



Otorohanga Community Board

AGENDA

19 October 2018

5.00pm

Members of the Otorohanga Community Board

Mr. Alan Buckman
Mrs. Katrina Christison
Mrs. Liz Cowan
Mr. Neville Gadd
Mr. Paul McConnell (Chair)
Mr. Peter Coventry

Minutes Secretary: Mr. C Tutty (Governance Supervisor)

OTOROHANGA COMMUNITY BOARD

19 October 2018

Notice is hereby given that an Ordinary meeting of the Otorohanga Community Board will be held in the Council Chambers, 17 Maniapoto Street, Otorohanga on Friday 19 October 2018 commencing at 5pm.

15 October 2018

DC Clibbery
CHIEF EXECUTIVE

AGENDA

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PRESENT

IN ATTENDANCE

APOLOGIES

PUBLIC FORUM

ITEMS TO BE CONSIDERED IN GENERAL BUSINESS

DECLARATION OF INTEREST

ITEM 64 POTENTIAL DEVELOPMENT OF WATER RESOURCE

**To: Chairman and Members
 Otorohanga Community Board**

From: Chief Executive

Date: 19 October 2018

Relevant Community Outcomes

- Ensure services and facilities meet the needs of the Community
 - Promote the local economy and opportunities for sustainable economic development
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Executive Summary

Happy Valley Milk has asked for consideration to be given to permitting them to explore development and use of a potential water storage lake at the Council owned property on Te Raumauku Road.

Staff Recommendation

1. *a. That an agreement is prepared authorising Happy Valley Milk to conduct exploration of the potential of developing water storage on Council's Te Raumauku Road property, and that if such development is shown to be feasible that HVM shall then have rights to develop and utilise such a water storage resource subject to conditions such as those presented in this report ; or*
b. That the request of Happy Valley Milk to explore the potential of developing water storage on Council's Te Raumauku property is declined, unless HVM wishes to do so without any assurance that permission will be granted to utilise that resource; or
c. That the request of Happy Valley Milk to explore the potential of developing water storage on Council's Te Raumauku property is declined, unless HVM wishes to do so without any assurance that permission will be granted to utilise that resource, and that should HVM decline to explore development of the resource on that basis that Council will itself fund a further stage of such exploration.
2. *That the Board voices its support for HVM's seeking of groundwater as a primary means of meeting the water supply needs of the proposed dairy factory*

Te Raumauku Water Storage Concept

Since the latter part of 2015 there has been discussion about potential use of the spring-fed water source on the former Council farm property on Te Raumauku Road to augment the supply of water to Otorohanga, to further expand possible opportunities for water using businesses to be drawn to the town, to create additional employment and other economic benefits for the community.

Increasing the availability of water is no longer straightforward, because of the water allocation framework that has been implemented by Waikato Regional Council (WRC). Under this framework limits are applied to the total proportions of flow that can be drawn from surface water bodies at certain times by all of the users of that water. In the case of the Waikato and Waipa Rivers a point has now been reached where the existing consented water uses, together with the uses for which consents have already been applied (but not yet granted) will fully utilise all of the water which is available for allocation during the period from October to April (inclusive) in any year.

As such there is no longer the ability to take more water from these rivers or their tributaries during the periods of typical peak demand, and other approaches must be adopted if more water is to be made to manage potential increases in demand for water at a particular location.

One of these approaches is to maximise the efficiency of existing water use, by reducing wastage, and the forthcoming introduction of water metering and metered water charges for all properties in Otorohanga is expected to significantly contribute to this.

Another alternative approach is to use groundwater pumped from boreholes, since unlike surface water the local groundwater resource is considered by the regional council to be only lightly utilised, and its use is therefore largely unrestricted by the allocation framework.

Previous experience has however shown there to be practical challenges in developing groundwater resources in the Otorohanga area, with many local bores found to yield water of poor quality, often with very high salt or iron content that has rendered the water unusable. This, together with variable bore water flows, has encouraged local water users to make use of surface water sources rather than developing bores, and was a significant motivating factor in the development of the Waipa Rural Water Supply scheme.

