

MEETING: INFRASTRUCTURE COMMITTEE – 25 FEBRUARY 2015

Name of item: SOUTH HOKIANGA WATER SUPPLIES

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Executive Summary

The purpose of the report is to seek confirmation of the water supply projects that are being forwarded for Ministry of Health (MoH) CAPS subsidy applications.

Recommendations

- 1. That application be made to the MoH for CAPS funding to supply potable water to Omanaia based on a new water treatment plant and storage located near the raw water intake.**
- 2. That application be made to the MoH for CAPS funding to improve the raw water security for Rawene/Omanaia based on raw water storage tanks**
- 3. That application be made to the MoH for CAPS funding to improve the raw water security for Opononi/Omapere, based on a bore option, and if the bore water is found unsuitable, piping water from the Waimamaku River.**
- 4. That work progress towards developing a Co-Governance agreement with the Hapu of Waimamaku with respect to water extraction from the Waimamaku River**
- 5. That the CAPS applications be lodged under an umbrella application of the Hokianga Water Supply Collective.**
- 6. That strategies be developed around improving water conservation, on site storage and community education of water related topics.**

1) Background

At the Council meeting of 7 August 2014, the following recommendations by the Infrastructure Committee were passed. *To develop secure and drought proof long term raw water resources for the Rawene and Opononi water supplies through working in partnership with the hapu and communities of the South Hokianga.*

This report was submitted to the 23 July 2014 Infrastructure Committee meeting and the Committee made a recommendation to Council.

Resolved

Court/Collard

THAT the Far North District Council work in partnership with the hapu and communities of the South Hokianga to find long term solutions to the water shortages in the South Hokianga;

AND THAT Council representatives for this project are Councillor John Vujcich and Community Board Members John Schollum and Louis Toorenburg;

AND THAT the solution takes into account the possibility of obtaining Ministry of Health subsidy to assist in funding of the works;

AND THAT the proposed solution be reported back to the Infrastructure Committee for consideration and recommendation to Council before the subsidy application is lodged;

AND THAT Council writes to the Ministry of Health outlining the proposed South Hokianga water scheme and the intention to lodge a subsidy application.

Past Investigation by Council

Since the mid 1990s there have been over 40 reports commissioned by Council around the water supply issues in the South Hokianga. In the mid 2000's Council successfully obtained MoH subsidy to supply treated water for Omanaia, the subsidy monies was ultimately surrendered back to the MoH without the works being undertaken. Despite the large number of previous investigations, the basic issues of raw water shortages and the supply of untreated water have remained unresolved.

Engagement undertaken

Over the last six months the nominated Elected Representatives and Council Staff have been working closely with the other water suppliers and Hapu of the South Hokianga. A group representing these parties was formed by Hokianga Health and is nominally as the Collective. Overall there have been a large number of hui to find resolutions to some complex issues that have arisen. This engagement has also required the strengthening the relationship between the Hapu and Council.

The existing water supplies in the South Hokianga have many factors in common. Working with the Collective has provided Council and Collective members with an overall understanding of the issues and options within the South Hokianga. To support the Collective, Council has provided engineering support to enable individual water suppliers to scope solutions specific to their needs and to support them with preparing CAPS applications.

The issues associated with the Council run water supplies have been ongoing for a long time, this combined with Council failure to deliver on past commitments made has created an environment where the affected people developed a significant distrust of Council.

South Hokianga Water Schemes Overview

Within the South Hokianga there are the following water supplies, or need for water supplies.

- Utukura/Horeke. Currently no water supply. The Hapu are progressing a CAPS application.
- Taheke. Currently no water supply. Currently limited local support for a community water supply.
- Waima Existing treated water supply. Has a shortage of raw water in drought conditions.
- Rawene/Omanaia Existing Council supply. Has a shortage of raw water. The Omanaia consumers receive untreated water.
- Whirinaki Existing treated water supply. Recently CAPS funding approved to improve raw water security and extend the reticulation.
- Pakanae Existing treated water supply. Only minor issues around treatment processes.
- Kokohuia Existing untreated supply. Have some operational issues around pressure management.
- Opononi/Omapere Existing Council treated water supply. Has a shortage of raw water in summer conditions
- Waimamaku Existing untreated water supply.

Sustainable Raw Water Options

Typically the existing schemes source their water from small bush streams which have insufficient flow during the drought periods.

With regards to sustainable raw water options, there are three rivers of sufficient flow that extraction from those rivers will not have an adverse environment effect. These are the; Waima, Whirinaki and Waimamaku rivers. Ground water outside the basalt dome is not viable. There are no bores within the volcanic dome to know whether it is a suitable source of raw water.

