



# Māpua & Districts

## COMMUNITY ASSOCIATION

Māpua District Community Association  
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3 January 2023

Kim Drummond  
Group Manager – Environmental Assurance  
Tasman District Council

Re – wastewater overflows

Dear Kim,

I have been asked by and in consultation with the Māpua District Community Association (MDCA) to write you this letter in relation to sewage overflows.

We have received letters from you and Carl Cheeseman on 2 December 2022 and 21 December 2022 as well as some email exchanges on this subject.

By way of introduction, my name is Jan Heijs and I'm a local resident from Māpua. Professionally have been involved in wastewater network planning for most of my working career and have extensive experience in how best to manage wet weather overflows and inflow and infiltration. I have presented about 4-6 papers to various NZ-Water conferences and one international conference. I have worked for and advised many councils on this subject such as Auckland, Wellington, Kapiti, Nelson, Queenstown, Christchurch, New Plymouth, and Tauranga.

I am surprised and deeply concerned on the way wastewater overflows are regulated in Tasman District Council (TDC).

First a few facts about wastewater networks.

1. Wet weather overflows

- a) All wastewater networks let stormwater in, mainly during and after rainfall events. We call that inflow and infiltration (I/I).
  - b) Inflow and infiltration have many causes and occur in both the private and public parts of a network. Some examples of how this can occur include cracked pipes and manholes, cross connections, downpipes, gully traps, etc. It is generally accepted that about 50% of the I/I originates in private and 50% in public networks.
  - c) Wet weather overflows occur when the network can't cope with the wet weather flows caused by Inflow and Infiltration during and following a rainfall event.
  - d) Networks are typically designed to cope with 4-5 times the predicted dry weather flows (DWF). My understanding is that TDC design for 6 times dry weather flow – which is from an overflow risk a positive undertaking.
  - e) I have seen (measured) peak flows in networks at often 20 to 30 times dry weather flow and up to 60 times dry weather flow. So even a network that is designed to 6 \* DWF *will overflow* when actual flows exceed network capacity.
  - f) The number of wet weather overflows (per annum) in a network depends on rainfall events (intensity, duration, etc), the rate of inflow and infiltration and the capacity of the network.
  - g) Typical overflow performance varies greatly across Aotearoa. I have seen networks that overflow from more the 50 times per year to less then once every 5 years.
  - h) *I have never seen a wastewater network that doesn't overflow*. There is always a rainfall event that cannot be handled. Not allowing overflows is the same as saying that it is not allowed to rain over certain intensity.
  - i) I have never seen the network performance improve (measurably) as a result of an action addressing only one of many causes of inflow and infiltration, for example by just addressing private connections such as looking for falsely connected downpipes and/or too low gully traps. This was suggested by TDC in some of the correspondence.
  - j) Thus, wet weather overflows are a fact. The number of overflows that will occur depends on how much money TDC wants to spend in maintaining and upgrading their networks. However, there are no watertight networks and the costs to achieving a very low frequency of such events is often prohibitive.
  - k) Typically, a council would have reliable information on network performance (wet weather overflows, Inflow and Infiltration). Network models are built and calibrated to enable performance assessments based on running these over long-term rainfall time series to enable a statistically valid assessment. This cannot be done on a storm-by-storm basis.
  - l) Every council should have had a process by which the desired performance is defined after consultation with iwi and the community, expressed as a level of service in the Long-Term Plan and is also consented.
  - m) Water NZ's Inflow and Infiltration Manual that has been available for decades and provides useful guidance on these matters.
- 2) Dry weather overflows
- a) Dry weather overflows are caused by network failures.
  - b) The risk of dry weather overflows can be minimised by the use of emergency storage, duplicate power supply, standby pumps, fit-for-purpose response processes, etc.
- 3) Designated and engineered overflow structure
- a) When wet or dry overflows inevitably occur, as explained above, it is important that any risks to public health and the environment are minimised.
  - b) Good practice is to provide for engineered overflow locations to ensure most overflows discharge at locations where these risks are minimised, typically at the bottom of a catchment near a pumpstation and into a flowing stream.
  - c) In the absence of these engineered locations, wastewater will discharge in unpredictable locations such as from manholes in public and private spaces causing risks to public health and often resulting in significant clean-up costs.