Council's Te Raumauku property did however appear to offer an opportunity for another different approach to the use of surface water within WRC's allocation framework, which was to retain water in a reservoir formed in a natural depression on the property outside of the October to April period, which would then be released to meet (either directly or indirectly) additional demand during times of the Otorohanga community's peak use and low river levels, which is typically between mid January and mid April.

A particular option suggested was to use such a release of raw water from reservoirs on the property as an off-set to the current take from the Waipa River during times of peak demand and low river levels when the '85% of daily take' consent limit applies because of low river levels. The water released from the reservoirs would enter the Mangamahoe Stream, which joins the Waipa River about 4 km downstream of Otorohanga.

This would be similar to something that has been considered to enhance the supply of water to Te Awamutu, in that case taking water from a bore and discharging it into a stream, to offset the effect of taking more water from the stream elsewhere.

In Otorohanga's case it was suggested that the 750m³/day permitted water take reduction that applies during periods of low river flow might be offset by discharging a corresponding or greater amount above 'baseline' flows from a reservoir at Te Raumauku, enabling us to potentially take water right up to our daily 5000m³/day consent limit, all through the year (providing of course that there was sufficient stored water in the reservoir to do so).

Given that really low river levels which trigger reductions of water takes typically occur in February through to April, the inability to store water after October would mean that water would have to be held for at least four months if it was to be used as an offset at these times. Such an extended holding period creates a need for any reservoir to be either relatively large and/or 'water tight' to avoid loss of stored capacity, and it has been suggested that the extended holding of water over the summer months might adversely affect its quality.

It was however believed that if the use of this water was limited to it being a compensating release back to the river that any such minor deterioration in quality would not be critical. The potential for contamination of such stored water is indeed considered to be a reason why making direct consumption of such water a key element of a water supply strategy should be avoided, since if the water was contaminated to a degree where it became non-potable, that a remedy could not be quickly implemented, with potentially disastrous effects on supply.

Some further exploration of the potential to establish a water storage reservoir on the Te Raumauku property was subsequently conducted which indicated that the water flows through the property were more than 1,000,000 m³ per year, and as such were more than sufficient for the seasonal recharge of a storage lake of the capacity initially envisaged (around 100,000m³). It also became apparent that there might also be the potential to form such a lake by the sealing of cave through which water exited the natural depression rather than by construction of a conventional dam.

The concept of developing such a storage lake and using it to circumvent the existing seasonal restrictions on surfaces water takes has been discussed with staff from Waikato Regional Council, who did not identify any fundamental barriers to it, but did identify that there were a number of associated complexities.

On the basis of there being a future possibility of establishing such a water storage lake at this location a small area of 8.6 Ha to potentially contain such a lake was retained in the ownership of Council when the remainder of the of the Te Raumauku property was sold in 2017.

In October 2017 engineering consultants Tonkin and Taylor (T&T) conducted an initial assessment of the geotechnical feasibility of establishing such a lake, which identified a number of challenges and set out a possible scope of work for a next stage of investigation, which was suggested to have a possible GST exclusive cost of between \$40,000 and \$50,000.

Such potential further investigation was subsequently discussed by the Board, and it was agreed not to proceed with it at that time because of the level of uncertainty associated with the development of the resource and the adequacy of the existing Council water supply at that time.

The development of this source through the creation of a seasonal water storage lake is an unconventional approach, and like most non-standard such things has risk, associated with both technical details and associated processes, including resource consenting.

A particular element of uncertainty is how practical it will be to achieve an effective water-tight seal of the outlet from the natural doline depression. It was initially hoped that it might be possible to seal a section of the downstream cave through which the stream currently flows, but inspection of that cave has shown it to be larger and more irregular than originally believed, making achievement of a good seal more challenging.

The means by which a seal could be achieved (either of the cave or by a dam) would be a particular focus of the next stage of investigation suggested by T&T. It is however also certain that further substantial technical investigation beyond this would be needed to provide a high level of confidence that the development and use of such a lake is technically feasible, and likely that such further investigation would have even more substantial costs, and it is possible that the conclusion is that development is not feasible, hence the associated risks are significant.