A constant theme from consultation was raw water storage was favoured to resolve Councils water shortage issues. Due to works needed to control algae growth, typically the cost of raw water storage is substantially more than extracting from a river.

Water Conservation and Education

There has been a common theme raised by the Hapu that they have a very strong relationship with their rivers and have manawhenua status over the rivers. As guardians of the rivers, they have concerns that the water is being needlessly wasted through leaks and poor management processes. Also that people are now relying on rivers without first utilising the resource they already receive, ie rain water harvesting and on site storage.

How the water resource is used and managed is of significant concern to Hapu and consequently there is reluctance to allow a new resource to be commissioned. The

Hapu want Council to have a holistic approach to water use and unless Council embraces water conservation and water use education, any new or additional extraction of water is likely to be opposed.

Legalities Regarding Supplying Untreated water

Through the engagement process there have been questions raised regarding the legality of supplying Omanaia consumers with untreated water which is unsuitable for drinking or food preparation. The following is a overview of this action with regards to the Health Act and Commerce Act.

- In terms of the Health Act.

Using the criteria detailed in the Health Act, Omanaia water does not meet the criteria to be classified as a rural water supply and classified as a drink water supply. As a drinking water supply it needs to meet the criteria for a drinking water supply, ie suitable for drinking and food preparation.

- In terms of the Commerce Act.

The Commerce Act is around the goods being what they are stated to be, and fair trade. Council advises the raw water consumers on the water meter invoices that it is untreated water. However Council charges the Omanaia consumers the same capital rate as other Rawene consumers which includes capital works associated with the water treatment plant, yet in terms of receiving potable water they get no benefit from the water treatment plant.

An initial assessment is in terms of both Acts Council is not in a strong position.

If requested a detailed legal assessment can be prepared for Councils consideration.

Draft Long Term Plan and Proposal Overviews

The following is a overview of the proposals which have been included in the Long Term Plan for public consultation.

A) Opononi / Omapere Water Supply

The raw water for the Opononi / Omapere water supply is currently sourced from two streams. Approximately 25% is sourced from the Waiarohia Stream and 75% from the Waiotemarama Stream. Virtually all available water is extracted from the Waiarohia Stream whereas, the resource consent to extract water from the Waiotemarama Stream limits extraction to maintain a residual flow to sustain the streams ecology and for use of down stream users.

Over recent droughts, the volume extracted from the Waiotemarama has resulted in less than consented residual flow remaining in the stream, and as from 2019 the level of residual flow will be increased exacerbating the situation. From 2019, in a normal summer there will result in insufficient water to maintain supply to the Opononi/ Omapere consumers for up to several months each year.

An initial assessment has been undertaken as to potential raw water sources. The key findings are;

- Raw water storage requires to be covered to prevent algae growth which peaks late summer and can make the water unsuitable for treating to a potable standard. Covering to prevent algae growth substantially increases the cost. The advantage of raw water storage is it doesn't require a new water source. The disadvantage is it is substantially more expensive than the other options.
- There are currently no ground water bores in the area that have sufficient yield. What is unknown is the potential yield in the higher basalt zone. Without drilling a test bore it is not possible to predict whether sufficient ground water is available. The advantage of ground water is it could be found close to the existing infrastructure, and will not affect stream flows. The disadvantage is the high level of risk associated with finding ground water of sufficient quality and quantity.
- There are only two rivers, the Waimamaku and the Whirinaki that have sufficient flow to enable extraction not having an adverse environmental impact. Of these two the Waimamaku is lower cost source to develop. The advantage of using the Waimamaku River is it is a known raw water source where the water extracted will have minimal environmental impacts. The disadvantages include it having poorer raw water quality, being warmer water and there are significant cultural issues through transferring water from one catchment to rohe.

Of the various alternative water sources evaluated, the following three are considered the most viable. Detailed operational costs assessments have not been undertaken.

Option	Description	Investigation	Capital estimate	Operational cost
1	Construct raw water storage. (Site not determined)	\$200,000	\$5,790,000	Additional \$20,000 p.a.
2	Groundwater (Bore water availability unknown)	\$80,000	\$ 710,000	Additional \$10,000 p.a.
3	Supplementary intake constructed on the Waimamaku River	\$80,000	\$1,280,000	Additional \$10,000 p.a.

