



Waipukurau Second Water Supply

Background

The Central Hawkes Bay District Council (CHBDC) is embarking on a project to improve the water supply to the Waipukurau township. CHBDC investigated several options and has chosen a preferred option which provides the greatest reliability and resilience to both Waipawa and Waipukurau.

The option involves extending the existing Waipawa bore field and water treatment plant to provide sufficient water to meet the full demand of Waipukurau and Waipawa. This would provide a full second supply to Waipukurau, so that the existing Waipukurau supply (at State Highway 2 west of the town) can be taken offline for repairs or maintenance and the Waipawa source can supply both towns.

The current Waipawa and Waipukurau networks have existing reservoirs (2 in Waipukurau and 2 in Waipawa) that are requiring replacement within the next 4- 7 years. The Pukeora reservoir in Waipukurau is circa 93 years old, and the older Abbotsford reservoir is circa 110 years old. The current network has no capacity that enables these reservoirs to be taken offline for replacement or refurbishment for any period.

Additionally, these reservoirs are struggling to meet peak day water demand and provide minimal resilience in the event of a water outage or damage pre reservoir.

Description of Project

Summary

An extra bore would be constructed at the Waipawa borefield to upgrade its capacity. Water would be treated at the existing Waipawa treatment plant at the borefield on Tikokino Road, then pumped through a new pipeline from the existing Waipawa Borefield to a new Central Reservoir and then gravity fed through a new pipeline to Waipukurau, as shown in Figure 1 below.

The route shown is indicative and is subject to consents, landowner and affected party approvals. CHBDC are presently at a planning stage for the project investigating key risks and performing due diligence in order to better understand the projects requirements. The first aspect of this is identification of a suitable water supply so placing a test bore at the Waipawa Borefield forms the first early works package.

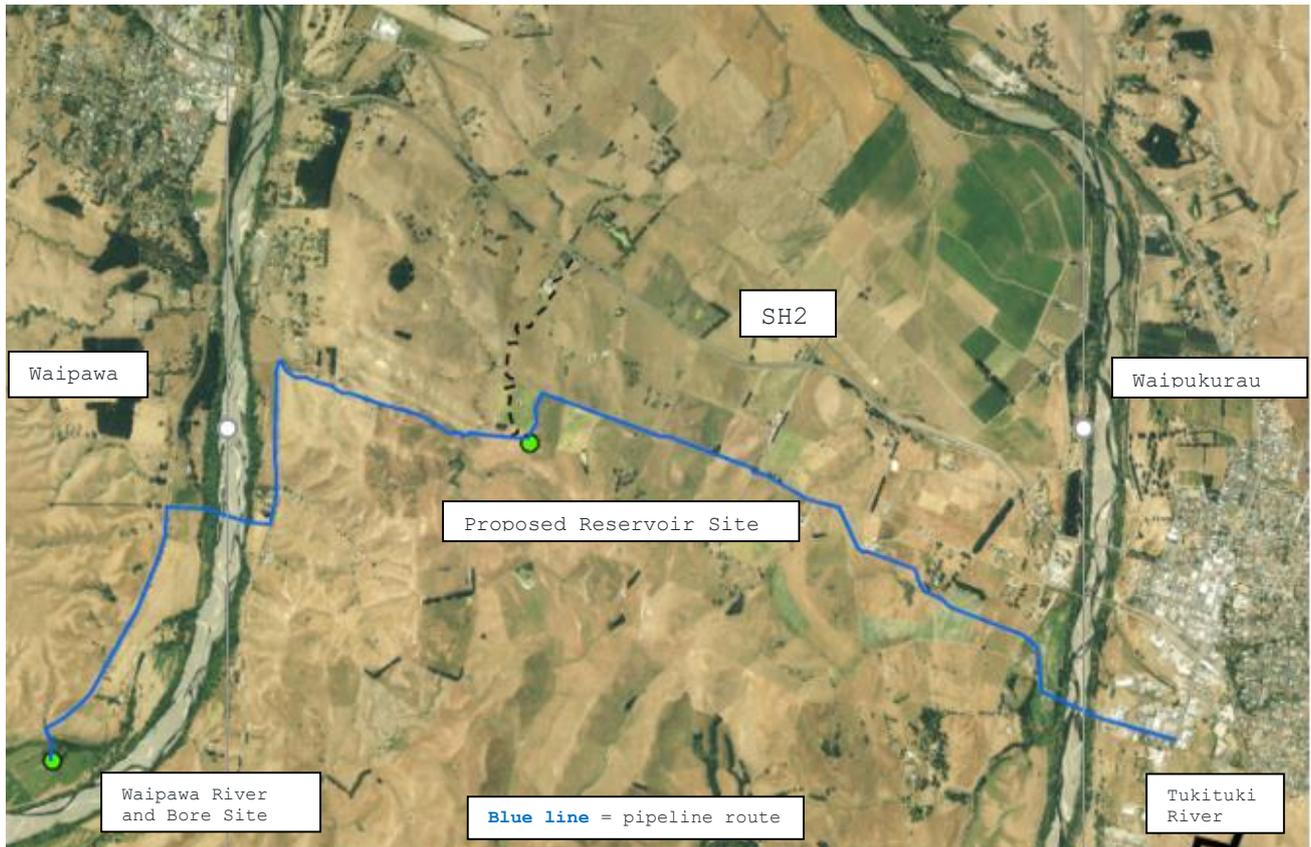


Figure 1 Proposed pipeline route

Expected Benefits

A new second drinking water supply for Waipukurau allowing renewal of the existing Pukeora reservoir site, and the future opportunities for reversed supply to Waipawa from the new reservoir location. In addition to increased supply resilience, the system will also extend the overall storage capacity for the towns while increasing the long-term viability of both supplies, and allow for growth forecast in the region.

