

Mayor and Councillors
COUNCIL

28 NOVEMBER 2013

Meeting Status: **Public**

Purpose of Report: For Decision

WATER SUPPLY

PURPOSE OF REPORT

- 1 This report seeks to inform the Council of the water supply options for the Waikanae/Paraparaumu/Raumati (WPR) area and recommends proceeding with the current project including the letting of the water meter reading contract.

SIGNIFICANCE OF DECISION

- 2 The recommendations in this report do not trigger the Council Significance Policy. However any change to the Revenue and Financing Policy or significant change of capital budgets would trigger the Significance Policy requiring a formal amendment to the Long Term Plan (LTP) and a Special Consultative Process.

BACKGROUND

- 3 The current water supply project started with 41 potential options in 2010. Connecting with the Greater Wellington Regional Council (GWRC) supply and the Otaki River supply pipeline were considered and discarded.
- 4 From these 41 options River Recharge with Groundwater (RRwG) was determined to be the best option with the second best option being a Dam located in the Maungakotukutuku Valley.
- 5 Council has made significant progress towards implementing the preferred water supply solution RRwG approved in the last triennium.

Water meters

- 6 The installation of water meters throughout the district is practically complete ahead of schedule and with a projected saving of \$300,000.
- 7 A contract to provide meter reading services has been negotiated following a competitive tender process and is ready to be signed. Officers recommend that this contract be approved.

River recharge

- 8 35 year consents have been awarded for the river recharge scheme which entails taking water from the Waikanae aquifer and using this water to recharge the Waikanae River to required levels downstream of the point at which the Council removes water for the potable water supply.
- 9 Through a competitive tender process, Council officers now have certainty of the construction costs of the river recharge infrastructure, within the projected budget.

Context

- 10 Appendix 1 shows a graphic representation of how the river recharge scheme will work.
- 11 The Council now holds four resource consents for:
 - taking water from the Waikanae River
 - taking bore water from the Waikanae aquifer
 - discharging bore water from the Waikanae aquifer into the Waikanae River
 - completing the physical works in the Waikanae River necessary for these activities
- 12 These consents contain conditions that require ongoing environmental monitoring, regular reporting to both GWRC and the community and a commitment to water conservation over the 35 year duration of the consents.
- 13 River recharge is not something new to New Zealand it is the use of bore water for recharge that is innovative. All other aspects have been implemented in a number of other areas in New Zealand and overseas for many years. There are currently 24 other communities with a population in excess of 10,000 that rely on bore water as a source of potable water supply (see Appendix 2).
- 14 There are many other smaller communities that rely on bore water as their primary source of potable water, Ōtaki has relied solely on bore water as its primary potable source without incident.
- 15 Obtaining resource consents for the project required a significant amount of investigation and research on every aspect of the proposal. The GWRC spent a significant amount of time and effort in evaluating the proposal prior to and throughout the consenting process and as a result consents were granted for 35 years, the maximum period available.

Dam

- 16 Some 125 hectares of land required for the Maungakotukutuku Dam, identified as the second best water supply option, has been purchased by Council for future use when required in 50 years time.

CONSIDERATIONS

- 17 The consents for the recharge project require the submission of a number of monitoring plans for certification by GWRC over the next month to ensure compliance and deliver the project by June 2015. There is also a need to confirm budgets for the 2014/2015 Annual Plan and therefore a decision by Council on its preferred direction is required.
- 18 Officers have identified four options for the Council to consider in deciding how to progress water supply matters.