Looking at the responses received and the above understanding of wastewater network management I make the following observations:

- 1) *Wet weather overflows are totally predictable, should not be treated as an emergency and need a discharge consent.*
  - a) By treating them as an emergency, these (predictable) discharges are kept out of a consultation process with the community as would be required in a proper RMA process. As a community we are excluded.
  - b) Consequently, treating them as an emergency is a wrong interpretation of the RMA.
  - c) The advantage for TDC in having consent including a permitter overflow frequency, is that very big rainfall events such as the one in August could well be considered as expected and permitted without the need for extensive 'please explain' reporting (such as this letter) and kneejerk responses such as capital works.
  - d) In your letter from 2 December 2022, you state "*Notwithstanding the investigation that is underway, it is our practice to learn from events such as this and to put in place steps that are aimed at avoiding a repeat. Where infrastructure failure is a contributing factor, the remedies are often associated with capital expenditure that is in turn the subject of consultation with the impacted community over the form of the response*". This clearly demonstrates the lack of understanding because individual discharges should not be the basis for a planned and more cost-effective approach to maintain or improve network performance.
- 2) The risk of *dry weather overflows* can be minimised but cannot be eliminated, should *not be treated as an emergency and must also be consented*.
  - a) Agreement should be made on the scope of risk minimisation actions as well as response activities and included in a network discharge consent.
- 3) *Not allowing for engineered overflow locations is bad practice* and increases the risk to public health and the environment.
  - a) The establishment/construction of engineered overflows should be permitted subject to conditions for reasons explained before.
- 4) 'Wastewater overflows are not authorised under the TRMP' and regulatory framework.
  - a) The fact that the 'wastewater overflows are not authorised under the TRMP' (your letter from 2 December 2022) demonstrates *a lack of understanding of how wastewater networks are managed*
  - b) Looking at the TRMP, it appears that the regulator has no knowledge of how to regulate wastewater network nor sought independent expert advice.
  - c) The failure to adequately regulate wet (and dry) weather overflows is not good practice and probably illegal.
  - d) The absence of a consent prevents the regulator to require conditions against which performance is reported.
  - e) Consequently, overflows are processed in a very random manner where the regulator is failing to regulate.
- 5) Post overflow event response
  - a) It is good to see that TDC is actively following up after overflow events as a regulatory response.
  - b) It is however impossible to see whether the response processes meets good practice and no assessment methods appear to be in place
  - c) Without a consented benchmark it will be near impossible to assess whether a response is lawful or effective.
- 6) It is hard to understand why discharges from the stormwater network are consented and discharges from the wastewater network are not.
- 7) Independent regulator
  - a) Looking at some of the responses, it appears that the regulator makes itself dependent on information provided by the wastewater network operator.
  - b) My understanding is that after each 'overflow emergency' a please-explain report is requested from the wastewater network operator. These reports stay behind closed doors unless specifically asked

for by elected members and/or community. There does not appear to be a method against any performance issue (incl. overflows) is reported against. How does the regulator determine when a discharge is unlawful?

- 8) When asking for some information you respond that a \$38/hour charge applies for the provision of the requested information (see your email from 16 December).
- a) The fact that the regulator cannot easily provide an overview of all wet weather overflows in the region over the last 5 years shows that the regulator fails to adequately control these predictable discharges.
  - b) For example, it is our understanding that we had wastewater network overflows on at least eight occasions since July of 2021. Specifically, on 30/7/2021, 28/8/2021, 23/9/2021, 22/4/2022, 29/6/2022, 12/7/2022, 31/7/2022 and 18/8/2022. [A link to the 12 July 2022 overflows](#) we found earlier is no longer working. Does this mean that TDC removes this type of information from the website? This would be inappropriate.
  - c) Surely this type of performance information should be at your fingertips? The August event is almost 4 months ago....
  - d) Thank you for the table sent in the email by on 22 December by Carl Cheeseman. It clearly confirms that overflow events are predictable and not emergencies. The table only includes events related to the August wet weather period and it is not clear how these events have been logged? It appears to be from level data sensors (in pumping stations). If that is the case how are other overflows (e.g. from manholes) detected and reported and what are the discharge locations? As the data is not correlated against rainfall, it is not possible to ascertain whether these overflows are resultant from either an inadequate network capacity or from network failure.
- 9) It is interesting to read in the letter from 21 December that you are reviewing practices related to 'unplanned overflow events'. As per my above statements overflows can not be considered "unplanned". The description of the scope in this letter is very vague, so it is uncertain whether the promised strategy will address the concerns raised above and/or will meet good practice.

We ask that:

- A) You respond to the comments above
- B) Require TDC, as the wastewater network operator, to apply for a network discharge consent within six months and develop within one month a plan for how this will be achieved. A fast process such as this should be possible because the network operator will have all the (performance) information needed for the application as part of their current responsibility.
- C) Having a consent as quickly as possible is important because this provides TDC and its community an opportunity to provide a legal mandate to look after and improve wastewater network performance after the 3-waters reform. There is a real risk that without a proper consent Tasman becomes a very low priority with the new water entity.
- D) Inform us how we can object/disagree/appeal (1) to the (lack of) action to date and (2) if you won't require a consent as requested under B) above?

I'm happy to meet to discuss this letter.

Kind Regards,

On behalf of the MDCA

Jan Heijs

cc: councillors Mackenzie, Kininmonth, Shallcrass, MDCA members.