KAIRAKAU WATER SUPPLY UPDATE

ENGAGEMENT FEEDBACK QUESTIONS AND ANSWERS

#the BIG Water Story

CENTRAL HAWKE'S BAY DISTRICT COUNCIL

1. WATER QUALITY:

Engagement feedback showed some concern regarding the hardness of the current water supply. Although lime content / hardness is not a factor in drinking water meeting the New Zealand standards, following the feedback Council has been further investigating alternatives to address this.

- Alternative 1: Installing an ion exchange plant at the water treatment plant to soften the water. An estimated capital equipment cost for this option is roughly $100,000-$250,000. An ion exchange plant will produce large volumes of waste by product which will need to discharge to a sewer system. Alternatively, waste could be stored in a tank and trucked away on a weekly basis, creating large operational costs. The ion exchange plant would require an additional building, plus a storage tank for the waste.
    - The building size we have indicated in our plans may be sufficient to house two softeners and the brine tank if required (this would need to be confirmed during the design phase). However additional space would be required for a waste tank outside of the building. The tank on this site needed to be emptied on a regular basis.
    - If CHBDC did want to discharge the brine waste to the private Kairakau wastewater system, approval from the private scheme would need to be sought and the feasibility of this would need to be investigated to evaluate whether it would interfere with the biological treatment process in the wastewater treatment process.
- Alternative 2: Investigate options for individual water softeners at each property. Point of entry treatment was considered within Option 4 of the original pamphlet, adding individual water softeners would be in addition to the original high level cost estimate of Option 1 and 2 and requires a detailed survey of existing conditions across each property to better understand the effect. The scenario that Council continues to supply drinking water and treatment is performed at each property in principle holds 2 alternatives.
    - Point of entry treatment and appropriate storage of treated water prior to use, discharge is into the septic tank with study required on the design and effect.
    - Post storage in line treatment, discharge is into the septic tank with study required on the design and effect.

Investigation of these alternatives for treating water condition will require further detailed study and funding from Council, which will be presented in the updated options report – planned t be taken to Council in February to endorse the option to be taken to design.

2. ROOF WATER RETENTION:

The availability of safe drinking-water for all New Zealanders, irrespective of where they live, is a fundamental requirement for public health. The Drinking-Water Standards for New Zealand provide requirements for drinking-water safety by specifying the maximum amounts of substances or organisms or contaminants or residues that may be present in drinking-water.

If roof water is retained, Council will still meet the obligations to supply safe drinking water to each property boundary under the current drinking water standards, but residents own supply of roof water mixing with council supply may not meet Drinking Water Standards New Zealand and Council are currently investigating this further.

A key component to understanding the requirements to provide safe drinking water is outlined through the development of a water safety plan. Council is currently developing a draft water safety

plan to support the treatment and reticulation steps implemented for to support the proposed upgrade.

Please see the current New Zealand Drinking Water Standards here. The water sector is changing nationally, with the development of a new water regulator 'Taumata Arowai' planned to be established and stood up in 2021. Supported by a soon to be legislated water services bill, with a key change that would impact this project where council currently needs to monitor compliance from 'source to property boundary' and that is proposed to change to 'source to tap'

Council is working hard to ensure any proposed upgrades meet current and future compliance and regulatory requirements.

3. WATER RESTRICTORS:

Engagement feedback included questions regarding the proposed water restriction levels and how this will affect water pressure.

Individual resident water pressure will differ depending on various factors, including house location and pump size.

Council is currently investigating and understanding the water pressure in water network. Commonly used Maric restrictors need 150 kPa of differential pressure to pass their full rated flow, (the flowrate for a 1-unit restrictor is just a trickle at 0.7 L/min - these cannot feed a hose or shower etc directly).

The potential introduction of a restrictor is consistent with the soon to be adopted district wide 'Sustainable Water Demand Management Plan' that outlines actions that could be taken to better manage water use.

The restricted supply will need to continue to go into a tank and then be pumped to service individual properties directly providing internal water pressure, this will be investigated for feasibility in design, and the benefits understood before Council progress any further.

4. INCREASED WATER STORAGE:

Your feedback questioned the possible need for increased water storage during peak times.