Option 1

- 19 Continue with the current project as approved by the Council in the previous triennium:

- proceed with river recharge scheme in three stages over the next fifty years
- implement the charging regime proposed by the Charging Regime Advisory Group (50% uniform annual charge across all households and businesses and 50% volumetric charging)
- proceed to the option of a storage Dam as required at some future date (assessed at about fifty years)

Issues

- 20 The use of household meters with volumetric charging has become more common both in New Zealand and around the world. This experience shows that such a system offers greatest demand management certainty. Managing demand for water use in Kāpiti will defer expenditure of \$36M on providing additional capacity in the network such as an additional reservoir at Riwai Road.
- 21 The current project requires no change to the current LTP as it fits within the existing budget provision of \$22M (\$8M for installation of water meters - and \$14M for the river recharge works) and builds on the \$14M worth of borefield infrastructure which Council already owns and operates.
- 22 The currently proposed three staged implementation of the river recharge scheme allows flexibility with regard to future LTPs. Full implementation is not intended to occur for 50 years and could be further deferred if reduced demand allows.
- 23 Consents for the project have been granted that carry conditions requiring water conservation measures which officers are confident can be met through Option 1. These conditions require the Council to achieve a peak consumption target of no more 490 litres per person per day (lppd) by June 2016. Staff consider that the implementation of volumetric charging using water meters is the only way that target can be achieved within the two year time frame.
- 24 Concerns have been voiced over certain aspects of Option 1:
 - the reliability of bore water for potable supply because of the aesthetic and physical properties of the water and potential constraints on the size of the aquifer
 - potentially negative ecological and environmental impacts on the river
 - potential saline intrusion into the aquifer
 - moving to volumetric charging will be more costly for low-income households and will be the thin end of the wedge for a move to privatisation of the water supply
- 25 **Reliability of the bore supply and its water.** The community has expressed a clear desire for improved water quality in the WPR area, this was highlighted in a resident's survey sent to all properties in 2010, as part of the water supply project, where improved water quality ranked number one.
- 26 Aspects of the quality of the bore water, while no threat to health, have triggered concern in the past when added to the potable supply. The aesthetic (taste) and physical (hardness) property issues with the bore water are avoided by Option 1 through using the water to top up the river flows rather than adding it to the potable supply.

- 27 The maximum safe yield from the aquifer has been assessed at 10.7 million m³ per year. The new consent which the Council holds permits a maximum extraction of 2.3 million m³ per year and a 35 year consent was granted by an independent panel advised by the relevant experts considering a worst case scenario (50 year drought after 50-years high growth) with regard to use of the aquifer.
- 28 The use of bore water as either a primary source or supplementary source of potable water is common practice both in New Zealand (in excess of 24 communities) and overseas. Bore water is far less susceptible to changes in weather conditions (drought, excessive rain) and contamination from run-off and other contaminants.
- 29 **Ecological and environmental impacts.** Independent testing of the impacts of adding bore water to the river was carried out by NIWA prior to lodging the resource consent applications. In the view of the scientists conducting the assessment, changes in water quality were “acceptable from an ecological perspective”. A peer reviewer of the report said “... there is probably no ecological reason for the recharge not to be used as a potential solution ...”.
- 30 The bore water being used for river recharge meets the New Zealand Drinking Water Standards.
- 31 Extensive ongoing monitoring of any environmental effects is required by the consent conditions.
- 32 **Potential saline intrusion into the aquifer.** This issue was debated during the resource consent hearings. Ultimately, the Commissioner’s agreed with the Council’s interpretation of the cause of the very minimal current saline content: that it is caused by residual salts in the soils rather than extraction from the aquifer and that any potential future effects could be managed through consent conditions and the mitigation measures proposed by Council.
- 33 **Increased costs to households.** Under the current uniform annual charge (UAC) regime, low-use one- and two-person households subsidise the use of larger households. Many of those in one-person and two-person households are on relatively low fixed incomes. The volumetric charging aspect of the current project offers all households an opportunity to control 50% of their costs through behaviour changes and removes much of the inequity of the current situation.
- 34 The Council established a rates subsidy scheme for low income households in 2012/2013 in advance of volumetric charging to allow ratepayers an opportunity to offset increased costs. It is proposed to increase this fund to \$200,000 from 2014/2015 to coincide with the introduction of volumetric charging.
- 35 **Threat of privatisation.** The LGA (S 130, 135 and 136) prohibits the privatisation of water supply services. It does allow the transfer of the operation and maintenance of the service to other local government organisations (such as a Council Controlled Organisation or another council). However, in the previous triennium, the Council made changes to Standing Orders to entrench Council ownership, operation and maintenance of its water supply services. Any move to change this level of control now triggers the Council’s Significance Policy and requires a 75% majority vote and a referendum.

