

Report to:	Council	
Date:	25 May 2022	
Subject:	Proposed Making of Trade Waste Bylaw	
Prepared by:	Dave Clibbery – Senior Manager Operations	
Input sought from:	Bruce Apperley 3 Waters Engineer	
Authorised by:	Will Doughty Chief Executive	

1. SUMMARY

A new trade waste bylaw is proposed to be made. This is intended to protect Council’s wastewater system and the environment, to provide for more equitable cost allocation to trade premises and tankered waste operators, and to complement Council’s 2020 water supply and drainage bylaws. The base document of the proposed bylaw is NZS 9201: Part 23:2004 Model General Bylaws - Trade Waste. The schedules to the trade waste bylaw are specific to Kaikoura. These schedules identify permitted and prohibited trade waste characteristics and fees and charges.

2. RECOMMENDATION

- a) That the report be received, and;
- b) That public consultation, in accordance with the Special Consultative Process of the Local Government Act 2002, be conducted in respect of a proposal (further described in the attached Statement of Proposal) that a new bylaw – the Trade Waste Bylaw 2022– be made.
- c) That the Effluent Disposal Fee applicable to septic tank and/or portaloos emptying or discharge of similar tankered waste to the sewerage ponds is increased to \$40 (GST inclusive) per cubic metre of waste, effective from 1 July 2022.

3. DISCUSSION

Council’s 2020 water supply bylaw put in place new rules regarding the use of water from the Kaikoura town supply. The basis of charging for water supply to trade premises is by water use, measured by water meters. This is reasonably equitable.

Council’s 2020 drainage bylaw refers to NZS 9201: Part 23:2004 Model General Bylaws - Trade Waste and includes definitions related to trade waste.

As noted at clause 1.3.2 of that bylaw, it does not however provide for governing the acceptance of trade wastes. The proposed new bylaw will provide such control.

Local authorities may make bylaws for purposes which include protecting the public from nuisance and protecting, promoting and maintaining public health and safety. Making a trade waste bylaw aligns with this permission, and indeed the making of bylaws to regulate trade waste is specifically authorised by section 146 (1) a (iii) of the Act, and it is believed that most if not all councils will have such a bylaw.

Aspects relating to wastewater that have the greatest potential to require control through a trade waste bylaw include:

- a. Defining what trade wastes can be acceptably discharged into Council’s wastewater system.
- b. Providing for inspection and regulation of onsite trade waste treatment and monitoring systems that discharge to the council wastewater system.
- c. Defining how the discharge of those trade wastes are paid for.
- d. Managing peak discharge rates to make best use of the wastewater system.
- e. Providing the required levels of service and operational compliance.

Currently for KDC the key aspects are considered to be b. and c.

Uncontrolled discharges from a number of trade premises in Kaikōura have been causing fat deposition in sewers and pump stations, odour emissions, overloading treatment processes at the wastewater treatment plant and clogging the infiltration beds that discharge treated wastewater to land. A

number of sewer mains in the network are operating near to capacity and the currently uncontrolled discharges have increased the risks of sewage overflows and of non-compliance with Council's resource consents.

The proposed bylaw will require premises that have potential to discharge injurious material to the wastewater system to hold a trade waste consent and to comply with the conditions of that consent.

In most cases where the quantities of trade waste discharges are expected to be relatively modest these conditions will primarily require installation and regular emptying of traps for fats or silts from premises that are likely to discharge such materials to sewer, and regular inspections will be undertaken to ensure that these systems are functioning effectively. An annual administrative charge (suggested to have two tiers of a normal rate of \$150 per year and a discounted rate of \$75 per year for premises with a demonstrated history of 2 years good compliance with the conditions of their consent) would be levied to cover the cost of these inspections and associated administration. Consents of this type are described as being in the 'controlled' category.

The type of activities that are likely to require a 'controlled' trade waste consent include, but are not limited to food premises, hairdressers and beauticians, hospitals, doctor, dentist and veterinary surgeries, schools, maraes or other community facilities with kitchens, mechanical workshops & service stations, fertiliser suppliers, dry cleaners and funeral homes. It is suspected that there may be between 40 and 50 such premises in Kaikōura.