During initial consultation, the option of on-site storage at each household (ie water tanks) has been promoted as a possible solution. While on-site storage has a place with water conservation, there are significant weaknesses with the use of on-site water storage to resolve this water shortage issue. The weaknesses include;

- As the tanks are private assets, Council can't control or manage when consumers use their on-site storage so it is available during times of drought. As droughts happen late summer, it is likely some on-site storage will have run dry by the time it is needed.
- Except in emergencies, Council cannot turn off a water supply. Therefore can't stop consumers using the reticulated water. In addition to maintaining supply for use, Council has to keep the water mains charged for Fire Fighting purposes.
- As the tanks would be private assets, Council can't force the retrofitting of households with water tanks, dual plumbing, pumps, filtration, backflow prevention, etc.

- Many properties are not designed, or are unsuitable to accommodate on-site tanks

The Council's proposed direction included in the Ten Year Plan

It is proposed to install a test bore to see if there is ground water available. If ground water is found, this option will be developed further. If not the Waimamaku River option will be developed. Because of the risk of not finding ground water, funding is based on the Waimamaku option \$1,280,000

Co-Governance of the intake and resource

The Waimamaku Hapu have expressed a desire that Council enter into Co-Governance with them to manage the water resource. Work is progressing on what a Co-Governance agreement would look like.

B) Rawene / Omanaia Water Supply, Potable Water

Between the raw water source and the water treatment plant in Rawene there are approximately 59 homes (approximately 125 people) and a marae that receive untreated water direct from the raw water main. The consumption of this raw water places those people at a high level of risk at contracting water borne diseases.

The consumers receiving this untreated water have for a long time requested Council rectify the situation by installing the necessary treatment and reticulation to provide them with potable water.

Currently Rawene has the equivalent of 1.8 days average daily flow of treated water storage, this is less than the desirable 2 day average daily flow treated water storage. There is no storage to maintain flows to the Omanaia area. Addition storage will reduce the vulnerable to water shortages through either mains breaks, plant failure or drought situation. Most options include additional 500 m3 treated water storage.

Various options for treatment have been evaluated of which the following four are considered the most viable. Detailed operational costs assessments have not been undertaken.

Option	Description	Investigation	Capital estimate	Operational cost
1	Decommission the existing water treatment plant and build a new water treatment plant near the intake thereby using the existing raw water main to provide potable water. Includes 500 m3 reservoir	\$200,000	\$3,360,000	No change from existing
2	Pipe treated water to Omanaia from the existing water treatment plant with	\$80,000	\$2,670,000	Additional \$4,000 p.a.

	500m3 reservoir			
3	Rawene raw water sourced from Whirinaki with a new water treatment plant near the existing raw water source for Omanaia. Includes 500m3 reservoir	\$200,000	\$3,580,000	Additional \$20,000 p.a.
4	Supply Omanaia and Rawene with treated water from a new treatment plant that would be built next to the current intake at Petaka Stream. The existing Rawene Water Treatment Plant at De Thierry St would be decommissioned. A 500 cubic-metre raw water reservoir and a 300 cubic-metre treated water reservoir would also be built near the new plant to make the water supply more drought resilient.	\$50,000	\$1,850,000	Additional \$15,000 p.a.

The option for Point of Use (PoU) treatment at each household at an estimated cost of \$4,000 per household. When consulting with the raw water consumers regarding the option of PoU treatment, this option was strongly opposed on multiple grounds including; they are already paying the same capital rate as other Rawene consumers who are receiving potable water, therefore they should have the same level of service as those receiving treated water and, when the raw water source was first developed, the local Hapu gave their permission to allow this source to supply Rawene, yet they have been left disadvantaged in terms of receiving non-potable water. Because PoU treatment occurs on private property, Council can't force the property owner to either; allow the PoU treatment to be installed, or take ownership of, or maintain the assets making PoU treatment an unsustainable option for many properties.

With regards to the MoH CAPS application, it is to be based on option 4, a new water treatment plant and treated and raw water storage near the intake on Aytons Road.

C) Rawene / Omanaia Water Supply, Drought Resilience

Recent droughts have shown the Rawene supply will run short of water for any drought greater than a 1 in 5 year drought. Various options for drought resilience

have been evaluated of which the following four are considered the most viable. Detailed operational cost estimates have not been undertaken.

Option	Description	Investigation	Capital estimate	Operational estimate
1	Raw water storage dam near intake	\$150,000	\$2,890,000	Additional \$10,000 p.a.
2	Raw water storage dam near Rawene Rd	\$150,000	\$2,300,000	Additional \$10,000 p.a.
3	Pumped supply from Waima River including raw water storage tank to maximize the existing source	\$60,000	\$1,080,000	Additional \$20,000 p.a.
4	Storage tank to maximize the existing source and enable trucking of water. This concept is viable up to around a 1:20 year drought.	\$50,000	\$ 370,000	Additional \$5,000 p.a.