Option 2

36 This second option would:

- leave the water meters in the ground and use them for targeted leak detection and other network performance issues
- retain the current charging model of a uniform annual charge (UAC) across all households (ie. no volumetric component to the charge)
- implement the full river recharge scheme immediately to maintain required river flows (ie. no staging) and meet expected increased demand

Issues

37 Option 2 would address the community's concern with water quality in the same way as Option 1 and eliminates the perceived threat of privatisation from volumetric charging. The discussion above regarding the concerns with the reliability of the bore supply, ecological impacts and saline intrusion into the aquifer also apply to Option 2.

38 The continuation of the current UAC regime would remove the most powerful demand management tool – that of volumetric charging. As a result, the full river recharge scheme would need to be implemented immediately to maintain minimum flows and ensure environmental impacts on the river were minimised.

39 The consents the Council holds require strong conservation measures including the achievement of the 490 lppd target. Without proceeding to volumetric charging, the Council cannot be confident that this target will be achieved.

40 Without the confidence that the consent requirements can be met, the Council would be obliged to seek a variation to the consents with the usual uncertainty that such a variation would be granted. Additional costs would be incurred which are as yet unquantified.

41 This option would require the addition of \$46M to the current 20 year LTP: \$10M to cover the cost of proceeding to full river recharge immediately and a further \$36M to cover capacity upgrades such as the additional reservoir at Riwai Road.

42 Adding these new costs to the current LTP without making cuts to other capital budgets would push the Council outside its Financial Policy through the negative consequences for; Net Debt as a percentage of total equity and Net debt as a percentage of operating income triggering the Council Significance Policy and requiring an amendment to the LTP.

Option 3

43 The third option identified by officers involves:

- leave the water meters in the ground and use them for targeted leak detection and other network performance issues
- retain the current charging model of a uniform annual charge (UAC) across all households (ie. no volumetric component to the charge)
- proceed to build a storage Dam in the Maungakotukutuku Valley immediately

Issues

- 44 Option 3 would address the community's concern with water quality and eliminate the perceived threat of privatisation through volumetric charging. Concerns over the quality of the bore water, its effects on the river as a result of being used to recharge the flows and risks of saline intrusion into the aquifer are all eliminated by this option.
- 45 Option 3 offers no opportunity for staging works and costs. It is estimated that it would assure water supply for 50 years but offers no options beyond that time.
- 46 This option would add four years to the water supply project programme in that it is estimated that it would take at least that long to obtain the necessary resource consents and construct the Dam. Further, as with option 2, existing consents would need to be varied and continued water demand could exceed available supply before the Dam could be completed.
- 47 The Council was granted 35 year consents for the river recharge project on the basis that it not only offers the most cost effective water supply solution but also that it has the least environmental impact.
- 48 Any new consent application would need to address why abandoning the existing consented river recharge project in favour of a Dam, with a potentially higher negative environmental impact and capital cost, was reasonable under the provisions of the Resource Management Act. Staff consider the consenting risk to be significant.
- 49 The building of a Dam would have known negative environmental effects both during construction and afterwards which cannot be eliminated and are not easily mitigated.
- 50 The \$14M already invested by Council in the current supplementary borefield might need to be written off as it may no longer be required. The \$7M already spent on the River Recharge investigations and consenting would need to be written off as it would no longer be required. The cost of the Dam has been assessed at \$33.4M. It should be noted that this cost and the capacity upgrade costs of \$36M (total \$69.4M) would both need to be included in the current 20 year LTP.
- 51 Adding these new costs to the current LTP without making cuts to other capital budgets would push the Council outside its Financial Policy through the negative consequences for: Net Debt as a percentage of total equity and Net debt as a percentage of operating income triggering the Council Significance Policy and requiring an amendment to the LTP.

Option 4

- 52 The fourth option available would be to proceed with volumetric charging and build a Dam immediately.