Premises or activities that discharge large quantities (more than 5000 litres per day) and/or poor qualities of trade waste to the wastewater system will be required to hold 'conditional' trade waste consents, which in addition to potentially setting conditions on the nature of the discharge will also require payment to be made to Council for the discharge that reflects the likely cost that will be incurred in receiving and treating it, taking account of both the volume and composition.

It is currently believed that there are very few activities in Kaikōura for which such a conditional trade waste consent would be required.

It should be noted that trade waste consents are only required to be held for premises that discharge a waste other than domestic sewerage. For example a commercial accommodation business, even if quite large, would not be required to hold a trade waste consent if it did not include a commercial kitchen or some other activity that was likely to create a discharge to the wastewater system that was different to domestic sewage. In such a case the cost to council of receiving and treating the large quantity of domestic sewage would be recovered through pan charges.

Some premises may however discharge both domestic refuse and trade waste, which are sometimes mixed together and a methodology is proposed to address this.

Setting of Trade Waste Charges

Nearly all of the premises affected by this bylaw will be required to hold 'controlled' trade waste consents and will only be charged an annual consent fee to that covers the cost of council conducting periodic inspections to ensure conditions are being met, in particular that interceptor traps are in place and are being regularly emptied so that they remain efficient.

It is suggested that such charges could have two tiers – an initial tier where there are regular inspections, and a potential subsequent lower tier for premises that have demonstrated a consistent high level of compliance upon which the frequency of inspections could be reduced.

It is believed that annual charges for these two tiers might be in the order of \$150 and \$75. As discussed later in this report it is currently proposed that such charges would only commence in the 2023/24 financial year, and decisions therefore do not need to be made at this time regarding exactly what level those charges are set at.

Additional charges may however be imposed to cover costs associated with council staff time required to achieve compliance where this is required.

Parties holding 'conditional' trade waste consents will be required to pay an annual consent fee that covers the cost of administrative input by Council staff (which is likely to be at a higher level than for controlled consent) and will also pay a charge related to the quantity and quality of the discharge.

Conditional Trade Waste Charges

Unlike for water supply, where most trade premises pay for their water on a metered basis, at present all rateable properties within the area serviced by the Kaikōura sewerage system are charged \$342.06 per separately used or inhabited part of a rating unit, and \$171.03 per additional water closet (toilet) and urinal. These charges do not differentiate between large trade discharges with high contaminant loads and smaller discharges that have characteristics close to those for residential properties.

Accurately assigning costs for the receipt and treatment of wastewater is however significantly more difficult than doing so for water, since wastewater quantities are more difficult to measure, and the quality of wastewater discharged from different types of trade premises is very variable, with corresponding widely variable treatment costs.

For this reason a fairly pragmatic approach must be taken to determining trade waste charges, that does not attempt to fine granularity. The charging approach taken by the bylaw with respect to discharge volumes is proposed to be a relatively coarse one, as follows

Trade Waste charges are proposed to be calculated based on three components; the estimated volume, and average Biological Oxygen Demand and solids content of the effluent. GST exclusive charges will be the sum of the following:

Solids Content: The recent de-sludging of the oxidation pond removed approximately 600 tonnes of dry solids at a cost of \$220,000. From this it is proposed that a solids charge rate of \$0.37/kg of total suspended solids (TSS) is applied.

Biological Oxygen Demand (BOD): The primary cost impact of BOD is the need for artificial aeration of the oxidation pond. Currently most of the oxidation process is achieved through natural aeration with only very limited powered aeration used to provide some support, the power for which currently has a cost of approximately \$14,000 per annum. There is however continued discussion regarding whether there is a need for more intensive aeration, and the rebuild of the wastewater treatment system added very substantial additional aeration capacity in the oxidation lagoon using 5 extra aerators. Operating these additional units does however require very substantial power with a likely cost in excess of \$70,000 per annum, and it is not currently believed that such operation is necessary with existing effluent loads, which have in recent times been reduced by the decreased level of tourism activity associated with Covid.