With regards to Option 3, due to Cultural considerations, this option is currently not viable. When the cost of investment for option 3 is divided by the volume of water expected to be pumped through this line, the cost of the raw water is estimated around \$60 per cubic meter. The alternative of constructing raw water storage tanks (option 4) and trucking raw water during times of drought would be more economical.

With regards to Option 4, This is only needed if the treatment plant near the intake does not proceed.

With regards to the MoH CAPS application, it is proposed to include raw water storage tanks that will be included with the treatment option. .

LTP Implications

All options listed will have various degrees of impacts on increasing rates. If CAPs funding is successful, this will have some, but not significant effect in reducing that impact on rates increases.

Regardless of whether the CAPs applications are successful or not, whether the project proceed will still be depend on the outcomes of the LTP process.

2) Discussion and options

There are multiple option to progress these projects. Which option is ultimately chosen will depend on the LTP process and this answer will not be known until mid 2015.

The final round of MoH subsidy closes end of February 2015, after which the subsidy scheme will be discontinued. To enable a subsidy application to be made, it is

necessary for Council to choose a option before undertaking community consultation. This pre-empting a LTP decision may result in either altering the proposed projects, or withdrawing the application after it has been lodged.

Councils Options include;

- Status Quo, Do minimal
- Apply for CAPS funding based on the lowest cost option
- Defer a decision until conclusion of the LTP process.

The recommended actions are;

- 1, That application be made to the MoH for CAPS funding to supply potable water to Omanaia based on piping treated water back from Rawene.**
- 2. That application be made to the MoH for CAPS funding to improve the raw water security for Rawene/Omanaia based on raw water storage tanks**
- 3. That application be made to the MoH for CAPS funding to improve the raw water security for Opononi/Omapere, based on a bore option, and if the bore water is found unsuitable, piping water from the Waimamaku River.**
- 4. That work progress towards developing a Co-Governance agreement with the Hapu of Waimamaku with respect to water extraction from the Waimamaku River**
- 5. That the CAPS applications be lodged under a umbrella application by the Hokianga Water Supply Collective.**
- 6. That strategies be developed around improving water conservation, on site storage and community education of water related topics.**

3) Financial implications and budgetary provision

Due to the effect of depreciation funding, MoH CAPS subsidy does not substantially reduce the cost to the community. This is due to the same rate of depreciation funding is applied regardless as to whether the works are constructed with Council raised funds, or using CAPS subsidy funds. The only difference between Council funding and CAPS funding is the interest paid to repay a Council funded loan.

Financial implications and budgetary allocations are being considered through the LTP process. For both Rawene and Opononi, to fund the proposed works will result in a significant percentage increase in the water rates portion of the rates bill.

4) Reason for the recommendations

To provide formal Council endorsement for the MoH CAPS subsidy applications

To show Council support for a more holistic approach to managing water supplies.

Manager: Jacqui Robson - General Manager - Infrastructure and Asset Management

Compliance schedule:

Full consideration has been given to the provisions of the Local Government Act 2002 S77 in relation to decision making, in particular:

The decision-making process has sought to —

- a) identify all reasonably practicable options for the achievement of the objective of a decision; and
- b) assess those options by considering—
 - i) the benefits and costs of each option in terms of the present and future interests of the district or region; and
 - ii) the extent to which community outcomes would be promoted or achieved in an integrated and efficient manner by each option; and
 - iii) the impact of each option on the local authority's capacity to meet present and future needs in relation to any statutory responsibility of the local authority; and
 - iv) any other matters that, in the opinion of the local authority, are relevant; and
- c) If any of the options identified under paragraph (a) involves a significant decision in relation to land or a body of water, take into account the relationship of Māori and their culture and traditions with their ancestral land, water, sites, waahi tapu, valued flora and fauna, and other taonga.

Relationship with existing policies and Community outcomes.	These projects are listed in the LTP for community consultation
Possible implications for the relationship of Maori and their culture and traditions with their ancestral land, water, site, waahi tapu, valued flora and fauna, and other taonga.	+These projects have significant implication to the affected Hapu. Further engagement with the hapu is required.
Views or preferences of persons likely to be affected by, or to have an interest in the matter, including persons with disabilities, children and older persons.	The wider community will be consulted via the LTP process.
Does the issue, proposal, decision or other matter have a high degree of significance as determined under the Council's Policy #2116?	The decisions are not significant. The topics will be consulted via the LTP process.
If the matter has a Community rather than a District wide relevance has the Community Board's views been sought?	The view of the Community Board have not been sought
Financial Implications and Budgetary Provision. Financial Controller review.	To the considered as part of the LTP process.