• Hair can tangle around pumps in the pump station and assist in causing sewer blockages that can lead to sewer overflows	• Sink screens
Medical Facilities	• Risk to the WWTP – toxic waste is more difficult to treat and requires additional aeration • Emerging contaminants in cleaning chemicals pose a risk to the receiving environment and biosolids	• Sink screens and plaster arrestors
Car Rentals	• Hydrocarbons/grit • High water users (> $2m^3$/day) – causes capacity issues in the network • Emerging contaminants in cleaning chemical pose a risk to the receiving environment and contaminate the biosolids • Solvents and used oil pose a risk to the network if not stored correctly and requires to be collected for recycling purposes	• Oil/grit Interceptor
Automotive /Mechanical	• Hydrocarbons, oil and other solvents • Solvents and used oil pose a risk to the network if not stored correctly and requires to be collected for recycling purposes	• Oil / water interceptors
Laundries	• High water users (> $2m^3$/day) – causes capacity issues in the network • Emerging contaminants, i.e. surfactants in washing powder pose a risk to the receiving environment and contaminate the biosolids	• Lint screens
Septic Tank Waste	• Toxic waste can have a detrimental impact on the microbes that break down the waste in the wastewater treatment plant.	No pre-treatment required? Private device management?

Table 3 Tabulated risks that various industries have on the wastewater network and biosolids.

Since the Bylaw came into force on 30 July 2015 the Bylaw has been implemented through:

- Education one on one
- Development of educational material
- A trade waste management system has been developed (to enter applications only).

4. LEGISLATIVE FRAMEWORK

Section 146(a) (iii) of the LGA gives the council the power to make bylaws for the regulation of trade waste. Section 148 sets out the requirements for bylaws relating to trade waste. Of note, a trade waste bylaw has a two-month minimum period for engagement with trade waste operators, the Minister of Health, and other persons specifically affected by the bylaw.

The Resource Management Act 1991 and associated regulations, including the National Policy Statement for Freshwater Management 2017 (NPS-FM) and the proposed strengthened version currently being considered by the government point to increasingly stringent water quality standards. The Otago Regional Water Plan sets discharge thresholds for discharges of contaminants into water.

The NZS 9201.23:2004 Model general bylaw - Trade waste provides a model for local authorities to use as the basis of a bylaw to regulate trade waste.

Other legislation and policy frameworks are summarised in Appendix C of the Cover Report.

5. METHODS

To determine whether a bylaw remains the most appropriate way of dealing with trade waste problems, staff undertook the following:

- ***Key stakeholders - Workshops and drop-in sessions:*** Key internal staff, external stakeholders including council contractors and waste management operators in the district attended workshops. The community, Ngāi Tahu, the regional council and various NGO's throughout the district were invited to attend drop-in sessions in both Wanaka and Queenstown.
- ***Analysis of trade waste customer information***: A combination of data was analysed and cross-referenced to gain a picture of trade waste discharges in the district, including survey data from 2018, cleanout schedules, i.e. maintenance of onsite pre-treatment systems, received from waste management contractors in the district and the Environmental Health Unit's database.
- ***Research****:* Research relevant to national and International regulatory approaches, industry standards, best practise guidelines and key trade waste management approaches in New Zealand and globally.
- ***Advice****:* Input from the council's legal experts, Meredith Connell, and Stantec, the council's technical review consultants.

Key Questions

The statutory review process is laid out in ss 148, 155-157 and 160 of the LGA. This review addresses the following key questions.

1. Do the problems the Bylaw sets out to address still exist?

2. Has there been any change in the nature and scale of the problem the Bylaw was intended to address?
3. Has the implementation been effective and efficient?
4. Is the Bylaw still the most appropriate way to protect the public wastewater system, people and the environment and encourage waste minimisation?

To assist with answering these key questions stakeholder feedback was sought and research undertaken.

6. THE PERCEIVED PROBLEMS WITH TRADE WASTE MANAGEMENT

6.1 Do the Problems Still Exist?

Non-compliant trade waste discharges do occasionally occur - The Bylaw sets out the requirements for the quality of trade waste discharges. However, non-compliance with the Bylaw is likely to occur due to a variety of reasons, such as:

- Insufficient pre-treatment of trade waste before discharge to the network, i.e. increases in discharges outgrow the existing pre-treatment system.
- Staff not following standard operating procedures resulting in equipment failure and unauthorised spills.
- Operational process failures.
- Insufficient maintenance and servicing of pre-treatment systems.
- Depletion of pre-treatment chemicals, i.e. enzymes
- A lack of control over fats, oil and grease discharged from some food premises, aimed at those premises that are not on a regular grease trap cleaning schedule.
- A change of ownership of businesses leading to a breakdown in good waste discharge practices.
- Concrete grease traps or passive traps that have been installed a long time ago are now corroding away to the point that the rebar's are visible. This is a huge risk to the network as concrete breaking away from the trap could cause a blockage downstream.
- Insufficient staff training
- Accidents.

6.2 Business activities and contaminants that pose a risk to our sewer network and the receiving environment

Business activities and trade premises that pose a risk to our sewer network - The largest and most concerning contributors of trade waste in the district are food premises, laundries, car rentals, automotive/mechanical services, and septic tank septage (sludge) collection services, and producers of wastewater, i.e. landfill leachate[1].

[1] The assumption was made on data sourced from – the Trade Waste survey 2018, clean-out schedules, water use data – by activity (from other Councils) and information sourced from the council database

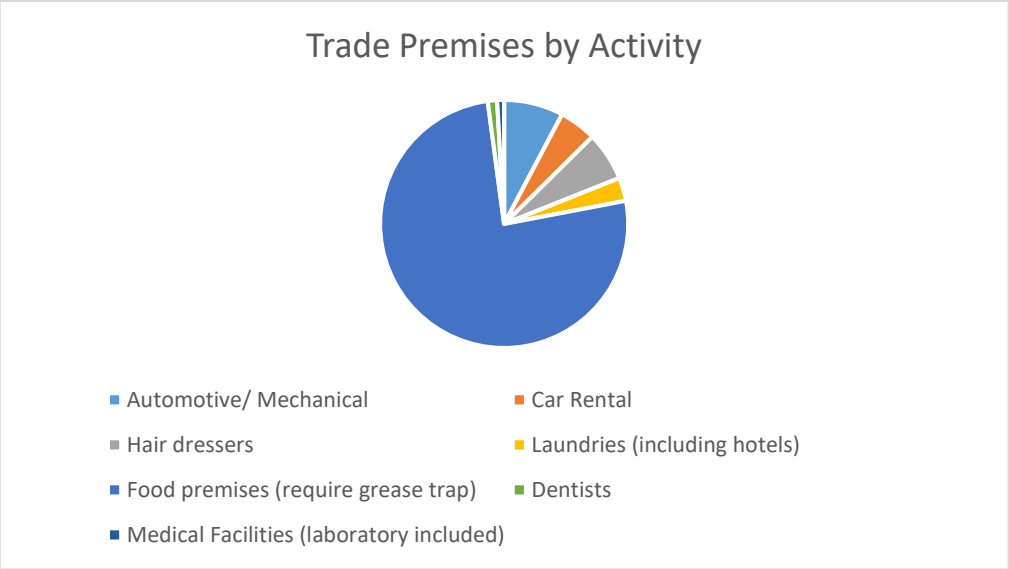


Figure 1: Different trade activities that pose a risk to the wastewater network[1].

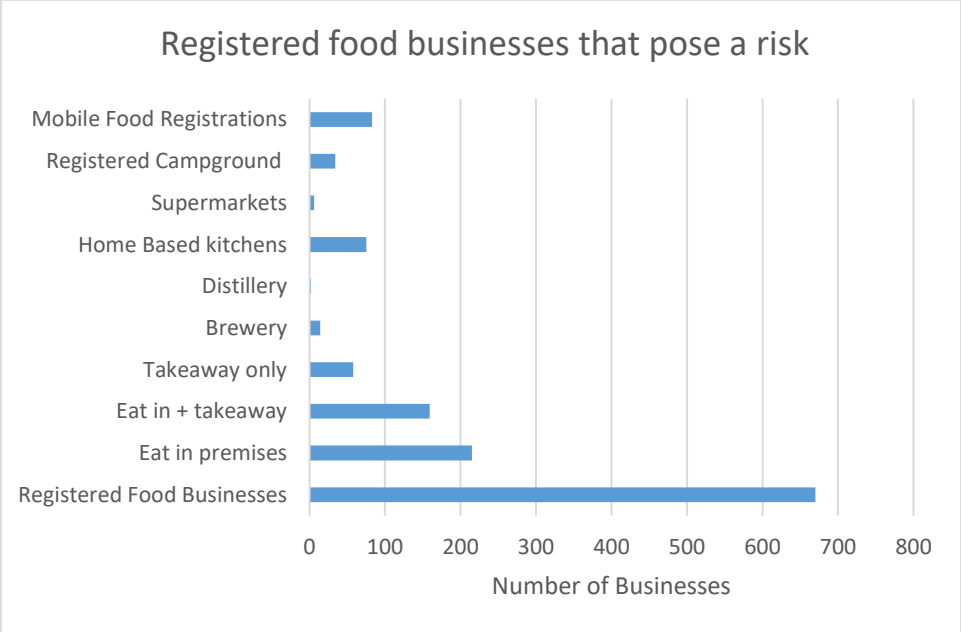


Figure 2: List of different types of registered food businesses that pose a risk to the wastewater network[1].

Figures 1 and 2 illustrate that the food service industry is the biggest industry in our district followed by the automotive industry.

Used car oil and solvents relative to the automotive and mechanical workshops are difficult waste steams to monitor and consist of the following:

- Glycol
- Contaminated fuels
- Contaminated rags

- Aerosol cans
- Oil filters
- Brake pads + fluid
- Parts washer solvents and aqueous waste.

Properties with on-site wastewater systems (e.g. septic tanks) rely on companies to transport waste to wastewater treatment plants by truck. Figure 3 shows seasonal fluctuations. These are due to the events schedule in the district. Portaloo waste is a large contributor of waste to the wastewater treatment plant in the summer season.

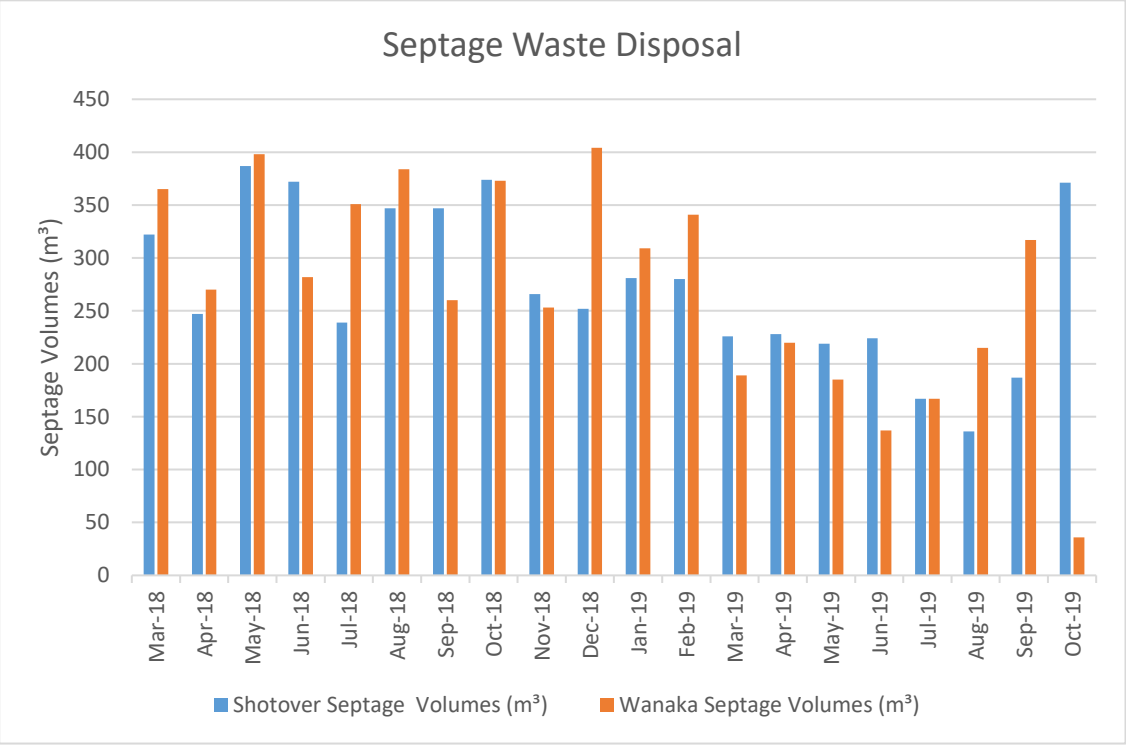


Figure 3: Septic tank discharges to the Shotover and Project Pure wastewater treatment plants[1].

The bylaw put in place controls aimed at septic tank waste discharges to the network to minimise the potential impact of these discharges on plant performance. However, the need for vigilance in preventing toxic shocks on the wastewater treatment processes is vital and ongoing.

Trade waste operators without a fixed premises- Industry stakeholders raised concerns during stakeholder engagement in relation to some dischargers not meeting their obligations including:

- mobile businesses that move from site to site and potentially dispose of waste via the stormwater network, toilets and gulley traps in an uncontrolled manner.
- building waste, i.e. polystyrene and blocks of wood causing sewer overflows.

Further, a number of emergent issues have arisen that the Bylaw in its current form is ineffective at addressing, such as:

Hazardous waste disposal - A waste management company that operates an oil recovery service in the district collects a significant volume of used car oil per month from a number of trade premises in the district[2].