If the overall BOD load on the system was substantially increased this additional cost would however be imposed, difficult to say at exactly what point this would occur, but it does seem reasonable to believe that the use of this additional capacity would become absolutely essential the total BOD load was to increase from its current level by 50%.

At present the average concentration of 5 day BOD (BOD5) of wastewater received for treatment is around 550 milligrams per litre. As such, with 328,000m³ of wastewater treated per year the assumed total annual BOD5 load on the treatment system is around 180,000 kg per year.

A 50% increase would take that figure to 270,000kg per year, at which point the power cost would be expected to be at least \$84,000 per year, suggesting a charge of \$0.31/kg.

Volume:

It is considered important to ensure that the charges applied for Trade Waste align reasonably well with the existing general sewer rate, so that if a typical domestic ratepayer was charged for their wastewater discharge based on the same principles as are applied for trade waste charges, that they

would pay a similar amount to what they currently pay as a rate, which is currently \$312.06 (\$271.36 GST exclusive).

Approximately 1800 properties currently pay sewerage rates. If the total annual wastewater volume of 328,000m³ is divided by this number of ratepayers, average generation per property is 185m³ per year.

Assuming the average composition of this wastewater is 500mg/l TSS and 550mg/l BOD, an average sewerage ratepaying property produces 92.5kg of TSS and 101.7kg of BOD5 each year.

Applying the previously proposed per kg charging rates for these components gives the following annual costs:

$$\begin{aligned}
 &92.5\text{kg TSS @ } \$0.37 = \$34.23 \\
 &101.75\text{kg BOD5 @ } \$0.31 = \$31.54 \\
 &\text{TOTAL } \$65.77
 \end{aligned}$$

For trade waste charging to interface relatively seamlessly with the targeted sewerage rate the volume based component for this typical ratepaying property would be \$271.36 minus this \$65.77, which is \$205.59. Since this volume charge is for 185m³, it reduces to \$1.11 per m³.

The adopted charge rates would be set out in Council's schedule of fees and charges and could be revised as needed.

Separation from Domestic Sewerage Charges

It is proposed that trade wastes charges, where applicable, are calculated based on either the measured volume discharged from the premises, or the volume estimated from the measured volume of water entering the premises during the period corresponding most closely with each financial year.

Wherever possible it is preferable that the volume and quality of trade waste is assessed separately from wastewater of a domestic nature that is also produced by the premises, but it is recognised that in some cases such separation may not be practical.

Where the two types of waste cannot be so separated they may be assessed together with an initial 'gross' waste charge estimated, from which an allowance for the payment of the targeted sewerage rate is then deducted.

Example Calculation

A business discharges waste from a trade process which also contain domestic wastewater which has a typical composition of 2700mg/litre (2.7kg/m³) of BOD5 and 2000mg/litre (2kg/m³) of TSS. During a year the business takes 1400 cubic metres of water which is used for both the trade process generating the waste and toilets.

1	Volume Charge – 1400 x \$1.11	\$1554
2	BOD charge 1400 x 2.7 x \$0.31	\$1,171.80
3	TSS charge 1400 x 2 x \$0.37	\$1,036
4	Gross Sub-total (1+2+3)	\$3,761.80
5	Credit for Targeted Rate	-\$271.36
6	Annual Conditional Trade Waste Charge (GST exclusive) (4+5)*	\$3,490.44

Example of Conditional Trade Waste Charge Calculation* (additional to annual administrative fee)

Comparison with Other Councils

Different councils have differing approaches to the calculation of trade waste charges. Some base charges purely on volume, whilst others consider a broader range of effluent components, such as nitrogen, phosphorus, zinc and /or mercury.

These differences in charging approaches ALSO reflect differences in the form of treatment system employed, where the treated effluent is discharged to, and what associated resource conditions are in place.