Water Services for Happy Valley Milk Factory

Members are aware of the previous history regarding possible provision of Council water services to the proposed HVM factory, with the outcome being that HVM decided to develop their own services, with a condition being included in the Land Use Consent for the factory which prohibited them from connecting to Council's water services.

Based on a recent conversation with a representative of HVM it is understood that HVM believes that it should be able to obtain WRC resource consents for a borehole water take and disposal of treated wastewater to land for the operation of a single 8 tonne per hour milk powder drier, and that if these consents (and a consent for storm water discharge) are granted as they expect them to be, the project will then proceed.

As such it appears that HVM does not absolutely need anything from Council at this point.

Whilst they are not immediate needs HVM is however continuing to request that Council gives consideration to a potential discharge of dairy factory waste through the Otorohanga wastewater system, and more recently has expressed interest in exploring the potential development of the water resources at Council's Te Raumauku property.

The former request regarding wastewater is considered to have very significant potential risks for Council, and is currently precluded by the condition in the Land Use consent, which is unlikely to be easily changed, even if Council wished to do so. As such this request is being treated with an extremely high level of caution.

The request to explore and potentially utilise the Te Raumauku water source, as described earlier in this report, is potentially more straightforward and is perhaps something that is more worthy of consideration.

That the Te Raumauku water source has not been developed means that it is not a Council water service and as such the restriction in the Land Use Consent would not apply to it.

That HVM is interested in exploring this concept presumably reflects both the desire to secure sufficient water to potentially operate a second drier, and also a possibility that problems could be encountered with obtaining sufficient water for the first drier from the proposed bore source.

In a project of the scale of the dairy factory having such a contingency or support for potential expansion will clearly have considerable value, and as such it is understandable that HVM might see value in investing in such further exploration of the concept at this time.

Potential Value of the Te Raumauku Resource to Council

As discussed previously the original concept of developing the Te Raumauku water source was for a very specific purpose, which was to provide a flow of around 750m³ per day for a period of up to 3 months in the peak summer months that would offset the 15% reduction in permitted water take from the Waipa River that applies when that river drops to a very low level. Doing so would in effect increase the water supply capacity to the community by 15%.

It was suggested that a lake with a capacity of around 100,000m³ (100 million litres) would be more than sufficient to provide such an offset flow for the duration required in any particular year. Such a volume would be provided by a lake formed in the natural depression that had a maximum depth of around 9 metres, and represents only around 25% of the total volume of this depression, which is approaching 400,000m³, and which, if it could be completely filled (but which is unlikely to be practical for geotechnical reasons) would have a maximum depth of around 18 metres.

Whilst the concept of such an offsetting release of stored water is considered to be quite attractive in a number of respects it was however recognised that there also could be some significant associated challenges, and that there were potentially other approaches that might achieve something similar in a simpler way.

One such alternative approach was the use of ground water to augment water supply at peak times, either directly consuming that water, or (perhaps if its quality was not suitable for potable use) as an offset flow that was discharged to the Waipa River or its tributaries to compensate for a similar associated take of water from the river at the water treatment place, in a similar manner to the suggested use of the lake water.

If HVM have indeed been successful in developing and obtaining a resource consent for a bore capable of producing a sustainable good quality supply in the order of 1000m³ per day that has little effect on water levels in bores on adjacent properties this might suggest that other good ground water resources may be found in the area, which might potentially augment community supply in the future if the need arose. It should therefore not be assumed that the Te Raumauku resource is the only option available for additional water supply to the community.

That HVM has current interest in exploring potential use of the Te Raumauku water source does however also suggest that they may not see obtaining additional groundwater as being an easy solution to providing water for a second drier. HVM's initial bore developed on their proposed factory site failed to provide water of acceptable quality, and this has

been a common experience in some areas around Otorohanga. Drilling and testing each relatively large diameter deep bore needed to provide the type of water quantities sought by the dairy factory is likely to cost upwards of \$50,000, and hence groundwater exploration at this scale can become a costly exercise.