This same waste management company provided a Haz mobile operation in the area up until about two years ago where they report having collected around 4 to 5 tonnes of hazardous industrial and household waste annually. About two years ago the company began collecting waste from centralised transfer stations instead. To date the company has made one collection of hazardous substances in Wanaka and Queenstown.

Approximately 350kg was collected from Queenstown and 650kg from Wanaka. Based on these low numbers, it can be assumed that people are either stockpiling waste or are disposing of it illegally. The current bylaw sets out the basic requirements for storing hazardous substances on-site but does not stipulate the need to track this waste. Amendments to the bylaw need to address these issues, i.e. tracking hazardous waste produced in the district to ensure appropriate recycling and/or disposal procedures are followed.

Emerging Organic Contaminants - While water quality investigations usually focus on nutrients, bacteria, heavy metals and priority contaminants (compounds with known health effects), recent research has identified the occurrence of many organic contaminants in wastewater that have impacted urban surface waters. These organic compounds are collectively referred to as Emerging Organic Contaminants (EOC's) and include compound classes, i.e. human and veterinary pharmaceuticals, hormones, antibiotics, surfactants, endocrine disruptors, x-ray contrast media, pesticides and metabolites, disinfectant by-products and taste-and-odour compounds.

EOCs originate from products that that are used in relatively small amounts. However, as they are used by many differ individuals/businesses on multiple occasions, the cumulative amount released into the environment becomes significant.

EOCs are present in recently developed industrial compounds that have been newly introduced to the environment and other compounds that are commonly used, but their harmful eco-toxicological effects have only recently been determined. The toxic significance of these EOC's are difficult to assess and their accepted concentrations in drinking water and discharge limits for wastewater effluent have not yet been determined[3].

A recent paper by the Department of Internal Affairs[4] has proposed that the current national water policy review set policy for EOC and related contaminants.

Besides discharges from chemical industries, the main source of EOCs released to the environment is from wastewater treatment plant effluents. A wide variety of EOCs are collected in the wastewater steam but not fully degraded and /or removed from the waste steam by traditional primary and secondary wastewater treatment systems. Biosolids and effluent from municipal wastewater treatment plants have been identified as the major source

[2] Actual volumes have not been reported due to commercial sensitivity.

[3] 1 Pal, A., He, Y., Jekel, M., Reinhard, M., Yew-Hoong Gin, K. (2014). Emerging contaminants of public health significance as water quality indicator compounds in the urban water cycle. Environment International (71), 46-62

[4] Department of Internal Affairs, Regulatory Impact Assessment, Strengthening the regulation of drinking water, wastewater and stormwater, 15 July 2019

of EOCs into the environment, particularly (PPCPs) pharmaceuticals and personal care products and endocrine disrupting chemicals (EDCs)[5].

The discharge characteristics of the parameters listed must be aligned with our wastewater treatment process to ensure the quality of our discharge to the receiving environment has minimal impact on public health and the receiving environment.

Although the current bylaw defines and encourages cleaner production it has not been included in the purpose of the bylaw. To ensure greater uptake and truly encourage cleaner production the amended bylaw needs to include cleaner production within the purpose of the bylaw.

Cleaning products - The Trade Waste Officer has determined that the risk posed by discharge of large amounts of chemical cleaning products in the district is a growing concern.

To encourage cleaner production within the various business activities of our region we need to promote the use of products that are environmentally preferable, i.e. cleaning products that are readily biodegradable and have been certified through environmental choice or similar.

6.3 Has There Been a Change in the Nature and Scale of the Problems?

The scale of trade waste discharges has changed significantly since the introduction of the Bylaw. The number of trading businesses in the region has grown significantly over the past five years. The growth rate in the area is the fastest in the country with the population growing 7.1% from 2015 to 2016 in a 12-month period. Most jobs in Queenstown are tourism- or accommodation-related. Employment growth was also the highest of any area in New Zealand at 10.3 per cent in the March 2016.

Trade waste discharges from certain sectors have changed significantly. The food and beverage service business sector has increased by 75 per cent over the past five years. This could be partly due to the reform of the Food Act 2014.

Automotive/mechanical services as well as car rental services have also increased in the district. Car rental services tend to grow parallel to the tourism industry in the region.

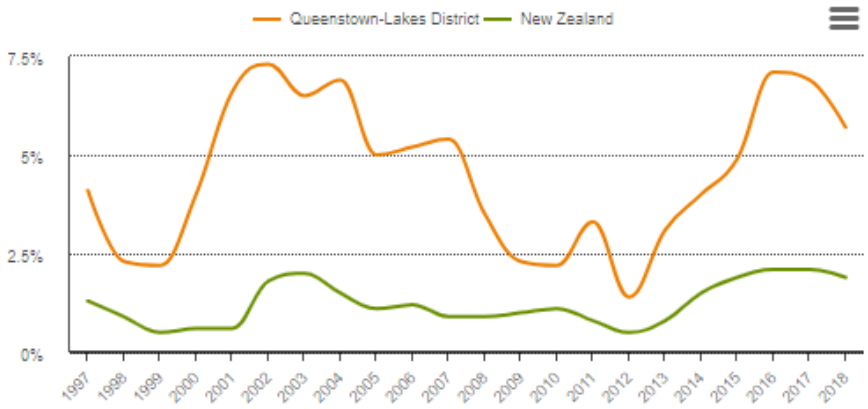


Figure 4 showing population growth in Queenstown since the bylaw was adopted in 2014[6]

[5] Tremblay, L., Northcott, G. (2015) Risk assessment of Emerging Contaminants in the Auckland Region.
[6] Sourced from:https://ecoprofile.infometrics.co.nz/QueenstownLakes%20District/Population/Growth

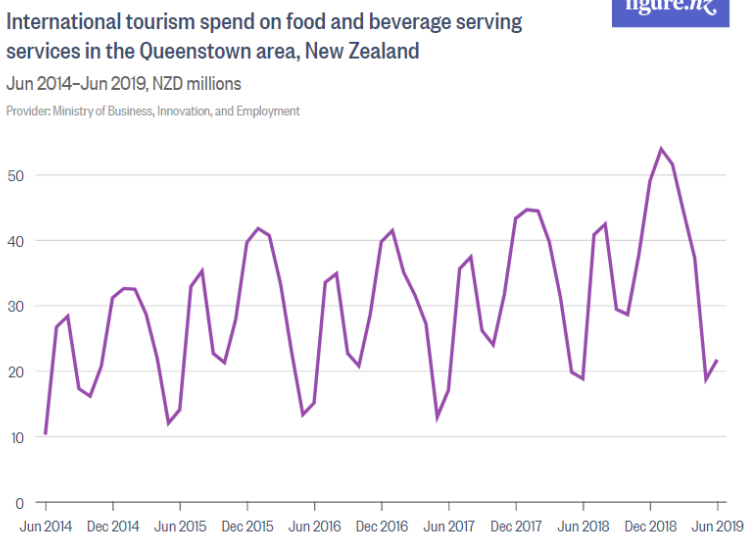


Figure 5 showing an upward trend of International tourism spending relative to the food and beverage industry in Queenstown.[7]

A change that will impact the nature and possibly scale of trade waste discharges is the implementation of water metering of trade premises in the district.

An unintended consequence of water metering is that it tends to concentrate contaminants (the direct consequence of water metering results in a decrease in consumption) i.e. the same amount of contaminants discharged in less water. This in turn can make the wastewater more difficult to treat and more difficult for water authorities to meet their environmental discharge consent obligations. The concentration of pollutants is a trend that has been noted by Sydney Water and in Australia (Water Services Association of Australia, 2012).

For a permitted activity to comply with the Bylaw, less than 2m³ of water a day would need to be used. This water use limit of 2m³ is one of the lowest in New Zealand and it has been found that most other councils have a limit of 5m³ (Auckland Council has a limit of 10m³). The reason for the low limit is to prevent network capacity issues, such as to minimising the risk of blockages.

To determine the estimated amount of water used by different trading activities, the council looked at water metering data from different councils around the country to understand how much water is used by various trading activities. The research determined that laundries, car wash facilities (including car rentals with a wash bay) and those food premises that operate for greater than 10hrs a day would exceed the allocated amount of 2m³ a day.

Installing water meters at all trade premises would allow for all trade premises to be consented which will further improve the quantity of discharges to the wastewater network. However, due to the presence of algae in the lake water, metering in the district might not be an option in the near future (presently algae in the lakes have been responsible for blocking existing water meters in the district).

External contractors and waste management contactors mentioned that they would like to see the council report quarterly or annually on trade waste discharges as well as benchmark the effects such discharges have on the wastewater network.

[7] Sourced from: https://figure.nz/chart/ILFPXEpzJc6tN7xx-1dNETwSLSjTda9jr

6.4 Is a bylaw Still the Most Appropriate Way to Address the Perceived Problem?

Stakeholders consider that a bylaw continues to be the most appropriate way to protect the Council's wastewater network, public health and safety, and the environment from the harmful effects of wastewater discharges. They also consider that it will help to prevent harm by encouraging waste minimisation.

Council network contractors and septic tank operators that clean out the grease traps consider that a bylaw is the most appropriate way to control trade waste discharges. The educational phase of implementation has worked well with contractors reporting that the build-up of fat in the network, especially where there is a high density of food premises, has decreased dramatically.

The Trade Waste Officer considers that a bylaw facilitates the regulation of trade waste and that it would be a lot more difficult to manage without a legal instrument that forces trade waste dischargers to comply with a minimum standard.

Internal stakeholders responsible for the efficient and effective operation of the wastewater network and for meeting environmental discharge consents are concerned about the risk trade waste discharges pose to the wastewater network operations and believe a bylaw is an important instrument required to regulate and control trade waste dischargers in the district.

6.5 Has Implementation Been Effective and Efficient?

Stakeholders consider that the educational phase of the Bylaw has worked well and been effective in controlling the amount of fats, oils and grease entering the wastewater network. CCTV footage has provided evidence of this. Approximately 224m^3 of grease trap waste has been removed from the district in the past 12 months.

The discharge limits provided for in the Bylaw have reduced the potential impact of trade waste discharges, i.e. fats, oil and grease and other wastes on the wastewater network and the receiving environment to which the treated wastewater is discharged.

Since the appointment of the Trade Waste Officer in May 2016 the implementation of the Bylaw has moved through the following stages of implementation.

- Education one on one.
- Development of educational material.
- Trade waste online application system operational.
- Trade waste management system developed (to enter applications only) and operational.
- Customers have not been categorized as permitted or conditional due to the lack of water metering in the district.
- Fees and charges have not been set due to:
  - the delay in installing water meters and;
  -due to the commissioning of the Shotover Wastewater Treatment Plant in February 2017. The requirement was that the plant should operate for at least 12 to 18 months before setting the trade waste charges.

Implementation challenges - The Bylaw requires all businesses to apply for a trade waste consent. However, to determine whether a trade waste discharge is permitted or conditional the council needs to install water meters. The absence of water metering in the district (due to algae issues) has prevented the council consenting any trade premises in the district under the current Bylaw.

Trade waste management plan- The Bylaw requires consented businesses to have a trade waste management plan (a type of environmental management system) in place and monitor and report on their discharge quality. To ensure businesses play their role in preventing further degradation to the environment it is important that they consider all aspects relating to the quality and quantity of their discharges, i.e. adopting cleaner production practices, water stewardship and waste minimisation. Trade waste management plans and associated guidance documents provide a low-cost opportunity for businesses to do this. As there are currently no consented businesses, there are currently no trade waste management plans.

Environmental Management Systems - "the organised effort of all functions in an industrial enterprise that has the main objective of enabling the enterprise to comply fully with all existing governmental regulations concerning the environment, and of enabling the infrastructure to adapt quickly to stricter environmental regulations through continuous efforts towards improvement…." Huxell (1993)

6.6 Recommended changes to the Bylaw

The Bylaw requires all trading premises to apply for a consent and in doing so all trading premises in the district are given the opportunity of understanding the wastewater network and the important function it has in protecting both public health and the environment. This is considered by stakeholders to be a positive element of the Bylaw.

Internal and external stakeholders have suggested some improvements to the Bylaw. The improvements are consistent with the objectives of the Bylaw. They include:

- applying consent conditions to individual trading premises, especially for conditional trade wastes - should be based on risk rather than a "one fits all approach". Those that pose a higher risk to the network should be doing more to prevent contaminants entering the network. The classification of industry by risk is a logical way of mitigating risk to the wastewater network, public health and the receiving environment in the absence of district-wide meterage.
- the Bylaw should be presented using less technical terms so that it is easier for a greater number of people to understand.
- fully implementing the Bylaw will further improve the quality of wastewater discharging to the network.
- review the current trade waste permitted and prohibited discharge parameters to ensure they align with current legislation and promote cleaner production.
- ensure all waste streams are accounted for and pre-treatment systems are maintained accordingly (for example grease trap waste and other hazardous wastes relevant to the automotive industries) a waste tracking system other than Waste Track should be investigated.
- Expand the scope of the Bylaw to regulate more businesses that are likely to be engaging in risky activities, this can be done by adding a new category similar to that shown in Tables 4 (status quo) and 5.

Permitted trade waste	Conditional trade waste	Prohibited trade waste
Trade waste discharge that complies with the characteristics set out in Schedule 1A of the Bylaw	Trade waste discharge that is likely to have no prohibited characteristics but exceed any one or more of the characteristics as set out in Schedule 1A of the Bylaw	Trade waste discharge with characteristics set out in Schedule 1B of the Bylaw

Table 4: Trade waste categories – current bylaw

- To capture and consent mobile food trucks and catering businesses that operate from a home-based kitchen consideration should be given to adjusting the trade waste discharge categories to accommodate these business types. Table 5 below illustrates how the Bylaw could be amended to capture the mobile food trucks and home based catering businesses.