Because KDC's wastewater effluent is discharged to ground and then into the sea concentrations of nutrients such as nitrogen and phosphorus are not significant, unlike for communities which discharge their wastewater effluent to rivers and lakes where eutrophication needs to be avoided.

A comparison of the proposed KDC charge components with those of some other Councils taking a similar 2 or 3 component charging approach is presented below.

Council	KDC (proposed)	Tasman	Ashburton	Christchurch	Waimakariri	Waipa (North Island)
Volume Charge (\$/m3)	\$1.11	\$2.04	\$0.60	\$0.50 / \$0.99 (latter for peak times)	\$0.75	\$1.28
Solids Charge (\$/kg)	\$0.37	\$1.23	\$2.00	\$0.47	\$0.50	\$1.10
BOD Charge (\$/kg BOD5)	\$0.31	\$1.95	NA	\$0.66	\$0.40	\$1.24

That there is a fair degree of variability between particular charge components between councils reflects the differing types and scales of treatment processes. None of the proposed figures for KDC do however appears to be entirely unreasonable when compared with these other councils.

Tankered Waste

KDC Currently charges \$11.50 (GST inclusive) per m3 for receipt of tankered waste at the treatment plant. The waste received in this way comprises sludge from cleaning of septic tanks, fat and grease from the emptying of collection devices, and stock truck effluent from the collection facility at the intersection of Inland Road and SH1.

Only very limited monitoring and control has to date been exercised over deposit of tankered waste. The solids and/or BOD content of such wastes is variable, but can be very high. For example a septic tank sludge might have upto 150kg per m3 of dry solids and 20kg per m3 of BOD, and there are other types of waste that may have even higher BOD levels or other characteristics that would adversely affect the functioning of the waste water treatment plant.

Currently no attempt is made to define the type of tankered waste deposited, and the \$11.50 per m3 charge applies regardless of its characteristics.

Such a level of charge (which appears to have been set many years ago and has not been subsequently reviewed) does however appear to be too low, not fully meeting the costs to council that are associated with it. Any such shortfall must currently be met from the revenue collected from urban ratepayers paying the sewerage targeted rate, and properties connected to the urban sewer system are therefore in effect subsidising properties or activities outside of the urban area which discharge tankered waste to the community system. This is not considered to be fair or reasonable.

If the proposed formula for calculation of conditional trade waste charges is applied to the type of septic tank sludge described above a GST exclusive charge of almost \$70 per m3 is indicated.

It is however recognised that the process by which tankered waste is received and processed at Kaikōura is different to that applicable to waste which is discharged into our community sewers.

Unlike reticulated sewage, tankered waste is discharged directly into the anaerobic pond at the treatment plant, from which excess liquid material then flows into the oxidation pond for treatment.

This results in two cost savings; firstly there is a reduced pumping and reticulation cost, and secondly much of the solid content of the sludge remains captured in the anaerobic pond, from which it can subsequently be removed more easily and cheaply than from the oxidation pond itself.

It is difficult to quantify exactly what the resultant saving is, but it is believed that it might not be unreasonable to assume that it is 50% less, at approximately \$35 per tonne (GST exclusive).

Such a figure is not dissimilar to what a number of other councils are charging for receipt of septic tank waste. Some random examples of these charges are below.

Council	Waimakariri	Ashburton	Christchurch	Horowhenua	Waipa	Kapiti	Whangarei
Septage Charge (\$/m3)	\$44	\$26.30	\$51.11	\$39 (tanker capacity)	\$74.50	\$27	\$39

Giving Effect to Bylaw

To give effect to most of the provisions of the bylaw requires the issuing of Trade Waste Consents.

An initial step required is to conduct a visit to all premises considered likely to require a consent, investigation of the nature of the discharge and the existing controls in place, identifying any required control improvements (potentially including new traps and other drainage modifications) and specifying consent conditions.

Up to 50 premises will potentially require a consent and given the other pressures on KDC staff it appears unlikely that this initial preparation stage would be completed before the end of the 2022 calendar year, even if some external resources are used.