As such the prospect of perhaps spending \$50,000 on a next stage of exploration of the Te Raumauku concept may appear worthwhile to HVM.

The conditions during which the suggested 750m³/day offset from Te Raumauku would be used are during periods of very low flows in the Waipa or Waikato Rivers. Such conditions typically exist for just a few days per year, but could conceivably in a very worst case of extreme drought last for much longer – perhaps even two or three months.

Such limited term offsetting is something that also appears to be fairly easily achievable using groundwater, because if discharged back into the river the quality of that groundwater is less critical, and it is only required for relatively short period, giving greater opportunity for aquifer recharge.

The needs of HVM are however for a source that can provide a large quantity of water for at least 7 months of the year from October through to April, which may be more difficult to secure. As such it is arguable that the resource at Te Raumauku is potentially more valuable to HVM than it is to Council.

It is however recognised that some may argue that Council should not 'give away' a resource that might potentially be of benefit to the community.

A question that might reasonably be asked is whether it is possible to develop the Te Raumauku resource to provide water to both the community and HVM. It is suspected that the answer to this is no. To provide the water for 1 milk drier for 7 months would require at least of 210,000 m³ of water, whilst the required capacity for the community, as stated previously might be 100,000 m³. Since these two figures together are less than the possible theoretical maximum lake capacity of 400,000m³ it might appear that such combined benefit is achievable, but it is strongly suspected that the combination of lower practical limits on lake capacity and the challenge of the two parties jointly managing the resource would create barriers that are very difficult to overcome.

It is therefore very strongly suggested that the resource, if developable, will only be practically able to serve one party, either the Otorohanga community or HVM, and that a choice would have to be made as to which party had it.

Current Availability of Water for Otorohanga

If managed effectively using metering to eliminate wastage the water resources that are currently available to the community are sufficient to accommodate a significant level of population growth. Even at times of low river flows Council currently has the ability to take 4250m³ of water per day from the Waipa River.

Not all of this can be used. Some is consumed in the operation of the water treatment plant through backwashing of the filters. This might in a worst case take 150m³ per day

Around 30% of the usable water supply goes to the Waipa Rural Water Scheme, leaving approximately 2900m³ per day for the supply of the Otorohanga Community. Even in a best case there will always be some loss of water from the water mains, and hence it is likely that no more than 2500m³/day is available for use. Currently around 35% of the water use in town is by commercial users, leaving in the order of 1625m³ per day for residential.

If water is used efficiently average annual per capita use should be around 200 litres per person per day. Historically water use in Otorohanga has been high, approaching twice this figure. Peak water consumption, typically during the peak of summer, will however always be significantly higher than the annual average, and for Otorohanga typical multipliers appear to be between 1.5 and 1.8.

If a very conservative approach is taken and an average to peak multiplier of 2.0 is applied to an assumed average of 250 litres per day after metered charging has been implemented, an average maximum day consumption of 500 litres per day is suggested.

On this basis a maximum distributable volume of 1625m³ per day should be sufficient to supply at least 3250 people without any depletion of the reserves held in the town's water storage reservoirs.

The current population of the Otorohanga community is estimated to be 2700. As such the number presented previously suggest that it should be possible to accommodate an increase of community population of at least 20% (just over 500 additional people, potentially associated with around 170 additional dwellings) with the existing available water resources, even under the most adverse predictable conditions.

The possibility of there being a 300 person workers camp in the community is unlikely to significantly change the availability of water for new residential development, since the level of per capita demand by camp occupants would be far less than for residents of conventional properties, and would be limited to water for toilets, showers and the operation of a communal kitchen. These uses would have little seasonal variation and as such peak demand of such camp seems unlikely to exceed 100 litres per person per day, and hence the camp in total would probably only have water use comparable to that of 60 conventional residents, and additional demand would only be for three years, and would therefore be unlikely to overlap with a large increase in residential demand.

It should however be noted that in addition to having water to support residential growth that it would be desirable to have capacity available to support new businesses. In previous times Council has believed that growth of the community

should preferably be driven by the development of new businesses which can offer additional local employment opportunities, and that the alternative of community growth taking the form of the town just being a 'dormitory' for people working in areas north of the district was less desirable.