Permitted trade waste	Controlled	Conditional trade waste	Prohibited trade waste
Trade waste discharge that complies with the Characteristics set out in Schedule 1A of the Bylaw. *Would apply to catering businesses that work from their home kitchen and mobile food trucks*	Requires a pre-treatment system. Trade waste discharge that complies with the characteristics set out in Schedule 1A of the Bylaw. *Would apply to all restaurants and businesses that require a pre-treatment system to comply with the limits set out in 1A of the Bylaw schedule.*	If required a pre-treatment system must be installed. Trade waste discharge that is likely to have no prohibited characteristics but exceed any one or more of the characteristics as set out in Schedule 1A of the Bylaw. *Would apply to all businesses that may require a pre-treatment system, i.e. an oil/grit interceptor (a car wash facility) and also will exceed the limits in Schedule 1A of the Bylaw.*	Trade waste discharge with characteristics set out in Schedule 1B of the Bylaw

Table 5: Trade waste categories - revised bylaw

Under this example, a home-based kitchen would be classified as a permitted activity. However, should they be responsible for a blockage they would be reclassified as controlled, requiring them to install a grease trap. These new categories will incentivise trade premises to comply with the discharge limits as set out in the new bylaw.

Trade waste consents versus trade waste agreements - Approval to discharge trade waste is normally in the form of a consent, agreement or permit that specifies conditions that must be met, including the requirement to provide management plans relating to trade waste discharges.

Councils often have consent requirements as the default position and agreements are used to allow more flexibility in dealing with non-standard situations. For example, a large water user may make financial contributions to the wastewater network rather that investing in a water recycling system and their trade waste discharges is then covered by a trade waste

agreement rather than a consent.

7. OPTIONS FOR ACHIEVING OBJECTIVES

This report identifies the following reasonably practicable options for achieving council's trade waste objectives and assesses the options in terms of their advantages and disadvantages as required by s 77 of the LGA:

A: Revoke the bylaw and manage using existing legislation and education initiatives
Increasing awareness to change behaviour using a programme of educational outreach, industry guidelines and targeted programmes to improve outcomes. This option removes the council's ability to regulate and manage the use and protection of the wastewater network.

B: Update the Bylaw in isolation
This option would review the Bylaw and incorporate the recommendations identified above. This option would improve the efficacy of the Bylaw and address trade waste related problems faced by the district, but would not achieve the integration outcomes sought from the proposed *Integrated Three Waters Bylaw* and *Administration Manual.*

C: Updated and Integrated bylaw

The Bylaw would be amended to incorporate the recommendations in this report and be incorporated as part of the *Integrated Three Waters Bylaw* and *Administration Manual.* This option addresses the trade waste specific problems identified above while also allowing the council to develop bylaws that address the full range of inter-related activities and issues in an integrated manner. The cover report outlines the reasons and advantages of implementing an *Integrated Three Waters Bylaw* and supporting this by an *Administrative Manual* as an efficient ongoing management approach.

7.1 Are There Any Implications Under the New Zealand Bill of Rights Act 1990?

In broad terms there is nothing about having a trade waste bylaw that raises concerns in this regard. However an evaluation of consistency can only be made properly once the specific provisions of the bylaw are proposed.

8. RECOMMENDATIONS

Staff recommend that the council's trade waste network continue to be regulated by a bylaw. It is recommended that the Bylaw be incorporated into the new Integrated Three Waters Bylaw, with the following amendments:

- Adjust the current trade waste discharge parameters to ensure they align with current resource consents and promote cleaner production.
- Produce a set of guidelines and/or controls (as appropriate) that will incentivise and support industry to source products that are environmentally preferable or readily biodegradable and enhance the performance of the wastewater network.

- Investigate a waste tracking system to assist with pre-treatment cleaning schedules and to ensure waste streams are dealt with appropriately.
- Develop controls for the use of trade waste agreements instead of trade waste consents for those industries that financially contribute to the wastewater network rather that investing in a water recycling system, i.e. high water users.
- Amend the Bylaw to ensure all trade premises are captured to ensure a fair and comprehensive management approach, this will include amending the categories and schedules of the Bylaw to capture all trading premises (as defined in the bylaw).
- Staff develop a plan to report on trade waste discharges relevant to compliance requirements as well as benchmarking the quality of wastewater entering the wastewater network.

Appendix 7

WATER SUPPLY BYLAW 2015

2020 REVIEW

FINDINGS REPORT

QUEENSTOWN LAKES DISTRICT COUNCIL

QUEENSTOWN LAKES DISTRICT COUNCIL

CONTENTS

1. SUMMARY OF KEY FINDINGS

The Queenstown Lakes District Council Water Supply Bylaw 2015 (**Bylaw**) has served the council well to date. In accordance with the Local Government Act 2002 (**LGA**) a review is required within 10 years (by 2025). However, for a number of reasons it is timely to review the Bylaw.

Consistent with council's proposal to implement an *Integrated Three Waters Bylaw*, it is appropriate that the Bylaw be reviewed at this time and not left until 2025.

The findings as included in this report are that a bylaw is still the most appropriate way to address perceived (and actual) problems and provide safe drinking water that maintains public health and is compliant with legislation as well as protecting the district's tourism-based economy. These are key matters included in the council's thirty year infrastructure strategy.

The review at this time is further supported by the outcome of council's recent consultation on three waters matters as highlighted in the information included in the cover report relating to the proposed *Integrated Three Waters Bylaw*.

Furthermore, the findings have also highlighted a number of areas where the Bylaw would benefit from upgrading and expansion. These include, but are not limited to:

- New water connections and disconnection
- Water meter issues, i.e. leaks and faults
- Water is off or low pressure issues
- Further address backflow prevention procedures
- Standardise the definitions to improve consistency across the *Three Waters* networks.

The need to update the Bylaw coupled with the proposal for council to implement an *Integrated Three Waters Bylaw* further confirms the appropriateness of updating the Bylaw now. The cover report outlines the advantages of implementing an *Integrated Three Waters Bylaw* and supporting this with an *Administrative Manual* as an efficient ongoing management approach.

2. INTRODUCTION

2.1 Purpose of the Report

This report presents findings on the effectiveness of the Bylaw. The council has a statutory responsibility under LGA to review bylaws no later than five years after they were made, and thereafter no later than 10 years after they were last reviewed.

It is proposed that the reviewed and updated Bylaw will be part of a new *Integrated Three Waters Bylaw*, supported by an *Administration Manual,* that also includes wastewater (which incorporates trade waste) and stormwater.

2.2 Scope

The context sets out the approach taken by the Bylaw and includes the legislative framework in which it operates.

2.3 Background

The council provides a reticulated water supply to approximately 23,617 residential and approximately 2,078 non-residential properties in the district.

Twelve water treatment plants in the district produce an average volume of 32,307 cubic metres of potable water in the district daily. The water supply network consists of approximately 640 km of pipes that require 33 pump stations to move the water through the network.

Resource consents for water take are required for the abstraction of natural water that is used for public supplies. These stipulate the volume of water that can be taken on a daily or weekly basis and a maximum rate of extraction (litres per second). Council currently has approximately 34 water take consents that are issued by the Otago Regional Council.

The Queenstown Lakes District Council Infrastructure Strategy 2015-2045 states *"Providing safe drinking water is important to maintaining public health and compliance with legislation, as well as protecting the district's tourism-based economy."*

3. The Bylaw

The Bylaw came into force on 1 December 2015 when the previous bylaw was revoked. It was adopted pursuant to section 146(b) of the LGA for managing, regulating against, or protecting from, damage, misuse, or loss, or for preventing the use of, the land, structures, or infrastructure associated with water supply.

The Bylaw is due for its next review in 2025, however, to incorporate the bylaw into the *Integrated Three Waters Bylaw,* the council has decided to review it before its required review date in 2025.

As recorded above, the council's infrastructure strategy states "Providing safe drinking water is important to maintaining public health and compliance with legislation, as well as protecting the district's tourism-based economy."

The Bylaw is a tool used by the council to meet its infrastructure requirements and to regulate water supply in the district. The current Bylaw was adopted to effectively manage and regulate water supply

in the district and in doing so would support the delivery of the council's infrastructure strategy.

4. Legislative Framework and Policy Alignment

Key legislation and relevant policy considered in this review includes:

Local Government Act 2002: The LGA provides local authorities with flexible powers to set, assess, and collect rates to fund local government activities. This Act also sets out the requirements for managing water supply.

Health Act 1956: The Health Act 1956 seeks to improve and protect public health and ensure all proper steps are taken to secure the abatement of any nuisance or removal of any conditions likely to be injurious to health or offensive.

Drinking-water Standards for New Zealand 2005 (revised 2018): The Drinking-water Standards provide requirements for drinking-water safety. Under the Health Act, the council must take all practicable steps to ensure an adequate supply of drinking water and ensure that drinking water complies with the Drinking Water Standards.

SNZ/PAS 4509:20083 Fire Fighting Water Supplies Code of Practice: This code of practice sets out what constitutes a sufficient minimum supply of water pressure and volume for firefighting in structures in urban fire districts.

WaterNZ Backflow Code of Practice: The main purpose of the Backflow Prevention for Drinking Water Suppliers Code of Practice is to protect the public and common water mains from contamination from backflow. Clause G12 of the NZ Building Code covers internal protection to protect people inside the building, while the Code of Practice covers boundary protection to protect the potable supply, which is a public health issue.

WaterNZ Water Meter Code of Practice: The Water Meter Code of Practice is intended to prescribe good practice for the supply, use and operation of water meters. It refers specifically to the delivery of potable water to residential, commercial and industrial customers.

2018 QLDC Land Development and Subdivision Code of Practice: *The Code of Practice* ensures that land development and subdivision infrastructure is designed and constructed utilising best practice.

The Ministry for the Environment's Essential Freshwater Programme: As part of its Freshwater work programme the Government is proposing amendments to the Resource Management Act, an updated National Policy Statement for Freshwater Management, an updated National Environmental Standard for Sources of Human Drinking Water, and new National Environmental Standards for Freshwater and Wastewater. Final decisions on the National Policy Statement for Freshwater Management and National Environmental Standards for Freshwater are expected in early 2020.

NZS 920/7: 2007 Model general bylaws – water supply: The model bylaw provides a model for local authorities to use as the basis of a bylaw to regulate and control water supply.

A full list of the legislative and policy drivers that have informed this review are attached as Appendix C to the Cover Report.

5. METHOD

The following methodology was used to support the outcome of this findings report.

Key stakeholders - Workshops and drop-in sessions:

- Key internal and external stakeholders were identified, being :

  - Internal Stakeholders: Councillors, QLDC Infrastructure Committee, Wanaka Community Board, QLDC Three Waters Integrated Governance Group and the following departments within QLDC – Property and Infrastructure, Regulator, RM Engineering, Building consents, Planning and Consenting.

  - External Stakeholders: Otago Regional Council, Iwi, Council Contractors (Downer, Veolia and Fulton Hogan), Local Septic Tank Services, public Health South, Environmental Groups, Community Associations, Wanaka and Queenstown Airport, Hospitality Associations, Motor Trade Associations as well as residents and ratepayers.

- Council contractors responsible for the district's water supply network were consulted and asked to provide feedback.

- The community, Ngāi Tahu, the regional council and various NGO's throughout the district were invited to attend drop-in sessions in both Wanaka and Queenstown.

Internal staff members who work closely with the Bylaw were asked to provide feedback.

Advice: Input from Meredith Connell, the council's legal experts, and Stantec, the council's technical review consultants was obtained.

Records of service requests and complaints received from the public were reviewed.

Key Questions

The statutory review process is laid out in ss 155-157 and 160 of the LGA. This review addresses the following key questions.

1. Do the problems the bylaw sets out to address still exist?
2. Are there any new problems that need to be addressed in this review?

These key questions were used to frame activities with stakeholders and to analyse available evidence.

6. THE PERCEIVED PROBLEMS ASSOCIATED WITH WATER SUPPLY MANAGEMENT

6.1 Protection of the Council's Water Supply Infrastructure

The council received the following 2,200 service requests over the last 12 months for problems relating to water supply.

Issue	Number of requests in the past 12 months
Water meter issues, i.e. leaks and faults	274
Water is off or low pressure issues	360
Water leaks from the water supply network (includes water leaks on private property)	1566

One of the biggest problems with water leaks is the amount of water that is wasted. Not only is this an unnecessary waste, but represents a huge economic loss due to the energy required to extract and supply water. Water flowing from leaks within our water supply network is of drinking water quality. Every drop has been on a great journey from its water source through a treatment plant, reservoirs and pipes, making it a precious resource that must not be wasted.

Water leaks can also lead to serious damage of a property and even a neighbour's property.

In the current bylaw, it is an offence if:

- A water leak is not repaired or
- Water is wilfully allowed to run to waste

Council officers are able to use this legislation to force property owners to fix a leak on their property. However, in most instances, there is a significant delay in repairing the leak, allowing water to run to waste. The new integrated bylaw will give the council an opportunity to address this issue.

Common issues identified as causing these problems include:

- Water is off or low pressure issues are often caused by excessive water take, pipe damage and blockages.
- Inappropriate activities are being conducted in close proximity to infrastructure.

Backflow prevention

One of the biggest risks to the district's water supply is backflow. Backflow is caused when water pressure drops in the water distribution system causing water to flow in the opposite direction from residential or commercial premises back into the public water supply network. Backflow has been identified as a risk in the council water safety plans.