Issues

- 53 This option would eliminate all aspects of community concern relating to use of bore water – aesthetic and physical properties, reliability of supply, potential saline intrusion into the aquifer and potential negative impacts on the river ecology.
- 54 Further, it would address the issue of the inequity between households inherent in the current UAC regime and would enable Council to have good confidence

that it could meet the water consumption target of 490 lppd. The comments relating to the perceived threat of privatisation detailed in option 1, also apply to this option.

- 55 Option 4 offers no opportunity for staging works and costs. It is estimated that it would assure water supply for 50 years but offers no options beyond that time.
- 56 This option would add four years to the water supply project programme in that it is estimated that it would take at least that long to obtain the necessary resource consents and construct the Dam. Further, as with option 2, existing consents would need to be varied.
- 57 The Council was granted 35 year consents for the river recharge project on the basis that it not only offers the most cost effective water supply solution but also that it has the least environmental impact.
- 58 Any new consent application would need to address why abandoning the existing consented river recharge project in favour of a Dam, with a potentially higher negative environmental impact and capital cost, was reasonable under the provisions of the Resource Management Act. Staff consider the consenting risk to be significant.
- 59 The building of a Dam would have known negative environmental effects both during construction and afterwards which cannot be eliminated and are not easily mitigated.
- 60 With regard to costs, the remaining \$7M provided for the river recharge scheme in the current LTP would be saved, leaving a net additional cost of some \$26.4M.
- 61 The \$14M already invested by Council in the current supplementary borefield might need to be written off as it may no longer be required. The \$7 M already spend on the River Recharge investigations and consenting would need to be written off as it would no longer be required.
- 62 Adding these new costs to the current LTP without making cuts to other capital budgets would push the Council outside its Financial Policy through the negative consequences for; Net Debt as a percentage of total equity and Net debt as a percentage of operating income triggering the Council Significance Policy and requiring an amendment to the LTP.

Comparison of Options

- 63 In Table 1 below, the four options in this paper are compared against the non-financial issues discussed. Financial implications are analysed under the relevant heading below:

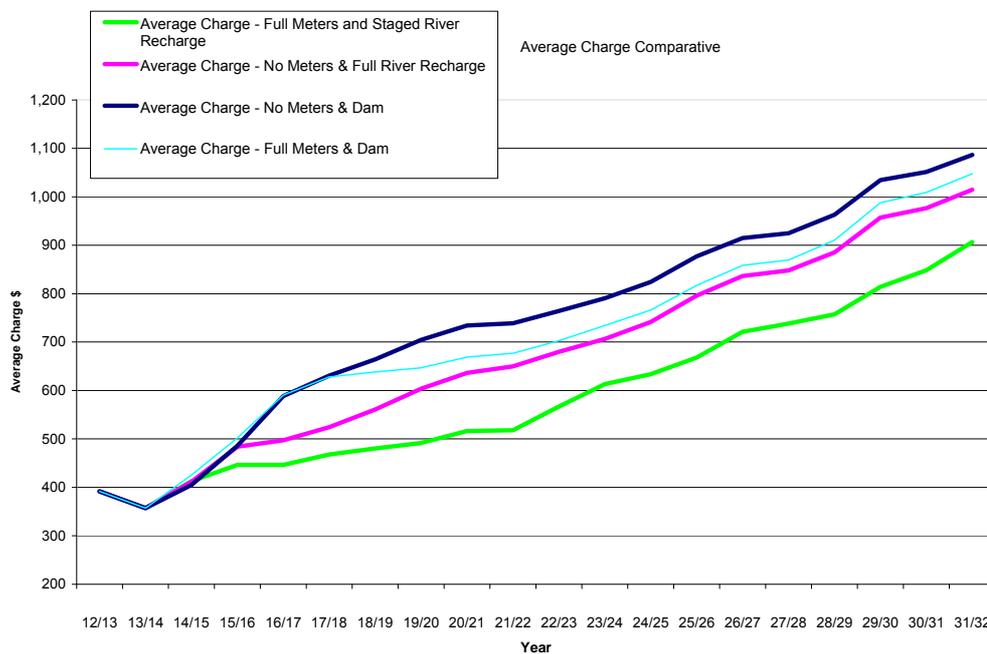
Table 1

| | Consent Risk | Demand managed | Environmental impacts | Equity between households | Water quality concerns | Bore water quality |
|-----------------|---------------------|-----------------------|------------------------------|----------------------------------|-------------------------------|---------------------------|
| Option 1 | No | Yes | Minor | Improved | Addressed | Managed |
| Option 2 | Compliance risks | No | Minor | No | Addressed | Managed |
| Option 3 | Yes | No | More than minor | No | Addressed | Eliminated |
| Option 4 | Yes | Yes | More than minor | Improved | Addressed | Eliminated |

Financial Considerations

- 64 The starting point for all four options reflects the Council's audited position as at 30 June 2013. The expected spend on all four options has been updated to include those funds already committed on water meter installation and the river recharge project.
- 65 When comparisons are made between the 4 options the *status quo* option of Water Meters with Staged River Recharge provides the most positive financial outcome for Council and the community.
- 66 The graph below compares the average household water charge for the full cost of all options considered over the life of the LTP (20 years).

Graph 1



- 67 The adoption of Options 2, 3 or 4 without making cuts to other capital budgets would push the Council outside its Financial Policy through the negative consequences for; Net Debt as a percentage of total equity and Net debt as a percentage of operating income triggering the Council Significance Policy and requiring an amendment to the LTP.
- 68 Only Option 1 meets the requirements in the Local Government Act (LGA) amendment of 2012 that the purpose of local government be to “*meet the current and future needs of communities for good-quality local infrastructure... in a way that is most cost-effective for households and businesses*” (LGA S10(b)).

Legal Considerations

- 69 As previously noted, Section 10 of the Local Government Act as amended in 2012 must be taken into consideration in comparing the options for water supply. The full text is as follows:

Purpose of Local Government

- (1) *The purpose of local government is—*
 - (a) *to enable democratic local decision-making and action by, and on behalf of, communities; and*
 - (b) *to meet the current and future needs of communities for good-quality local infrastructure, local public services, and performance of regulatory functions in a way that is most cost-effective for households and businesses.*
- (2) *In this Act, **good-quality**, in relation to local infrastructure, local public services, and performance of regulatory functions, means infrastructure, services, and performance that are—*
 - (a) *efficient; and*
 - (b) *effective; and*
 - (c) *appropriate to present and anticipated future circumstances*

Delegation

70 The Council has the power to make this decision.

Consultation

71 A total of 750 stakeholders were identified at the commencement of the water supply project and there has been ongoing communication and consultation both with these stakeholders and the wider community over the last four years as the project has progressed.

72 There has been extensive community consultation on these matters including an amendment to the LTP in 2012 with regard to water meters and through the Annual Plan consultative process with regard to the river recharge project and water meters. There have been separate community workshops, open days and a community survey.

Policy Implications

73 As stated, choosing Options 2, 3 or 4 above without making cuts to other capital budgets would put Council in breach of its financial policies and would trigger significance/consultation considerations.

Tāngata Whenua Considerations

74 Iwi considerations have been considered through out the current river recharge project and as part of the consenting process.

Publicity Considerations

75 There has been significant public interest in the Council's approach to the provision of potable water to the community and there will need to be a press release once Council has made its decision.

CONCLUSION

76 Given the advantages and disadvantages associated with the four options as summarised above, Council officers believe continuation with Option 1 – the

current water supply project – is the most prudent and cost-effective course of action.

RECOMMENDATIONS

- 77 That the Council approves the continuation of the current water supply project as generally described under the heading of Option 1 in report IS-13-1028.
- 78 That the Council approves the signing by the Chief Executive of the contract for water meter reading services.

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ATTACHMENTS:

APPENDIX 1: GRAPHIC DESCRIPTION OF OPTION 1

APPENDIX 2: NZ SUPPLIES WITH ONE OR MORE LARGE ZONES THAT RECEIVE GROUNDWATER