The concept of introducing metered charging for water was in part to support this 'business first' concept of community growth, recognising that Otorohanga was one of the very few communities in the Waikato which did have a little unutilised water supply capacity that could be readily offered to businesses interested in establishing themselves here.

It is however believed that if a more realistic and less conservative approach is taken to estimating the existing water needs of the community – for example assuming that the introduction of metered charging for water will reduce average residential consumption to something very close to the 200 litre per person per day figure that is being in other metered communities – that this would free up significant additional water that might be used to support such businesses.

A degree of realism should also be applied regarding the extent of likely community growth in the short or medium term. As members are aware, for more than 20 years the town did not experience any significant growth of population or business activity, and even now whilst there are some initial signs of growth prospects improving, substantial growth has still not yet eventuated, and there remain significant constraints on such growth, in particularly the physical geography of the area.

Unlike centres such as Te Awamutu and Cambridge where growth is rampant, Otorohanga is surrounded by land that is either potentially subject to flooding, or has relatively steep contours that make development more challenging. As such these areas to our north are always likely to be preferred targets for subdivision unless the differential in property prices compensates for this, as may be starting to occur.

Despite the apparent adequacy of the existing Otorohanga water supply to meet likely short and medium term community growth (excluding the requirements of HVM) it is however recognised that if the envisaged development of a water storage lake at Te Raumauku was practical, that its value to Council in the longer term as an enabler of growth could be significant.

If it was found to be practical to store relatively large quantities of water at Te Raumauku it might indeed be possible for Council to go beyond using it as an occasional 750m³ per day offset during low river flows, and also use it to also provide offset water continuously during the October to April period, to be used in conjunction with a revised consent that permitted an increased take of river water, without offset, between May and September.

It should however also be noted that the proposed dairy factory is of course one such example of growth, and that when HVM initially approached Council a willingness was expressed by Council and the Community Board to provide up to 300m³ of water per day to such a factory from the community supply.

A question might therefore reasonably be asked is that if there was initial willingness to permit HVM to take 300m³ per day from the existing supply capacity for the town, should not consideration now be given to permitting that company to explore, and if successful develop what is at present only a 'possible' water resource at Te Raumauku?

Unlike the initial proposal to take 300m³/day, developing Te Raumauku is not certainly taking away existing capacity to supply other growth, it is instead only possibly taking away potential to supply this other growth.

It is however recognised that the following arguments might be applied to counter this:

- That in the initial proposal the financial benefits to the community, through the sale of the water were greater;
- That at the time the initial request of HVM was made there was little to suggest that other means of providing the required water were available, unlike at present when the use of groundwater appears feasible. The supply of water by Council no longer appears to be an essential requirement to enable the project.

Possible Arrangements with HVM

It seems reasonable to expect that HVM would only invest in exploring the potential of the Te Raumauku resource if they are given an assurance that they will have some right to use the resource if the exploration undertaken proves its development to be viable.

The right to use the Te Raumauku land itself for agricultural purposes has limited value. The 8.6Ha area that Council has retained in its ownership represents only 4% of the area of the original property, and therefore on a pro-rata basis would be expected to have a capital value of less than \$100,000, and an annual rental value of around \$2,000.

As a potential water resource the land may have greater value, and if HVM was to find it to be developable it would be expected that they would be willing to pay a reasonable amount to use the land for that purpose.

I would imagine that if it was found to be developable by HVM at a moderate cost that it would not be unreasonable to establish an annual rental for the land based that related to the quantity of water supply to HVM that it enabled, either directly or indirectly (ie if used as an offset against a water take from the river). A charge in the order of 10 cents per m³ of water is suggested as a type of figure that might be reasonable. For example if HVM could use this source to enable an additional dryer (which might just be possible if it was utilised in conjunction with a water take from the river during the few months of the year when that was permitted under the WRC rules) then Council might charge something HVM something between \$20,000 and \$30,000 per year.

This might not seem a particularly large amount, but it is revenue that would be generated without any input from Council, and should perhaps be considered in the context that the market rental of the entire 201Ha Te Raumauku property was assessed in 2015 as being little more than \$40,000 per annum.