Backflow occurs as a result of:

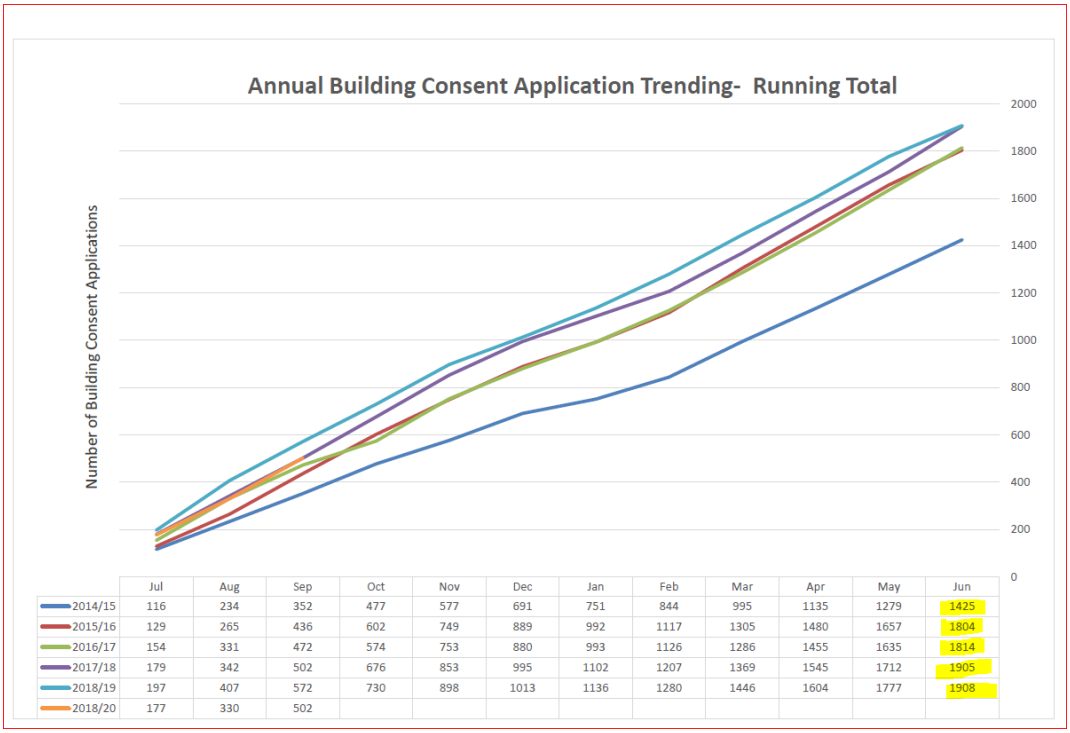
- Back-siphon - this can occur when the pressure drops in the town's mains and water flows from private property into the town's mains. A vacuum is created in the main and the water flows in the reverse direction. Large volumes of water being drawn for fire protection; during a water main or plumbing system break; or during a shut-down of a water main or plumbing system for repair are examples of ways this can happen.
- Back-pressure - this can occur when the water supply pressure from private premises exceeds the town's mains supply and water is forced into the town's mains. Examples of this include: when a tank is installed at a higher level than the current water supply; or a pump system is pumping at a pressure which is greater than that of the town's mains supply.

Discussions with stakeholders identified that any revision of the Bylaw should include provision for greater use of backflow prevention devices.

6.2 Development and On-going Maintenance of Water Supply Infrastructure

Figure 1 presents the cumulative volume of building consent applications received by the council. Approximately 60 per cent of these applications were for new builds and can be expected to include connections to council services (including water supply).

The growth in building consent applications further highlights the importance of having an effective water supply management approach to ensure the network grows in a sustainable way, consistent with the council's code of practice.



	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
2014/15	116	234	352	477	577	691	751	844	995	1135	1279	1425
2015/16	129	265	436	602	749	889	992	1117	1305	1480	1657	1804
2016/17	154	331	472	574	753	880	993	1126	1286	1455	1635	1814
2017/18	179	342	502	676	853	995	1102	1207	1369	1545	1712	1905
2018/19	197	407	572	730	898	1013	1136	1280	1446	1604	1777	1908
2018/20	177	330	502									

Figure 1: Annual Building Consents issued from 2014 to 2019

According to stakeholders, the key issues with the development and on-going maintenance of the water supply network include the following matters:

- The use of fire hydrants for water supply purposes by various subdivision contractors without written approval from the council and/or without approved backflow prevention.
- The need to standardise definitions consistent with the *Integrated Three Waters Bylaw* approach to reduce confusion and improve consistency.

The following table below outlines the results of an assessment of the perceived and actual problems facing water supply management. An analysis of the strategic context, including outcomes sought and relevant legislative and policy directives is also included where it supports the determination of which approach is the most appropriate.

The overall recommendation is to adopt Option C. The cover report outlining the approach of an *Integrated Three Waters Bylaw*, supported by an *Administrative Manual* further sets out the rationale for this proposal.

Perceived Problem	*Outcomes Sought*	*Legislative and Policy Alignment*	*Options analysis*	*Recommended option/s*	*Reason*	**Considerations about the form a bylaw should take**
1.How can the council ensure protection of the council's water supply infrastructure	- Protect the water supply network from obstructions - Protect buried services from damage - Reduce the incidence of diminished levels of service for the district's water users	**- LGA** – protecting infrastructure from damage, misuse, or loss **- RMA/NPS-FM** - receiving environment and sustainable management **- The Otago Urban Water Quality Strategy** – deliver activities that will achieve the desired water quality outcomes **- Otago Regional Water Plan – Plan change 6A** – stormwater discharge management to protect streams and water bodies **- Urban Water Principles -** designed to mitigate the adverse effects of urban areas on water ecosystems and resources.	- Option A relies on continued use of regulatory tools with limited scope, for example the standard powers in the LGA 1974 and LGA 2002 and RMA enforcement provisions. - Option B would not provide for updates considered appropriate now. This option would also not achieve the integration outcomes sought from the proposed *Integrated Three Waters Bylaw.* - Option C allows the Council to develop bylaws that address the full range of inter-related activities and issues.	Option C	- Stakeholders (including council staff) support retaining with amendments a water supply bylaw. The other options create management issues for matters not regulated by other laws or the district plan, such as: • Activities in the water supply catchment that could compromise the water supply • Spillages and other adverse events • Changes of use that impact the network • Backflow prevention requirements • Below ground excavations near the water supply network	- Backflow prevention controls will need to be consistent with S.152 of the LGA

					The cover report outlines the reasons and advantages of implementing an *Integrated Three Waters Bylaw* and supporting this by an *Administrative Manual* as an efficient ongoing management approach.	
2.How can the council ensure the effective and efficient development and on-going maintenance of water supply infrastructure	- Sustainable growth and enhancement of the water supply network - Water conservation and sustainable management	**- LGA** – cost effective delivery of council services and infrastructure development - Queenstown Lakes District Council Infrastructure Strategy 2015-2045	- Option A relies on continued use of regulatory tools with limited scope, for example the standard powers in the LGA 1974 and LGA 2002 and RMA enforcement provisions. - Option B would not provide for updates considered appropriate now. This option would also not achieve the integration outcomes sought from the proposed *Integrated Three Waters Bylaw.* - Option C allows the Council to	Option C	- Stakeholders (including council staff) support retaining with amendments a water supply bylaw. The other options create management issues for matters not regulated by other laws or the district plan, such as: • Rules about public connections • Water conservation and demand management requirements • Clarifying responsibility for maintenance • Access to the water supply via fire hydrants	- Any controls will need to be proportionate to the problem and where there is not strong evidence of a problem, some controls may be better introduced by enabling clauses in the bylaw once evidence is available.

			develop bylaws that address the full range of inter-related activities and issues.		The cover report outlines the reasons and advantages of implementing an *Integrated Three Waters Bylaw* and supporting this by an *Administrative Manual* as an efficient ongoing management approach.	

6.3 Are There Any Implications Under the New Zealand Bill of Rights Act 1990?

In broad terms there is nothing about having a water bylaw that raises concerns in this regard. However an evaluation of consistency can only be made properly once the specific provisions of the bylaw are proposed.

7. OPTIONS FOR ACHIEVING OBJECTIVES

This report identifies the following reasonably practicable options for achieving council's objectives and assesses the options in terms of their advantages and disadvantages as required by s 77 of the LGA:

A: Revoke the Bylaw and manage using existing legislation and education initiatives
Increasing awareness to change behaviour using a programme of educational outreach, industry guidelines and targeted programmes to improve outcomes.

B: Status Quo
This option would retain the Bylaw and review it again in 2025.

C: Updated and Integrated Bylaw
The Bylaw would be amended to incorporate enhancements identified in this report and be incorporated as part of the *Integrated Three Waters Bylaw*.

D: Update the Bylaw in isolation now

8. RECOMMENDATIONS

Staff recommend that the council's water supply network continue to be regulated by bylaw with the following objectives:

i) To deliver the council's infrastructure strategy providing safe drinking water is important to maintaining public health and compliance with legislation, as well as protecting the district's tourism-based economy and

ii) To effectively manage and regulate water supply in the district.

The form of the bylaw will be developed further in the next phase.

Staff recommend that the Bylaw be incorporated into the new *Integrated Three Waters Bylaw*, with the following amendments:

- New connections and disconnections
- Water meter issue management
- Managing issues that cause water pressure to reduce
- Improve backflow prevention procedures

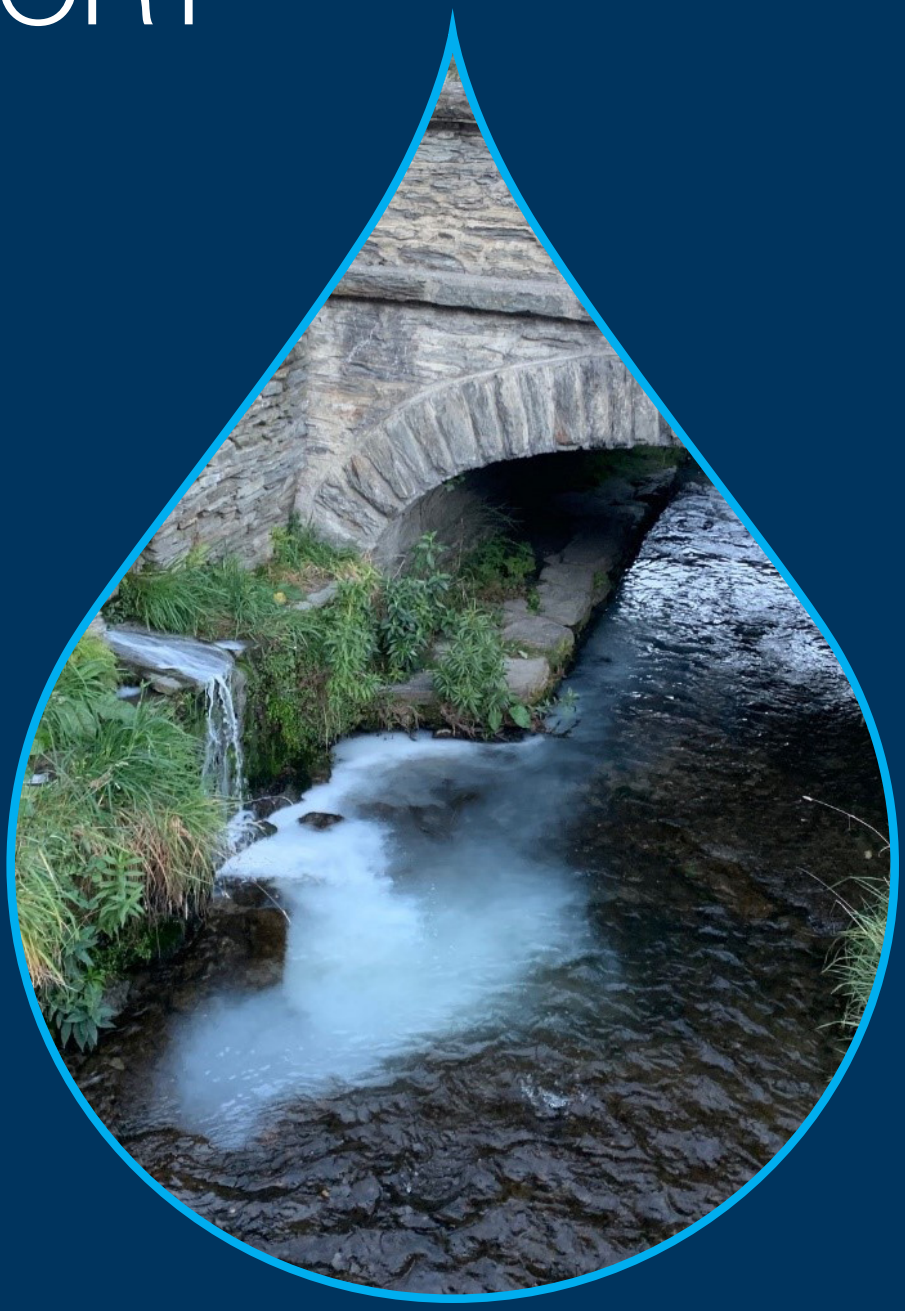
- Ensure standard definitions across the three waters

The need for some updating of the Bylaw coupled with the proposal for council to implement an *Integrated Three Waters Bylaw* further confirms the appropriateness of updating the Bylaw now.

Appendix 8

STORMWATER BYLAW

NEW BYLAW DETERMINATION REPORT



QUEENSTOWN LAKES DISTRICT COUNCIL

CONTENTS

1. SUMMARY OF KEY FINDINGS

The Queenstown Lakes District Council stormwater systems are made up of built infrastructure and the natural environment on public land.