Waipawa Borefield Expansion

The proposed upgrade of the bore field includes drilling additional bore(s) close to the existing Waipawa bore field. Investigation bores will be drilled initially to determine the available quality and quantity of water and if successful these will be converted into permanent production bores.

The water from the bore field will need to meet legislative requirements for drinking-water which are currently set out in the *Drinking Water Standards for New Zealand 2005 (revised 2018)* (DWSNZ).

Resource consent will be required for the drilling of the production bore(s) and for the extraction of groundwater, at this stage CHBDC have applied and been granted the test bore consent only.

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Pipe from Waipawa Bore Field to Central Reservoir and then to Waipukurau

The pipe proposed will carry treated water from the Waipawa bore field along the road corridor along Tikokino Road for about 2.4 km. Then it crosses into private farmland, travels below the Waipawa River, through private farmland, across Ongaonga Road, and through private farmland up to the location of the proposed Central Reservoir (shown on Figure 1).

A new gravity pipe would carry treated water from the Central Reservoir down through private farmland, across Lindsay Road, into private farmland again and below the Tukituki River. It would then travel along the toe of the stop bank and into James Street in Waipukurau where it will connect into the existing Waipukurau reticulation scheme.

The total length of the pipeline is circa 9km. Pipelines are likely to be around 350 mm internal diameter with the material still to be confirmed, but most likely polyethylene.

The proposed pipes would be installed using a combination of directional drilling (using a drilling machine) and traditional open trenching. It is most likely that the pipeline will be directional drilled well below the Waipawa and Tukituki Rivers to allow natural gravel movement. This involves digging an excavation on either side of the river and drilling the pipe between the entry and exit excavations under the riverbed. The feasibility of doing this needs to be confirmed by ground investigation. Otherwise, if drilling is not possible an open trench method or a combination of approaches would be required.

Constructing the pipe under the Waipawa and Tukituki Rivers and earthworks within the 20 metres of the rivers and their tributaries along the pipeline route requires resource consent from HBRC. Sediment, drill fluid and dust will need to be managed to avoid any discharges to the environment. This will need to be demonstrated in order to get consent.

A desktop and visual archaeological assessment are currently underway across the proposed pipeline route to assist the design and inform any locations of cultural significance that the team should be aware of.

Central Reservoir

The Central Reservoir is likely to be about 30 m in diameter and about 7-8m high. It would either be concrete or steel. A suitable platform at the required elevation has been identified (shown in Figure 1) and some earthworks will be required to level the platform and provide a suitable foundation for the reservoir. A permanent access road will also be required to the reservoir, the most suitable location for this is currently being investigated.

The reservoir is expected to hold in the region of 3 to 6 million litres of water (3000m³ – 6000m³).

As above erosion and sediment control plans to manage dust, sediment and runoff throughout the works will be required.

The new reservoir will allow the existing reservoirs in Waipukurau and Waipawa to be replaced, decommissioned or downsized as they have reached end of life.

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Treatment Plant Expansion

The existing treatment plant located at the Waipawa borefield will need to be modified to accommodate the additional volume of water to be treated. This will consider flooding and access required for the expanded site.

Proposed Indicative Project Programme

| | We are here now | Q1 - 2021 | Q2 - 2021 | Q3 - 2021 | Q4 - 2021 | Q1 - 2022 | Q2 - 2022 | Q3 - 2022 | Q4 - 2022 | Q1 - 2023 | Q2 - 2023 | Q3 - 2023 | Q4 - 2023 |
|-----------|--------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------------|-----------|-----------|-----------|-----------|
| Planning | Council Decisions | | | Ongoing | | | | | | | | | |
| | Due Diligence/ Investigations | | | | | | | | | | | | |
| | Tangata Whenua engagement | | | | Ongoing | | | | | | | | |
| | Landowner Agreements | | | | | | | | | | | | |
| | Works Consents | | | | | | | | | | | | |
| Execution | Design | | | | | | | | | | | | |
| | Procurement | | | | | | | | | | | | |
| | Production Bore | | | | | | | | | | | | |
| | Pipelines (river crossings) | | | | | | | | River Crossings | | | | |
| | Reservoir, Access and Platform | | | | | | | | | | | | |
| | Treatment Plant and Pumps | | | | | | | | | | | | |
| | Go live / Commission | | | | | | | | | | | | |

Opportunity for Engagement

This project is currently in the planning phase with technical due diligence, landowner and affected parties' discussions being progressed. Council would like to gather feedback in advance of any construction to inform further Council decisions prior to the project moving into execution and construction monitoring stages.

Learn more: www.chbdc.govt.nz/our-district/projects/bigwaterstory/waipukurau-second-drinking-water-supply/