As such it is currently envisaged that trade waste consents will not be prepared, issued and take effect until the start of the 2023/24 year.

Once those consents are issued subsequent administrative costs can be recovered from consent holders, but prior to that the preparatory stage (with a probable cost of at least \$10,000) will have to be funded from other sources.

Two steps that can however be taken more quickly are:

1. Giving effect to key provisions of the bylaw other than those relating to trade waste consents, such as giving council the power to prevent discharge of very adverse substances or stormwater to the sewer system. It is proposed in the bylaw that such provisions come into effect upon the adoption of the bylaw, with the remaining provisions only taking effect as from 1 July 2023.
2. Revising the charges for currently received tankered waste from the current \$11.50/m3 (GST inclusive) to the recommended new level of \$35/m3 GST exclusive (\$40.25 GST inclusive). This does not require adoption of the trade waste bylaw, and only needs a revision of the figure in Council's schedule of fees and charges.

If this revision was done as part of the 2022/23 annual plan it would be expected to provide at least \$12,000 of additional revenue, which could potentially meet the cost of the preparatory administrative work required to put all of the required trade waste consents in place.

Because the provisions associated with trade waste consents will not take effect until 1 July 2023 there is not a need at this time to set the associated fees and charges, and they would instead be set through Council's schedule of fees and charges as part of the 2023/24 Annual Plan.

4. PROCESS REQUIREMENTS

The procedures for making, amending or revoking Bylaws are set out in sections 155 to 157 of the Local Government Act 2002. The following content of section 156 is relevant at this point:-

1) When making a Bylaw under this Act or amending or revoking a Bylaw made under this Act, a local authority must—

(a) use the special consultative procedure (as modified by section 86) if—

(i) the Bylaw concerns a matter identified in the local authority's policy under section 76AA as being of significant interest to the public; or

(ii) the local authority considers that there is, or is likely to be, a significant impact on the public due to the proposed Bylaw or changes to, or revocation of, the Bylaw; and

(b) in any case in which paragraph (a) does not apply, consult in a manner that gives effect to the requirements of section 82.

Since the management of trade waste is considered to be of interest to and potentially have impact on the public it is believed that the Special Consultative Procedure of the Local Government Act should be followed in the making of the proposed new Bylaw, and accordingly a suggested Statement of Proposal follows, in which it is proposed that this report serves as the Summary of Information.

A suggested process schedule is as follows:

- Draft bylaw approved for consultation – 25 May 2022
- Public notice of consultation – 1 June 2022
- Submissions close – 4 July 2022
- Submissions heard 27 July 2022
- Bylaw confirmation 27 July 2022 or 31 August 2022

Kaikoura District Council
Statement of Proposal
Proposed Trade Waste Bylaw

1. Introduction

Unlike most other local authorities in New Zealand, Kaikōura District Council does not currently have a trade waste bylaw. Kaikōura District Council is proposing the making of a trade waste bylaw. This is to:

- a. Provide controls on the acceptance of wastewater and liquid wastes (trade waste) from trade premises and tankers into Council's wastewater system and*
- b. Allow Council to charge trade premises for their shares of the costs of:*
 - i) Acceptance of trade waste into Council's wastewater system*
 - ii) Conveyance of that trade waste to Council's treatment plant*
 - iii) Treatment*
 - iv) Disposal of the resulting treated effluent and solids*

- v) *Inspections, enforcement, asset management and administration and*
- c. *Allow Council to charge liquid waste tanker operators for their shares of the costs of:*
 - i) *Acceptance of liquid waste at Council's wastewater treatment plant*
 - ii) *Treatment*
 - iii) *Disposal of the resulting treated effluent and solids*
 - iv) *Inspections, enforcement, asset management and administration*

Section 145 of the Local Government Act 2002 empowers Council to make bylaws for its district for one or more of the following purposes:

- a. *Protect the public from nuisance¹*
- b. *Protect, promote and maintain public health and safety²*

It is believed that issues that currently exist meet criteria a. and b. above, and that as such the making of a bylaw to address these matters would be a justifiable and appropriate response.