These systems are under pressure from:

- Low levels of awareness about the cumulative impacts of harm to the system (including the natural receiving environment) caused by inappropriate and illegal activities.
- Increased population growth, associated contaminant loads, a reduction in permeable land surfaces to support ground-water recharge and unstable weather patterns increasing the risk of inundation.
- Industrial activities in outdoor areas elevate the risk of harm from contaminants entering the stormwater system.
- Private stormwater systems that are illegal, not performing to the standards required by the Building Act 2004 due to a lack of maintenance or inappropriate activities occurring in close proximity to private and public infrastructure.
- The need for tailored responses in particular catchments where there is a particular threat, as indicated through the relevant catchment management plan.
- Overflows from the wastewater network entering the stormwater system.

Pursuant to section 155(1) of the Local Government Act 2002 (**LGA**), a bylaw is the most appropriate way to:

- Manage the development and maintenance of the stormwater and land drainage network, and the land, structures, and infrastructure associated with that network.
- Protect the stormwater and land drainage network, and the land, structures, and infrastructure associated with that network, from damage, misuse or loss.
- Manage the use of stormwater systems, and the land, structures, and infrastructure associated with those systems, and provide the conditions on which connections to public stormwater systems may be made.
- Prevent interference with stormwater systems, and the land, structures, and infrastructure associated with those systems.
- Manage stormwater systems, and the land, structures, and infrastructure associated with that system, so as to protect the public from nuisance and promote and maintain public health and safety.
- Provide measures to support the management and enhancement of the natural part of the stormwater network.
- Ensure the maintenance and operation of private stormwater systems, the removal of redundant stormwater systems on private land and the management of hazardous materials to prevent damage to stormwater systems.
- Ensure compliance with future Otago Regional Council discharge consents.

The form of the bylaw proposed is to have stormwater included as part of an *Integrated Three Waters Bylaw* that incorporates the three waters, namely water supply, wastewater (including trade waste) and stormwater. It is also proposed that such a bylaw would be supported by an *Administrative Manual* as an efficient on-going management approach.

2. INTRODUCTION

2.1. Purpose of the Report

The purpose of this report is to determine whether the council should include provisions for the management of stormwater in a bylaw.

It is proposed that a new stormwater bylaw will be part of a new *Integrated Three Waters Bylaw* that also includes water supply and wastewater (incorporating trade waste).

Under section 155 of the LGA, the council must, before commencing the process for making a bylaw, determine whether a bylaw is the most appropriate way of addressing the perceived issues.

The bylaw would be made under the authority of the LGA for the purpose of ensuring that the stormwater system is managed in a manner that promotes a sustainable urban drainage system approach that:

- Manages and protects the council's stormwater system from misuse or damage and protects the public from nuisance.
- Safeguards public health, property, and the receiving environment in order to minimise the impact of flooding, erosion and environmental pollution.
- Prevents the unauthorised discharge of stormwater and the discharge of contaminants into the stormwater systems.
- Does not compromise the council's ability to comply with any applicable network discharge consents in the future.
- Ensures compliance with the council's land development and sub-division code of practice and catchment management plans.
- Gives effect to the National Policy Statement for Freshwater Management (NPS-FM), through policy set by the regional council and align freshwater outcomes with the Otago Urban Water Quality Principles (see Appendix B of the Cover Report).

2.2. Background

Stormwater runoff from built environments remains a significant challenge of modern water pollution control. This source of contamination is a major contributor to water quality impairment of waterbodies throughout the world. Chemical and microbial contaminants are captured within the stormwater as it runs over roads, rooftops, and compacted land. Stormwater discharges also pose a physical hazard to aquatic habitats and stream function, owing to the increase in water velocity and volume.

Given the shift of the world's population to urban settings, this trend is likely to alter the natural landscape to accommodate population increases, and therefore the magnitude of the stormwater problem is only expected to grow.

The legislation and relevant policy for stormwater management is complex and there are many overlapping and conflicting issues across the legislation from as far back as the Land Drainage Act 1908 to the general provisions in the Local Government Act 2002 and the government's current proposed reform of three waters management through the National Policy Statement on Freshwater Management. See Appendix C of the Cover Report for a more detailed analysis.

2.3. Council's Stormwater Systems

The council maintains seven public reticulated stormwater systems throughout the District – Queenstown, Wanaka, Arrowtown, Hawea, Glenorchy, Albert Town and Arthur's Point.

Other small settlements in the district, such as Kingston, Luggate and Makarora, have limited stormwater systems and generally rely on ground soakage and natural watercourses, swales and gullies for their disposal of stormwater.

In the above systems, the council provides a 368 km reticulated stormwater network to an estimated 23,630 residential and 2,056 non-residential properties in the district. The stormwater collects and travels through the stormwater system eventually discharging (presently untreated) into the receiving environment, i.e. water or land. Together the built infrastructure and natural environment make up the stormwater systems that the council manages.

Effective stormwater infrastructure management is important to ensure that contaminants don't get carried into our public waterways. Left unchecked, stormwater could have an increasingly adverse negative impact on the receiving environment, and could also lead to flooding and land instability.

The council is preparing catchment management plans for a number of rainfall catchment areas throughout the district. These plans will help determine the size and location of future stormwater infrastructure.

3. METHODS

To determine whether implementing an integrated bylaw is the most appropriate way of dealing with stormwater problems, staff considered the following:

- Issues raised relative to stormwater pollution through the service request system as well as e-mail complaints received directly from complainants.
- Through consultation with local businesses, in reviewing the Trade Waste Bylaw 2014[1] and other stakeholders.
- Using non-bylaw methods, i.e. social media platforms and other marketing channels to educate the wider community.
- Review of other council approaches, most notably the Palmerston North Integrated Three Waters Plan 2018 and Stormwater Drainage Bylaw 2015 and the Auckland Council Stormwater Bylaw 2015.
- Input from legal experts, Meredith Connell, and Stantec, the council's technical review consultants.

3.1. Stormwater Management Objectives

The following core objectives have been identified for the effective and efficient management and operation of the stormwater systems. These objectives have been developed to align the outcomes of this investigation with its business strategy and key legislative requirements.

1. To control the discharge of contaminants into the stormwater systems, to:
    - Enable the council to meet relevant objectives, policies, standards and future resource consent conditions for discharges from the stormwater systems to the receiving environment.
    - Protect the land, structures and infrastructure of the stormwater systems.
    - Prevent the unauthorised discharge of stormwater into the stormwater systems.
2. Define the obligations of the council, installers, owners and the public in matters related to the discharge of stormwater and management of the stormwater systems.

4. THE PERCEIVED PROBLEMS WITH STORMWATER MANAGEMENT

In the past, stormwater run-off was only considered to be a concern because it could cause flooding and erosion and lead to land instability. Now, stormwater is acknowledged as a major source of pollution (contamination) in the world's waterways.

The following outlines the perceived problems that have been identified by the council

4.1. Development and Maintenance of Effective Stormwater Systems

Stormwater runoff is water from rain that does not immediately infiltrate into the ground and flows

[1] Issues were raised that related to management of the stormwater systems

over or through natural or man-made storage or conveyance systems. When undeveloped land is converted to land uses with impervious surfaces such as roofs and sealed roads and yards, the natural hydrology of the land is altered and can result in increased surface runoff rates, volumes and contaminant loads. The council controls land use using its district plan.

Under the Resource Management Act 1991 (RMA), regional councils are responsible for controlling discharges of contaminants to water and for the effects of discharges on the environment. They do this by requiring the council to obtain resource consent to discharge. To meet future resource consent conditions and other requirements as laid out above, the council needs a stormwater management system that functions well, i.e. includes erosion control, avoids property damage, protects public health and safety and the receiving environment. At this stage the council has no commitment to any stormwater discharge consents, however this could change in the near future due to impending plan changes.

During the land development process, the council works with private developers to expand the stormwater systems to meet new development needs. It does this through the vesting of private assets into public ownership through development approvals.

Having requirements that are responsive to new technology and other design innovation without being overly rigid helps the council to ensure the assets it vests in public ownership will enhance system performance.

The council has a range of existing powers, including the power to require private connections to obtain approval under S.467 of the Local Government Act 1974. The council uses the *Queenstown Lakes District Council Land Development and Subdivision Code of Practice (2018)* based on NZS 4404:2004, with additional guidance for local conditions as the standard for developers.

The status quo is effective within the scope of the existing regulatory tools, however there is an opportunity to broaden and improve regulatory functions and bring the district into line with other councils who regulate this function under a bylaw. Doing so would provide the council with enhanced powers of enforcement where it suspects a breach of the bylaw has occurred and capture activities outside of the land development process (e.g. permitted activities or activities exempt from the need for building consent).

4.2. Protection of the Natural and Built Stormwater Systems

Development over or near stormwater systems can result in excessive loads or damage that can cause infrastructure to fail. The council relies on the land development code of practice to provide guidance to developers managing works in and around the stormwater systems.

Even every day activities, both business and residential, can cause harm to the stormwater systems (refer to Figure 1). These discharges are also likely to have an impact on ecologically important habitats that the local economy and society benefit from.

There are low levels of awareness about the cumulative impacts of harm caused by any inappropriate and illegal activities and there can also be neglectful behaviours. Stormwater may be contaminated by:

- Construction sites
- Motor vehicles, through oil and metals such as lead, copper, zinc washing off roadways
- Roof discharges containing dissolved metals (zinc, copper) or bitumen membrane products
- Soil, makes waterways cloudy, can silt them up and suffocate fish by clogging their gills

- Litter, such as plastic bags, bottles, cigarette butts and other street litter
- Herbicides, garden fertilisers, rotting garden clippings
- Detergent from car washing
- Domestic animal faeces
- Illegal and accidental spills or dumping into stormwater drains.

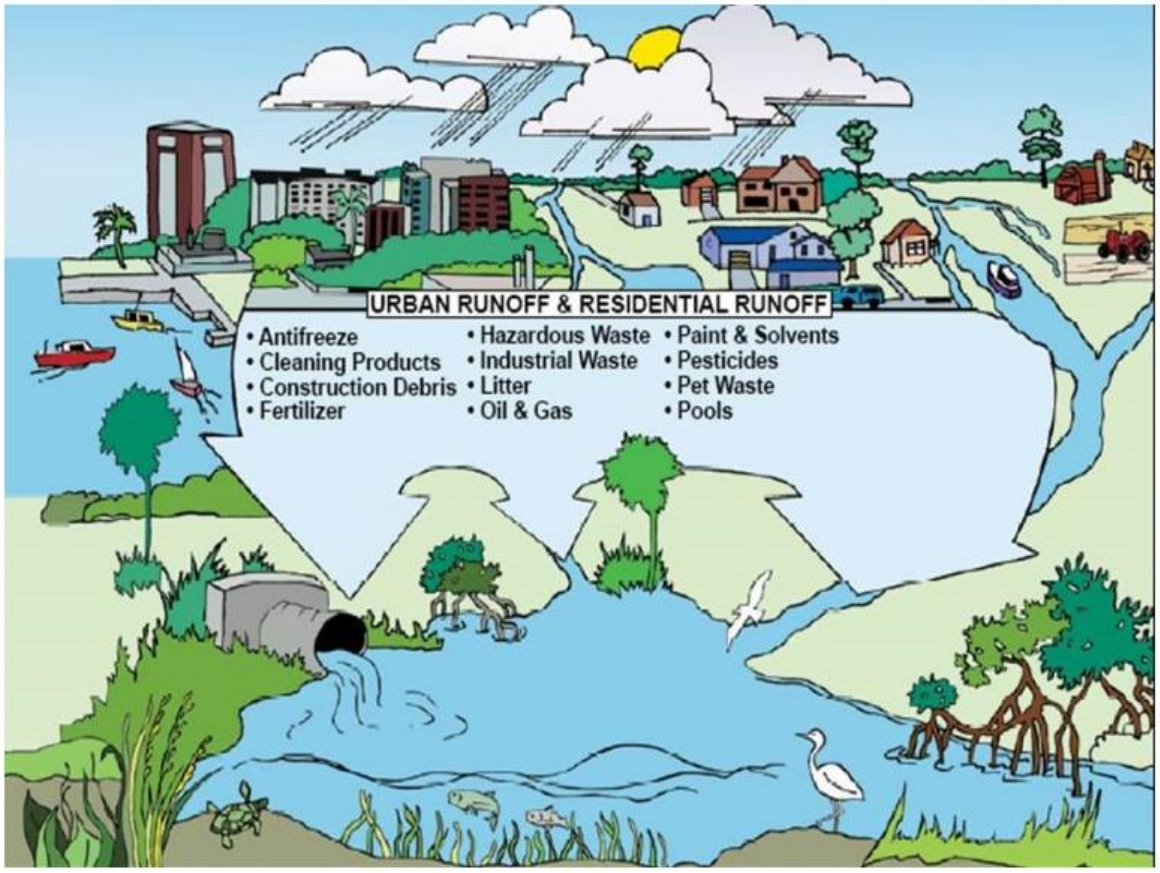


***Figure 1: Depicts an urban runoff stormwater situation**. Sourced from: sarasotabay.org/sarasota-bay/goals/water-quality-enhancement/*

Some 36 stormwater pollution related issues and complaints have been raised through the council's "Request for Service Portal" since the stormwater pollution / education required category was initiated in July 2018. Several complaints were also lodged directly to Trade Waste Officer via e-mail. Issues and complaints included some of the following discharges entering the stormwater system:

- Recycled restaurant cooking oil – commercial operator
- Grease trap overflow – commercial operator
- Paint wash water – unknown operator
- Vehicle washing - commercial operator
- Radiator fluid – commercial operators and the general public
- Building waste run-off from a skip - commercial operator
- Hydrocarbons from a gas station – commercial operator
- Used car oil - general public

- Mobile food trucks discharging wastewater directly to the stormwater system – commercial operators.