Council plan to repair the damaged treated water tank. Once this is complete, there will be a nominal 195m3 of raw and treated storage, which is over three days' worth of water storage during peak summer demand.

This issue could be supported by water restrictors allowing for the fair distribution of water during these peak times.

The current maximum consented water take is 605 m^3 over a 7-day period at a maximum rate of 1 L/s.

Further storage options will be investigated during the design phase, (including the ratio of available raw and treated water storage) once the site and its size has been determined.

5. PLANT NOISE:

The new treatment plant would have to meet regulatory requirements. Our engineering team at WSP have noted that the sound pollution should be minimal but there are some measures which can be used to reduce the possible noise. This includes lining the building, the positioning of the doors / building and efficient door seals. These measures will be evaluated and fleshed out during the design phase.

Council recently installed two slightly larger containerised water treatment plants in Takapau and Porangahau and we have not found noise to be a factor – we will offer community members who are interested the opportunity to visit this treatment plant to get a feel for the proposed setup.

6. PLANT LOCATION:

The site of the existing bore and pump shed is located on land held by Council as a Local Purpose (Recreation) Reserve. The area proposed in Option's 1 and 2 will be located on part of the Reserve. If either of these options proceed, Council would propose to change the purpose of that part of the reserve affected by these options to a more suitable purpose such as 'water supply' purposes or similar. The process to change the purpose of any local purpose reserve is provided for under the Reserves Act 1977.

Options 1b and 2b:

Council are currently reviewing options 1a & 2a which has been raised during the consultation process, which would see the water treatment plant remain at its current location (see figure 1 below).

Should retention of the treatment plant in the current location become viable, fencing and tidying up the bore site would still be required, (figure 2 below). This would reduce the physical work undertaken on the existing reserve land.

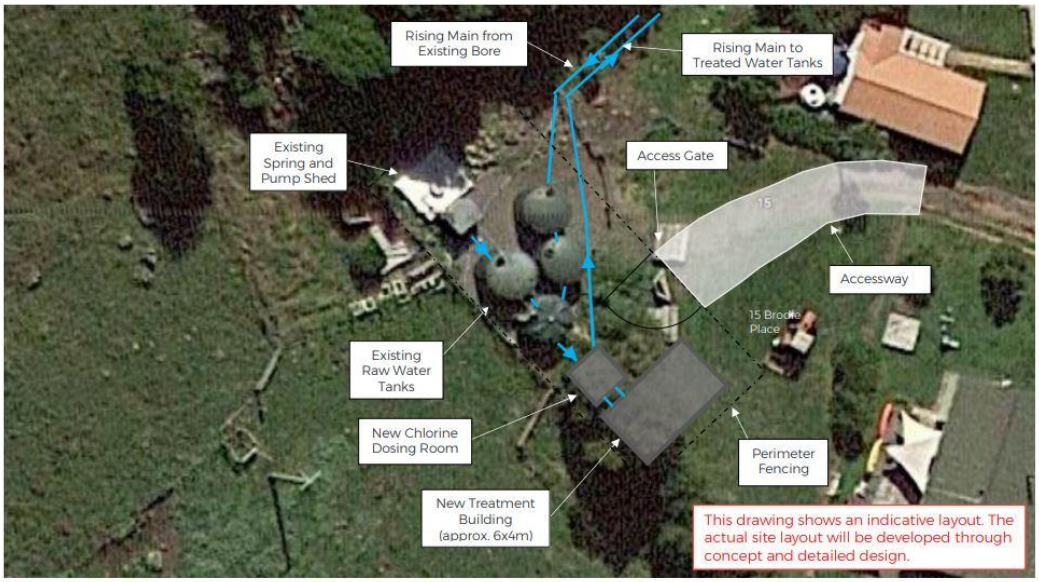

Figure 1: Kairakau Water Supply Upgrade - Alternative location for treatment (indicative layout)

Figure 2: Kairakau Water Supply Upgrade – Indicative layout of bore site

7. TIMEFRAME FOR IMPLIMENTATION:

CHBDC is reviewing the schedule in line with the Community engagement process. It is envisaged that the system will be procured, installed and operating in the community before Christmas 2021 however identifying the final location, land matters, full design and procurement processes remain to be performed.