Section 146 of the Local Government Act 2002 provides for specific bylaw-making powers of territorial authorities. Without limiting section 145, a territorial authority may make bylaws for its district for the purposes of

- (a) regulating trade wastes and*
- (b) managing, regulating against, or protecting from, damage, misuse, or loss, or for preventing the use of land, structures, or infrastructure associated with wastewater, drainage, and sanitation*

2. Purpose of this Statement of Proposal

Council believes that the management of wastewater discharges from trade premises is likely to be of interest to and potentially have impact on the public so it is believed that the Special Consultative procedure of the Local Government Act should be followed in the proposed making of the trade waste bylaw.

As part of the Special Consultative Procedure the Council must produce a Statement of Proposal, which contains a summary of information that is a fair representation of the major matters in the proposal and make it available to the community. This document is the Statement of Proposal. The information contained in this Statement of Proposal has been approved by Council for notification and consultation. The report titled 'Proposed Making of Trade Waste Bylaw' presented to Kaikoura District Council at its meeting of 25 May 2022 will serve as the Summary of Information, will accompany this Statement of Proposal.

3. Proposed Trade Waste Bylaw

The proposed bylaw is based on the New Zealand standard NZS 9201:Part 23:2004 Model General Bylaws - Trade Waste. This standard is used as a basis by almost every local authority in New Zealand. The schedules appended to the proposed bylaw describe permitted, conditional and prohibited trade waste characteristics, and fees and charges, specific to the Kaikoura wastewater system and Council.

4. Report under Section 155 of the Local Government Act 2002

In proposing a Bylaw, Section 155 of the Local Government Act 2002 requires the Council to:

- a. *determine whether a bylaw is the most appropriate way of addressing the "perceived problem", and*

¹ Odour

² Wastewater overflows to private or public property and/or the environment

- b. *if so, determine whether the proposed Bylaw is the most appropriate form of Bylaw, and whether it gives rise to any implications under the New Zealand Bill of Rights Act 1990*

Bylaws cannot be inconsistent with the New Zealand Bill of Rights Act.

It is believed that a bylaw is the most appropriate means of addressing the problem(s) because there is a need for readily enforceable provisions relating to trade waste acceptance from individual trade premises to Council's wastewater system, and a need for Council to be able to make charges that provide payment to Council for the costs associated with that acceptance. Other approaches cannot satisfy these needs.

It is also believed that the proposed bylaw is the most appropriate form of bylaw for the Kaikōura District. It is based on the NZ standard document with schedules containing Kaikōura-specific acceptance criteria and fees and charges.

The bylaw does not infringe any of the rights contained in the NZ Bill of Rights 1990.

It is therefore considered that the proposed Trade Waste Bylaw meets all of the tests set by the Act.

Dave Clibbery

Senior Manager Operations

Proposed Advertisement

Proposed Making of Trade Waste Bylaw 2022

Kaikoura District Council (KDC) proposes the making of a new bylaw to place controls on discharge of waste from trade properties (other than waste similar to domestic sewage) to the community wastewater system.

The bylaw will control what can be discharged and will impose charges for discharges that are very large in volume and/or have a composition that could adversely affect the operation of the community wastewater reticulation and treatment systems.

All premises discharging trade waste which can have potentially harmful effect on these systems will be required to hold trade waste consents that authorise these discharges and place responsibility on consent holders to have and maintain measures that limit these adverse effects.

Most if not all NZ Councils have such a bylaw.

A more detailed Statement of Proposal, a copy of the proposed new Bylaw and associated information is available from Council on request.

Submissions in respect of the making of the Trade Waste Bylaw 2022 can be made in writing, and should be addressed to:

The Chief Executive

Kaikoura District Council

PO Box 6

KAIKOURA 7300

Submissions must be received by Monday 4 July 2022.

5. Community Outcomes

The issue discussed in this report relates to the following community outcomes:



Community

We communicate, engage and inform our community



Development

We promote and support the development of our economy



Future

We work with our community and our partners to create a better place for future generations