The stormwater related issues and complaints sent through to the council with regards to stormwater pollution events indicate some business activities being a significant risk to the stormwater system and the environments to which the stormwater is discharged.

Figure 2: Used motor oil poured into the stormwater system

Figure 3: Evidence of paint disposed down the stormwater system

Runoff from areas where industrial activities occur can contain toxic contaminants (e.g. heavy metals and organic chemicals) and other contaminants, i.e. debris, sediment, oil and grease. This contaminant load can impair waterbodies, degrade biological habitats and pollute ground water and drinking water sources.

Industrial facilities that usually perform their activities in outdoor areas are exposed to the elements, i.e. material storage and handling, vehicle fuelling and maintenance and the shipping and receiving of goods can result in contaminants being exposed to precipitation. In addition, accidental spills and leaks, improper waste disposal, and illegitimate connections to stormwater systems can cause exposure of contaminants to stormwater.

The types of industrial / commercial facilities that have the potential to be major sources of contaminants in stormwater are:

- Loading and unloading operations – These can include pumping of liquids from tankers to storage facilities. The movement of boxes, bags, drums and other containers by forklift or other material handling equipment. Material spills or losses in these areas can accumulate and be washed away during a rain event
- Outdoor storage – These activities include storage of fuels, raw materials, by-products and process residuals. Outdoor storage areas exposed to rainfall and/or runoff can contribute to contaminants entering the stormwater system
- Outdoor process activities – can result in liquid spillage and losses of material solids, which make associated contaminants available for discharge in runoff
- Dust or particulate generating processes – include industrial activities, i.e. aggregate handling that generates significant levels of dust that can be mobilised in stormwater runoff
- Cross connections and non-stormwater discharges – are process wastes or other contaminants that discharge to stormwater collection systems, instead of to wastewater/sanitary sewers. These discharges can be a significant source of stormwater pollution. Non-stormwater discharges include any discharges from the facility that is not generated by rainfall runoff, e.g. wash water from industrial/commercial processes
- Waste management practices include everything from landfills to waste piles to rubbish containment. The majority of trade premises conduct some form of waste management at their site, much of it outdoors which must be controlled to prevent contaminant discharges in stormwater.
- Wash-down facilities, especially where sediment is discharged and sediment traps/filters and other devices are not installed or appropriately maintained.

Unmanaged stormwater discharges may cause a range of adverse effects to the natural environment, for example increased or decreased stream flows, reduced groundwater recharge, and the discharge of contaminants into waterways and the receiving environment. Figure 2 and 3 encapsulates such matters in an urban situation.

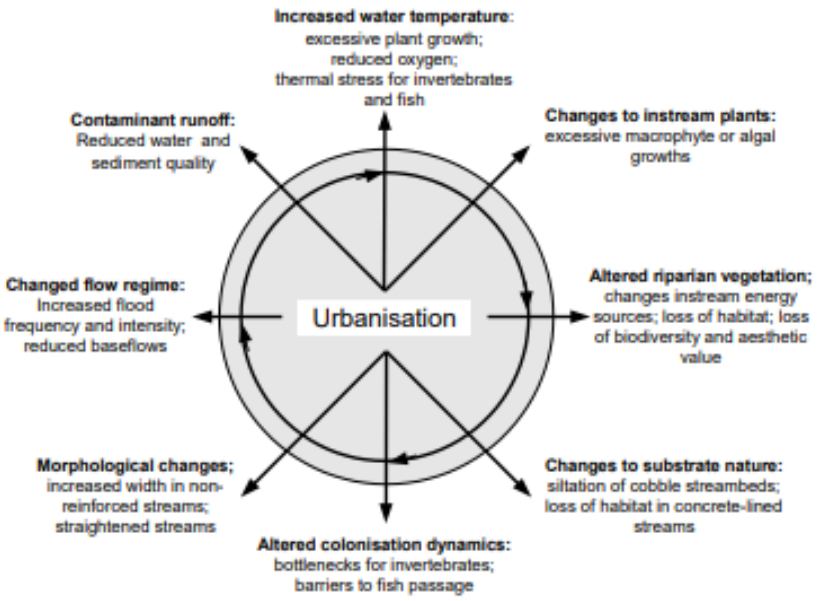


Figure 4: The effects of urbanisation on the freshwater environment[2]

The council uses its district plan to manage the above types of activities that can occur in the district, and its code of practice on subdivision development to ensure that the right devices are installed and where appropriate vested to council for on-going maintenance.

The council can also undertake education and targeted engagement with the community to increase environmental stewardship. This can be through its work with schools, businesses, developers or community groups.

4.3. Monitoring and Enforcement of Stormwater Issues on Private Property

When private stormwater devices, such as sediment traps and pipes are not maintained or not installed according to the council's requirements, they do not perform to the standards required. This can put increased cost and risk on the council to manage the problem, missing an opportunity to protect stormwater systems and manage discharges.

The Building Act 2004 requires maintenance or the replacement of non-performing devices. However,

[2] Freshwaters of New Zealand. Eds. J. Harding, P. Mosley, C. Pearson, & B. Sorrell. Chapter 35. NZ Hydrological Society & NZ Limnological Society. Caxton Press, Christchurch, N.

due to the nature and scale of the issues, the council cannot inspect all devices under that act. The inspection powers and ability to recover costs for addressing bylaw breaches under the Local Government Act 2002 provide an opportunity for the council to monitor private infrastructure where the risk of harm is likely to be high.

5. OPTIONS FOR ACHIEVING OBJECTIVES

There are a number of available mechanisms for achieving the council's objectives. Amongst other things, these include: rates, regulation, grants, services, information, education and consultation, financing and contracting, as well as political reforms[3].

The council has identified the following options to deliver improved stormwater management outcomes in alignment with the objectives as earlier outlined, these include:

A: Status quo
Compliance monitoring under existing legislative powers and regulations, such as the LGA, the Building Code 2004, the Litter Act, the district plan and other bylaws.

B: Education
Increasing awareness to change behaviour using a programme of educational outreach, industry guidelines and targeted programmes to improve outcomes.

C: Managing wastewater through a bylaw, which may be achieved as part of the *Integrated Three Waters Bylaw* and *Administration Manual*- regulating through rules, codes or practice, licensing and permitting.

Options such as capital investment in infrastructure or new services that improve treatment and storage to avoid, remedy or mitigate harms are not included in the assessment. These investment decisions are managed through catchment management plans, the annual and long-term plan and the 30 year infrastructure plan.

6. RESULTS

The following table outlines the results of an assessment of the perceived and actual problems facing stormwater management. An analysis of the strategic context, including outcomes sought and relevant legislative and policy directives is also included where it supports the determination of which approach is the most appropriate.

The overall recommendation is to adopt Options B and C. The cover report outlining the approach of an *Integrated Three Waters Bylaw*, supported by an *Administrative Manual* further sets out the rationale for this proposal.

[3] Watercare Services Limited. (2012). *Trade Waste Bylaw 2012 - Determination Report.* Auckland.

Perceived Problem	***Outcomes Sought***	***Legislative and Policy Alignment***	***Options analysis***	***Recomm -ended option/s***	***Reason***	**Considerations about the form a bylaw should take**
1. How can the council develop and maintain effective stormwater systems?	- Sustainable growth and enhancement of stormwater systems	**- LGA** – cost effective delivery of council services and infrastructure development - Queenstown Lakes District Council Infrastructure Strategy 2015-2045	- Option A relies on continued use of regulatory tools with limited scope, for example the standard powers in the LGA 1974 and LGA 2002, or subdivision standards. - Option B is not particularly applicable. - Option C allows the Council to develop bylaws that address the full of relevant activities and issues.	Option C	- Efficiencies can be gained with enhanced compliance monitoring and issue resolution using the prescribed methods outlined in the LGA	- Under an Integrated Three Waters Bylaw, maintenance of the relevant chapters in the code of practice will require a decision pursuant to the bylaw. This can be delegated to a council manager as the code of practice is reviewed by the council to minimise administration overheads

2. How can the council protect natural and built stormwater systems from harm?	- Protect stormwater systems from obstructions and debris that exacerbate the impacts of heavy rainfall events - Protect buried services from damage - Reduce the incidence of unauthorised discharges into the receiving environment	**- LGA** – protecting infrastructure from damage, misuse, or loss **- RMA/NPS-FM** - receiving environment and sustainable management **- The Otago Urban Water Quality Strategy** – deliver activities that will achieve the desired water quality outcomes **- Otago Regional Water Plan** – Plan change 6A – stormwater discharge management to protect streams and water bodies **- Urban Water Principles -**designed to mitigate the adverse effects of urban areas on water ecosystems and resources.	- Option A relies on continued use of regulatory tools with limited scope, for example the Building Act's focus on building work or the RMA's focus on discharges from the network. - Option B is desirable in order to promote public behaviour that protects natural and built stormwater systems from harm. - Option C allows the Council to develop bylaws that address the full of relevant activities and issues	Option B and Option C	- Although infringement powers under the RMA provide a strong deterrent, these powers are primarily a responsibility held by the Regional council and not a power territorial authorities can use to control contaminants discharging to water. - A bylaw provides a well-recognised mechanism for monitoring and investigating activities and behaviours that can result in harm to stormwater systems - Action pursuant to a bylaw can complement other actions, including education campaigns (which deal with social norms), district plan and resource consent monitoring (which deal with effects) and the Building Act which deals with drainage standards.	- To ensure compliance with the New Zealand Bill of Rights Act 1990, a risk-based approach should be adopted with the ability to add controls as issues arise in specific areas through enabling clauses in the bylaw, subject to appropriate levels of public consultation. - The bylaw should only enforce activities that can be reasonably and fairly monitored. The council will need to consider its own obligations as a public open space manager and roading authority when considering the rules it sets in the next phase of the project.

		- **QLDC (EMPs) -** protect environmental values from land development activities			- A bylaw can also consider activities outside of the development process, i.e. the requirement to comply with a permitted activity standard that usually would not require a consent. - For low-risk activities, education and guidance is recommended so that enforcement activity under the bylaw can focus on higher-risk activities	

3. How can the council effectively monitor and enforce stormwater issues on private property	- Define the obligations of the council, installers, owners and the public in matters related to the discharge of stormwater and management of stormwater systems. - Producers take responsibility for managing environmental contaminants by managing them at source	**- RMA/NPS-FM** – Receiving environment and Sustainable management **- Building Act and Building Code**: The Building Act regulates plumbing and drainage	- Option A relies on the use of monitoring, investigative and enforcement powers associated with regulatory tools with particular focuses that may limit their usefulness, - Option B is desirable in order to promote public awareness of monitoring and enforcement and thus improved compliance. - Option C allows the Council to utilise the LGA 2002's monitoring, investigative and enforcement powers to assist in achieving compliance with the full range of matters relevant to stormwater management.	Option B and Option C	- The LGA provides effective compliance monitoring and enforcement powers and can complement existing powers under the RMA and Building Act to provide a complete solution to the majority of issues facing field staff seeking to implement the most practicable option.	- Care is needed to ensure that any bylaw does not conflict with any rule in the district or regional plan or a condition in any resource consent. This can be addressed by using explanatory notes and being clear that compliance with the bylaw can include a previous approval under the RMA or Building Act. - Any controls will need to be proportionate to the problem and where there is not strong evidence of a problem, some controls may be better introduced by enabling clauses in the bylaw once evidence is available.

6.1. New Zealand Bill of Rights Act 1990

No bylaw may be made which is inconsistent with the New Zealand Bill of Right Act 1990. In broad terms there is nothing about having a stormwater bylaw that raises concerns in this regard. However an evaluation of consistency can only be made properly once the specific provisions of the bylaw are proposed.

7. RECOMMENDATIONS

In summary, this report determines that stormwater discharges are best managed through the use of a bylaw to protect the development and maintenance of stormwater systems and to control stormwater discharges on private and public lands in a manner which delivers on the council's commitments and aligns with council strategies and legislation.

The form of the bylaw will be developed further in the next phase, with general controls to apply across the district, with a risk-based approach to specific activities and behaviours.

It is recommended to have wastewater included as part of an *Integrated Three Waters Bylaw* that also incorporates the three waters, namely water supply, trade waste and stormwater. It is also proposed that such a bylaw would be supported by an *Administrative Manual* as an efficient on-going management approach.