To obtain between 50% and 75% of this figure from a retention of only 4% of the property might be considered an excellent return.

The following are considered to be the essence of some essential conditions that would have to be incorporated into any agreement that permitted HVM to develop and utilise the resource:

1. That HVM must develop the resource to a particular defined degree (eg volume of lake etc) within a specified period or their rights to develop it will expire.
2. That HVM will share with ODC the intellectual property collected on the resource in the course of its investigations.
3. That all responsibilities in respect of the operation and development of the resource shall lie with HVM. HVM shall lease the land and be responsible for any associated resource consents.
4. Once developed a specified minimum annual amount be paid to Council for the use of the resource (for example whichever is greater of annual volume of water taken x 10c/m³ or \$20,000)

Very careful consideration would need to be given to any such agreement, and the conditions above are just a very rough indication of some key issues.

Water and Local Economic Development

It is understandable that parties who would be very directly affected by the development of the dairy factory, such as those residents who live nearby, may strongly object to it.

It is also understandable that parties who have properties near to the proposed water bore to serve the factory may be concerned by the effect that such a bore might have on their water supplies.

What is more disappointing is that other parties who may not be so directly affected also appear to be 'jumping on board' and raising fears and objections in respect of the bore water take proposed by HVM.

Water will be a critical resource if there is to be substantial residential or business growth in Otorohanga, and as we know the availability of surface water is extremely restricted by the water allocation framework, and it may indeed be that what we have now is all that we are ever going to be able to take from those surface sources unless compensating offsets are found.

Water conservation, through initiatives such as water metering, can help spread this available surface water a little further, but if Otorohanga is ever going to substantially grow it would almost certainly at some point have to look towards making use of groundwater taken from bores. In this context those indirectly affected parties who are objecting so strongly to the taking of groundwater are opposing something may become a necessity in the future must be considered as attempting to put a general brake on the development of the community.

To take such an approach is a valid choice, but it should be recognised for being what it is, and not be presented as a 'pro-development' stance.

A second part of the suggested resolution is therefore that the Board indicates that it is supportive of HVM's efforts to develop suitable bore water sources.

Conclusion

HVM's request to be given permission to further explore and potentially develop and utilise a possible water storage resource at Council's Te Raumauku Road property poses a challenge in terms of making a decision based on limited information.

Further exploration will have significant cost, and there is no certainty of success. The question is whether the Board wishes the community to accept that uncertain balance of risk and reward itself, or to transfer it to HVM as they have requested.

In this situation with such limited information there is not considered to be a clear answer to this question, and the matter is viewed as subjective.

For this reason no directive recommendation, instead three options are suggested from which the Board might select.

Dave Clibbery
CHIEF EXECUTIVE

ITEM 65 RESOLUTION TO EXCLUDE THE PUBLIC

RESOLUTION:

That the public be excluded from the following part of the proceedings of this meeting, namely,

ITEM 66 – POTENTIAL PROPERTY PURCHASE.

The general subject matter of each item to be considered while the public is excluded, the reason for passing this resolution in relation to each matter, and the specific grounds under section 48(1) of the Local Government Official Information and Meetings Act 1987 for the passing of this resolution are as follows:

General subject of each matter to be considered	Reason for passing this resolution in relation to each matter	Grounds under section 48(1) for the passing of this resolution
Potential purchase of property	Good reason to withhold exists under section 7	48(1d) That the exclusion of the public from the whole or the relevant part of the proceedings of the meeting is necessary to enable the local authority to deliberate in private on its decision or recommendation in any proceedings to which this paragraph applies.

This resolution is made in reliance on section 48(1) (a) of the Local Government Official Information and Meetings Act 1987 and the particular interest or interests protected by section 7(2) or section 7 of that Act which would be prejudiced by the holding of the whole or the relevant part of the proceedings of the meeting in public are as follows:

Enable any local authority holding the information to carry out, without prejudice or disadvantage, negotiations (including commercial and industrial negotiations).	Section 7(2)(i)
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