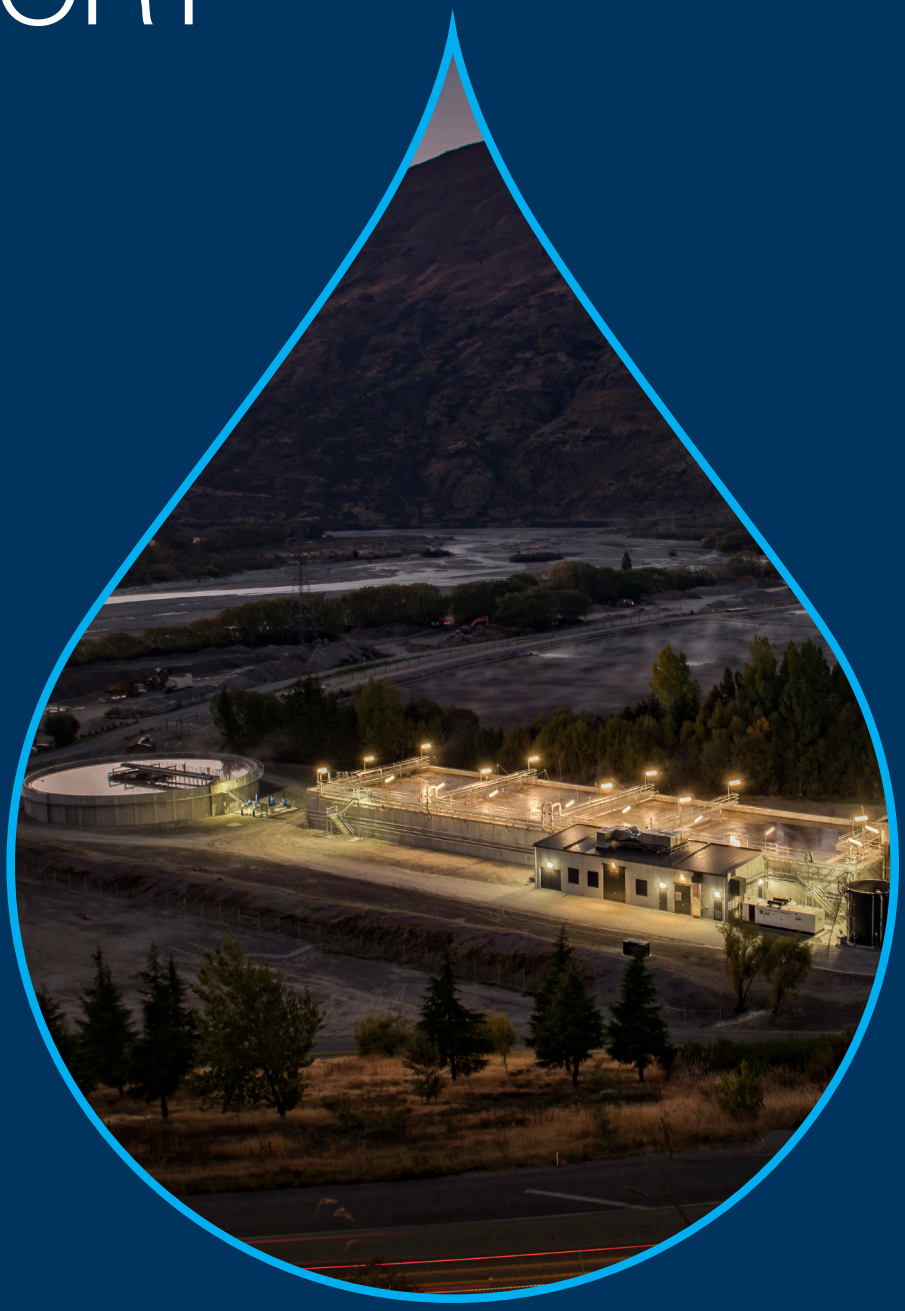
The five core functional objectives that have been identified to facilitate the provision of effective and efficient stormwater discharge in the region are to:

1. Control the discharge of contaminants into the public stormwater network.
2. Enable the council to meet relevant objectives, policies and standards for discharges from public stormwater systems.
3. Protect the land, structures and natural features that make up the public stormwater systems.
4. Prevent the unauthorised discharge of stormwater into public stormwater systems and ensure that private stormwater systems are not causing a nuisance or harm to the public system.
5. Define the obligations of the council, installers, owners and the public in matters related to the discharge of stormwater and management of stormwater systems.

Appendix 9

WASTEWATER BYLAW

NEW BYLAW DETERMINATION REPORT



QUEENSTOWN LAKES DISTRICT COUNCIL

CONTENTS

1. SUMMARY OF KEY FINDINGS

Wastewater is generally composed of toilet waste, household grey water (i.e. from kitchens, bathrooms and laundries) and liquid wastes produced by commercial and industrial businesses, the later known as trade waste as it is discharged from trade premises.

There are a number of contaminants, i.e. rags and building materials that are discharged into the wastewater network that are not listed in the current Trade Waste Bylaw, 2014. These contaminants are known to have caused sewer overflows and need to be prohibited from entering the sewer network.

The wastewater network enables the protection of public health and the receiving environment by conveying wastewater from its source to a treatment plant where it is treated to an acceptable standard before being discharged safely to the receiving environment or reused for beneficial purposes.

Uncontrolled overflows can impact local communities through offensive odours, discharge of contaminants to the receiving environment causing elevated public health and safety risks and adverse water quality and ecological impacts.

A bylaw is considered the most appropriate way of managing problems associated with the expansion and maintenance of the wastewater network and placing controls on substances/contaminants prohibited to be discharged into the network.

This investigation determines that the most appropriate option to regulate activities and inputs into the wastewater network is by way of education and a bylaw. It is proposed that such a bylaw control those activities that have an adverse impact on the operation of the wastewater network and the discharges from it. Doing so, will protect health and safety as well as improve the council's ability to comply with requirements under the Resource Management Act 1991.

It is also recommended that educational activities are delivered in a manner that will manage specific issues in a way complimentary to bylaw compliance monitoring and infrastructure development initiatives.

The form of the bylaw proposed is to have wastewater included as part of an *Integrated Three Waters Bylaw* that incorporates the three waters, namely water supply, trade waste and stormwater. It is also proposed that such a bylaw would be supported by an *Administrative Manual* as an efficient on-going management approach.

2. INTRODUCTION

2.1 Purpose of the Report

The purpose of this report is to determine whether the Queenstown Lakes District Council include provisions for the management of wastewater in a bylaw.

It is proposed that any new wastewater bylaw will be part of a new *Integrated Three Waters Bylaw* that also includes water supply, trade waste and stormwater.

Under section 155 of the Local Government Act 2002 (LGA), the council must, before commencing the process for making a bylaw, determine whether a bylaw is the most appropriate way of addressing the perceived issues. Accordingly, this report is titled a "Determination Report".

The bylaw would be made under the authority of the LGA for the purpose of ensuring that the wastewater network is managed in such a manner that it promotes a sustainable urban drainage system approach that:

- Safeguards public health, property, and the environment in order to minimise the impact of environmental pollution.
- Manages and protects the council's wastewater network from misuse or damage.
- Prevents the unauthorised discharge of wastewater to any receiving environment.
- Gives effect to Queenstown Lakes District Council's obligations under the National Policy Statement for Freshwater Management (NPS-FM), the National Environmental Standards and Regional Plan rules and aligns freshwater outcomes with the Otago Water Quality Strategy and the Urban Water Quality Principles (see Appendix B and C in the Cover Report).
- Ensures the Queenstown Lakes District Council meets its obligations under the Resource Management Act 1991.

Under section 155 of the LGA, council must, before commencing the process for making a wastewater bylaw, determine whether a bylaw is the most appropriate way of addressing issues relating to:

- Protecting the wastewater network and associated infrastructure, including ensuring adequate access to the network for maintenance and operations, and managing infiltration and inflow from poor connections.
- Stipulating and monitoring the quality of wastewater discharges, managing the impacts on the wastewater treatment plant, and consequent compliance with regional consents in relation to current and future discharges to land or water.
- Managing connections to the wastewater network, including identification of the point of discharges and wastewater servicing areas, and managing disputes over responsibility for maintenance and repair.

The bylaw is required to be in a form that is unlikely to give rise to any implications under the New Zealand Bill of Rights Act 1990.

2.2 Background

Many of the district's towns are located alongside lakes and rivers. Historically council's wastewater networks were designed to gravity feed wastewater to the low points, being the lake edges. At these low points pump stations move the wastewater through a series of pressure and gravity mains to other pump stations and eventually to our wastewater treatment plants.

Over time, as the population has increased, the capacity of these mains and pump stations have increased to align with growth. As a result, significant volumes of wastewater pass alongside our lakes and waterways. Council needs to manage these existing, expensive capital works in a way that responds to the broad range of cultural, social, economic and environmental values as required under the LGA.

The wastewater network enables the protection of public health and safety of the wider community and environment.

Wastewater is generally composed of toilet waste, household grey water (i.e. from kitchens, bathrooms and laundries) and liquid wastes produced by commercial and industrial businesses known as trade waste.

Rainwater is able to penetrate the wastewater network through manholes, inappropriately constructed drains and illegal connections which could cause the network to become hydraulically overloaded during heavy rain fall events and for overflows to occur.

2.2.1. Council's Wastewater Infrastructure

Queenstown Lakes District Council provides a reticulated wastewater service to approximately 21 660 residential and approximately 2893 non-residential properties in the district.

An average volume of 14 521 m^3 of wastewater is produced in the district daily. The wastewater travels through the wastewater network via approximately 551 km's of wastewater pipe and requires 65 pump stations to move the wastewater to 5 wastewater treatment plants.

Once at the treatment plant the wastewater is treated using biological treatment processes. The treatment process requires the wastewater to be treated to a standard that complies with council discharge consent limits as set out by Otago Regional Council. Project Shotover in Queenstown and Project Pure in Wanaka are significant wastewater treatment facilities in the district.

Appendix D of the cover report provides a more detailed description of key parts of the wastewater network.

3. RELEVANT LEGISLATION AND POLICY

The 1974 and 2002 Local Government Acts provide the council with general powers for the management of council assets, including the wastewater network.

Under the Resource Management Act 1991 (**RMA**), regional councils are primarily responsible for discharges of contaminants to water, land and air and for the effects of discharges on the environment.

The council is required to hold discharge consents (issued by the Otago Regional Council) for the discharge of contaminants from the wastewater network, i.e. wastewater overflows and controlled discharge of treated wastewater to the receiving environment.

To meet its compliance requirements, the council is required to have adequate management practices in place to ensure rules and procedures are formalised for those connected to the network.

There are a number of other relevant laws and policies relating to the management of wastewater. The most relevant ones that have been assessed as part of this investigation are summarised in Appendix C of the Cover Report.

4. METHODS

To determine whether implementing an integrated bylaw is the most appropriate way of dealing with wastewater problems, staff considered the following:

- Issues raised relative to wastewater pollution through the service request system as well as e-mail complaints received directly from the public.
- Through consultation with stakeholders, including local businesses when reviewing the Trade Waste Bylaw 2014[1]
- Review of other council approaches, most notably the Palmerston North Integrated Three Waters Plan 2018 and Wastewater Bylaw 2019.
- Input from council's legal advisors, Meredith Connell, and Stantec, the council's technical review consultants.

4.1 Wastewater Management Objectives

The following core objectives have been identified to ensure for the provision of an effective and efficient public wastewater network. These objectives have been developed to align the outcomes of this investigation with its business strategy and key legislative requirements.

1. To protect the wastewater network from damage, misuse and interference.
2. To enable the council to meet relevant objectives, policies, standards and resource consents for discharges from the wastewater network.
3. To protect the land, structures and infrastructure of the wastewater network.
4. To protect public health and safety.
5. To prohibit a range of specified substances/contaminants being discharged to the wastewater network, consistent with the schedule of prohibited trade wastes.

5. THE PERCEIVED PROBLEMS WITH WASTEWATER MANAGEMENT

5.1 Development and Maintenance of the Wastewater Network

Under the RMA, regional councils are responsible for controlling discharge of contaminants to land, air and water and for the effects of discharges on the environment. They do this by requiring the council to obtain resource consent to discharge. For the council to cost effectively meet its resource consent conditions it needs a wastewater network that is functioning well and a management approach that keeps it functioning well over time.

During the land development process, the council works with private developers to expand the wastewater network to meet new development needs. It does this through the vesting of private assets into public ownership through development approvals.

Having requirements that are responsive to new technology and other design innovation without being overly rigid helps the council to ensure the assets it vests in public ownership will enhance network performance and reduce the risk of blockages.

[1] Issues were raised that related to management of the wastewater network

The council has a range of existing powers, including the power to require private connections to be approved under S.467 of the Local Government Act 1974. The council uses the Queenstown Lakes District Council Land Development and Subdivision Code of Practice (2018) based on New Zealand Standard NZS 4404:2004, with additional guidance for local conditions as the standard for developers.

The status quo is effective within the scope of the existing regulatory tools, however there is an opportunity to broaden and improve regulatory functions and bring the district into line with others who regulate this function under a bylaw. Doing so would provide the council with enhanced powers of enforcement where it suspects a breach of the bylaw has occurred.

For some works and dangerous activities in close proximity to the wastewater network that are not part of land development activities, there may not be any controls in place currently. For example, setting restrictions of excessive loads over public infrastructure in a bylaw is one way to reduce risks of blockages and other forms of infrastructure failure.

5.2 Protecting the Wastewater Network from Harmful Discharges

To ensure the efficient operation of the wastewater network, in alignment with the council's obligations under the LGA and reduce the risk of discharges entering the receiving environment the council must control what is discharged into the network.

To determine if implementing a bylaw to manage wastewater is the most appropriate way of dealing with the problems, analysis was undertaken of wastewater overflows that have occurred between 2015 and 2018 – including their associated causes.

Network obstructions are generally caused by:

- Fats, Oil, and Grease (FOG): FOGs solidify within drains, either in isolation or in combination with other foreign objects or tree roots.
- Foreign objects (personal items): Sanitary items and wet wipes are common examples of personal items that could cause blockages in pump stations when pump impellers block. Impellers are the rotating part of a centrifugal pump designed to move a fluid by rotation. Impellers are not able to chop up foreign objects and instead they block the pump.
- Foreign objects (building materials): By-products generated by residential and commercial construction activity, such as timber, asphalt and concrete can enter the network through exposed drains and manholes. These by-products can be too large to fit through the pipes or too heavy to flow under gravity and obstruct the pipes.
- Tree and plant roots: Roots can penetrate pipework through joints, restricting flow and trapping FOGs and foreign objects.
- Dipped or broken pipes: Broken or dipped pipes trap foreign objects that create blockages.

Figure 3 below illustrates a number of these matters.

Obstructions in the network will restrict the flow of wastewater, resulting in a build-up of pressure which is eventually released via an uncontrolled overflow. Overflows due to blockages typically exit the network from manholes, gully traps and pump station sites upstream of the blockage.

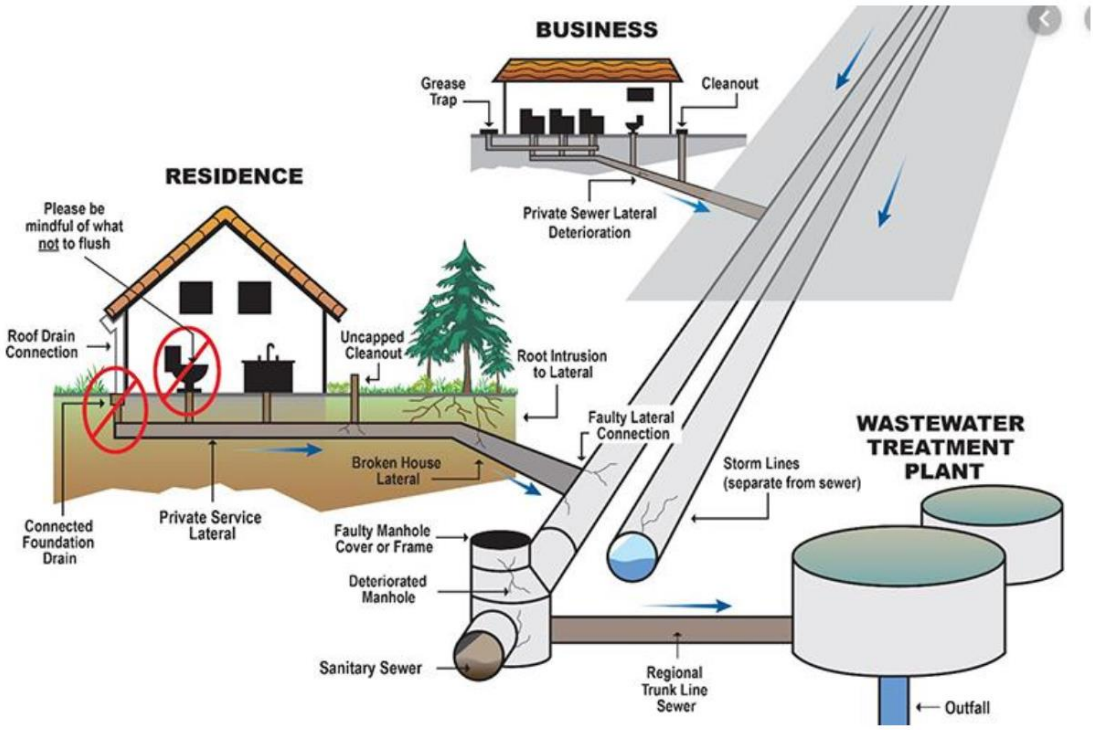


Figure 3: An illustration of how various components of the wastewater network relate to each other and how obstructions can enter the network.

To reduce the amount of wastewater overflows the following key steps need to be taken:

- Prevent foreign objects and excess kitchen fats entering the wastewater.
- Restrict the type of trees that are planted within close proximity to the wastewater pipework.
- Ensure the network is appropriately designed, adequately sized, well-constructed, and appropriately operated.
- Prevent works or dangerous activities (such as the placement of excessive loads) over or in close proximity to the network.

The impacts of wastewater entering the receiving environment has been summarised in Figure 4 from the Ministry for the Environment's Sustainable Wastewater Management Handbook 2003.

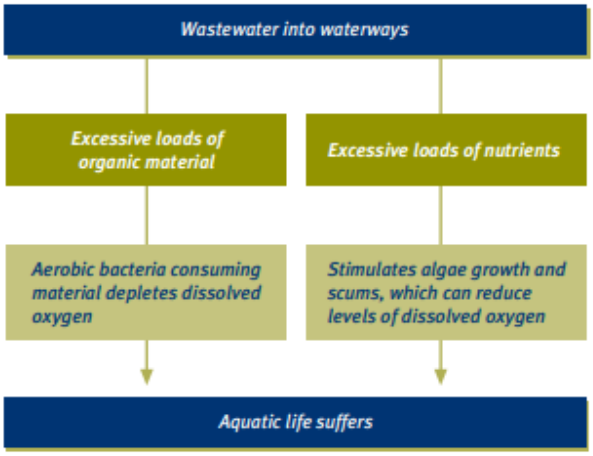


Figure 4: The effects of organic material and nutrients released into waterways

Currently the council uses education and targeted initiatives to manage what is discharged to the wastewater network. These targeted initiatives include face to face meetings (if the source of contamination is known), social media platforms, and the Scuttlebutt.

WE ALL HAVE A PART TO PLAY

Wastewater flows easily through the pipes when only human waste and toilet paper is flushed, and when only soapy water is put down the drain. You can take steps to help reduce wastewater overflows in our district.

SO WHAT HAPPENS WHEN OUR WASTEWATER DOESN'T FLOW EASILY?

When blockages and breaks occur, the flow of wastewater is restricted. This can result in a build-up of pressure in our pipes and can cause wastewater to back up. Sometimes this wastewater back up results in an overflow into our environment, typically out of manholes or at our pump stations.

If these overflows can't happen at a pump station or from a manhole there is a risk that wastewater will release back up through our toilets, showers and sinks. This exposure to wastewater could affect our health and wellbeing.

WHAT'S SAFE TO PUT DOWN THE SINK, OR TOILET?

Flushing anything other than pee, poo and paper can cause pipe blockages, so does putting fats and oils down the sink. If you're not sure, here's a simple checklist of what's safe to put down the sink or toilet:

- ✓ Water
- ✓ Human waste
- ✓ Toilet paper
- ✓ Soaps
- ⊘ Food
- ⊘ Fats
- ⊘ Sanitary items
- ⊘ Wet wipes
- ⊘ Building materials
- ⊘ Hazardous liquids (including garden chemicals)
- ⊘ Unused medication

WHAT ELSE CONTRIBUTES TO BLOCKAGES AND BREAKS?

Blockages can also be caused when cafes and restaurants pour fats down the sink. We're working with businesses on ways to better manage the way that fat and other trade wastes are disposed of to reduce the likelihood of blockages occurring.

Breaks in our wastewater pipes are also caused by tree roots. Before planting large tree varieties, you can ask us for information about the location of pipes to help to avoid this.

WHAT ABOUT STORMWATER DRAINS?

We've all heard stories of people who wash out their paintbrushes or construction waste into a stormwater drain. Cigarette butts and hazardous liquids like motor oil and radiator fluid are a big no no.

The only thing that should go down stormwater drains is rainwater.

INTEGRATED THREE WATER BYLAW

High growth in our district means more water is being used, more sewerage needs catered for and more education is required to ensure businesses, residents and visitors know how to do the right thing to protect our environment.

Currently we have an existing Water Supply Bylaw 2015 (due to be reviewed in 2020) and a Trade Waste Bylaw 2014 (due to be reviewed this year). We've also recently identified the need to introduce a stormwater and wastewater bylaw to cater for increased demand on infrastructure.

Integrating these bylaws would allow us to take a more holistic approach to providing safe drinking water, keeping our lakes, rivers and environment clean and looking after our infrastructure.

Over the past month we asked for your ideas to feed into a proposed integrated Three Waters Bylaw. We're working through this feedback now and will share more about next steps in the December Scuttlebutt.

To read more head to **letstalk.qldc.govt.nz/proposed-3-waters-bylaw**

Figure 5: Educational material used to manage what is discharged to the wastewater network[2]

[2] Scuttlebutt October/November 2019

OPTIONS FOR ACHIEVING OBJECTIVES

There are a number of available mechanisms for achieving the council's objectives. Amongst other things, these include: rates, regulation, grants, services, information, education and consultation, financing and contracting, as well as political reforms[3]. The council has identified the following three options to deliver improved wastewater management outcomes in alignment with the objectives earlier outlined, these include:

A: Status quo
Compliance monitoring under existing legislative powers and regulations, such as the LGA, the Building Code 2004, the district plan and other bylaws (but with no wastewater bylaw).

B: Education
Increasing awareness to change behaviour using a programme of educational outreach, industry guidelines and targeted programmes to improve outcomes.

C: Managing wastewater through a bylaw which may be achieved as part of the *Integrated Three Waters Bylaw* and *Administration Manual*- regulating through rules, codes or practice, licensing and permitting.

Options such as capital investment in infrastructure or new services that improve treatment and storage to avoid, remedy or mitigate harms are not included in the assessment. These investment decisions are managed through the annual and long-term plan and the 30 year infrastructure plan.

These options are each evaluated in the following table.

6. RESULTS

The following table outlines the results of an assessment of the perceived and actual problems facing wastewater management. An analysis of the strategic context, including outcomes sought and relevant legislative and policy directives is also included where it supports the determination of which approach is the most appropriate.

The overall recommendation is to adopt Options B and C. The cover report outlining the approach of an *Integrated Three Waters Bylaw*, supported by an *Administrative Manual* further sets out the rationale for this proposal.

[3] Watercare Services Limited. (2012). *Trade Waste Bylaw 2012 - Determination Report.* Auckland.

Perceived Problem	*Outcomes Sought*	*Legislative and Policy Alignment*	*Options analysis*	*Recomm-ended option/s*	*Reason*	**Considerations about the form a bylaw should take**
1. How can the council develop and maintain an effective wastewater network?	- Sustainable growth and enhancement of the wastewater network - Protect services from damage	**- LGA** – cost effective delivery of council services and infrastructure development	- Option A relies on continued use of regulatory tools with limited scope, for example the Building Act's focus on building work or the RMA's focus on discharges from the network. - Option B is desirable in order to promote public behaviour that protects services from damage. - Option C allows the Council to develop bylaws that address the full of relevant matters.	Option C	- Efficiencies can be gained with enhanced compliance monitoring and issue resolution using the prescribed methods outlined in the LGA - A bylaw can consider activities outside of the development process (e.g. permitted activities or activities exempt from the need for building consent)	- Under an Integrated Three Waters Bylaw, maintenance of the relevant chapters in the code of practice will require a decision pursuant to the bylaw. This can be delegated to a council manager as the code of practice is reviewed by the council to minimise administration overhead.

2. How can the council effectively protect the wastewater network from harmful discharges?	- Protect wastewater systems from obstructions and debris - Reduce the impacts of heavy rainfall events causing untreated wastewater to be discharged to the receiving environment - Reduce the incidence of unauthorised discharges into the wastewater network	**- LGA – protecting infrastructure from damage, misuse, or loss** **- RMA/NPS-FM** - receiving environment and Sustainable management **- The Otago Urban Water Quality Strategy** – deliver activities that will achieve the desired water quality outcomes **- Otago Regional Water Plan** – Plan change 6A – stormwater discharge management to protect streams and water bodies **- Urban Water Principles** -designed to mitigate the adverse effects of urban areas on water ecosystems and resources **- Environmental Management Plans -** protect environmental values from land development activities	- Option A relies on continued use of regulatory tools with limited scope, for example the Building Act's focus on building work or the RMA's focus on discharges from the network. - Option B is desirable in order to promote public behaviour that protects the wastewater network from harmful discharges. - Option C allows the Council to develop bylaws that address the full of relevant matters.	Options B and Option C	- Although infringement powers under the RMA provide a stronger deterrent, the evidence-base requirements for enforcement action under the RMA are outweighed by the benefits of faster investigations and cost recovery under the LGA - A bylaw provides a well-recognised mechanism for monitoring and investigating activities and behaviours that can result in harm to the wastewater network - Action pursuant to a bylaw can complement other actions, including education campaigns (which deal with social norms), district plan and resource consent monitoring (which deal with	- To ensure compliance with the New Zealand Bill of Rights Act 1990, a risk-based approach should be adopted with the ability to add controls as issues arise in specific areas through enabling clauses in the bylaw. - The bylaw, any associated Administration Manual or code of practice can provide the processes and guidance that the public need to ensure a fair and reasonable approach is adopted by the council in its compliance monitoring. This should be clearly laid out in the statement of proposal so that the public can be certain about what enforcement to expect to achieve the outcomes sought.

					effects) and the Building Act which deals with drainage standards - Education and guidance is recommended to prevent inappropriate activities and behaviours	

6.1 New Zealand Bill of Rights 1990

No bylaw may be made which is inconsistent with the New Zealand Bill of Rights Act 1990. In broad terms there is nothing about having a wastewater bylaw that raises concerns in this regard. However an evaluation of consistency can only be made properly once the specific provisions of the bylaw are proposed.

7. RECOMMENDATIONS

This investigation recommends that a wastewater bylaw is the most appropriate tool to support the provision of an effective and efficient wastewater network.

The following wastewater bylaw objectives have been developed to align the council with its business strategy and key legislative requirements, i.e. to meet its functional objective, which is to facilitate the provision of an effective, efficient and safe wastewater network:

1. To protect the wastewater network from damage, misuse and interference.
2. To enable the council to meet relevant objectives, policies, standards and resource consents for discharges from the wastewater network.
3. To protect the land, structures and infrastructure of the wastewater network.
4. To protect public health and safety.
5. To prohibit a range of specified substances/contaminants being discharged to the wastewater network, consistent with the schedule of prohibited trade wastes.

The form of the bylaw will be developed further in the next phase, with general controls to apply across the district, with a risk-based approach to specific activities and behaviours.

It is recommended to have wastewater included as part of an *Integrated Three Waters Bylaw* that also incorporates the three waters, namely water supply, trade waste and stormwater. It is also proposed that such a bylaw would be supported by an *Administrative Manual* as an efficient on-going management approach.

The bylaw (being Option C above) should be complimented with an education programme (being option B above) that raises awareness of the contaminants in the trade waste schedule and other matters pertaining to the efficient and effective operation of the wastewater network.