

Mayor and Councillors
COUNCIL

24 JUNE 2010

Meeting Status : Public

Purpose of Report: For Decision

WATER SUPPLY PROJECT - OPTIONS SHORTLISTING

PURPOSE OF REPORT

- 1 The purpose of the report is to update Council on progress with the Water Supply project and to:
 - 1.1 present an assessment and comparison of costs associated with the eight in-catchment options,
 - 1.2 identify those options where no further analysis should be undertaken at this stage,
 - 1.3 provide an update on the cost of investigations to date and how these impact on the overall project budget, and
 - 1.4 provide an update on the programme moving forward.

SIGNIFICANCE OF DECISION

- 2 The Council's significance policy is not triggered.

BACKGROUND

- 3 The objective of the Water Supply project is to find a solution to secure sufficient water supply for Waikanae, Paraparaumu/Raumati for the next 50 years. The Long Term Council Community Plan (LTCCP) commits to having a solution in place by 2015.
- 4 The 2009 LTCCP states:
 - *...There will be an extensive assessment of options undertaken, with full consideration of all environmental, social and financial issues associated with any proposed solution.*
- 5 Last year a plan (refer to report DP-09-763 Water Supply Project Budget Reallocation) was drawn up that identified key steps required to achieve the 2015 target date. A summary of the plan is set out below.

Community Engagement	<u>Activities</u>	<u>Estimated Completion</u>
	Information Review of Solutions	Dec 2009
	- review all the existing solutions historically considered,	Completed
	- develop new solutions,	Completed
	- investigate solutions to ensure fair comparisons can be made,	Completed
	- risk assessment,	Completed
	Solution Selection	June-Sept 2010
	- aid the community groups and iwi in the developing of selection criteria,	Completed
	- gathering of additional data,	Completed
	- conceptual design,	Completed
	- cost estimating,	Partial
	- consentability	Partial
	- Council decision on preferred solution	August 2010
	Preliminary design/AEE	Oct-Dec 2010
	- develop preliminary designs,	Partial
	- assess environmental effects for resource consent application,	Partial
	- prepare for statutory assessment, resource consent lodgement	Partial
	- affected parties consultation,	Partial
	- provide advise on procurement options,	
	Consent Approval	Sept 2011 to March 2012
	- consenting process, including possible hearings	
	Detailed Design	June- Sept 2012
	- produce a detailed design reflecting the consent requirements and the solution selected,	
	Construction	June 2014 to Jan 2015
	- procure a contractor to construct the solution,	
	- manage and monitor the construction, and finally,	
	- commission the built solution.	

- 6 Key inputs since have included the Council-facilitated Technical Advisory Group (TAG) made up of local residents with relevant technical expertise. The TAG members have volunteered their time to advise on technical matters relating to information on water supply solutions (refer to report SP-08-389).
- 7 TAG representation will be made at Council providing comments on this report.
- 8 A technical consultant (CH2M/Beca) was engaged to review all existing technical and Council information for water supply solutions. From the documents reviewed, it identified 40 water supply and storage solutions.
- 9 CH2M/Beca completed the information review and presented its findings with recommendations to Council in December 2009 (refer to report DP-09-762). Council resolved:
- *That Council note the attached report (see Appendix 1 of report DP-09-762) as a comprehensive list of possible water supply solutions.*
 - *That Council agree to investigate further the 31 solutions proposed in Appendix 1 of report DP-09-762).*
- 10 In December 2009 (refer to report DP-09-763) Council also agreed to amend the budget to better reflect Council's preferred approach and programme for achieving a water supply solution. At the time Council resolved:
- *That the Council approves amending the timing of capital expenditure on the water supply project as detailed below with a revised capital budget for the 2009/10 year of \$1,120,000 in support of Option One (7-10 Solutions with the preferred option identified by June 2010).*

Financial Year	LTCCP Projected Budget	Option One Revised Staging
2009/10	\$250,000	\$1,120,000
2010/11	\$250,000	\$1,380,000
2011/12	\$850,000	\$2,110,000
2012/13	\$9,500,000	\$10,120,000
2013/14	\$14,000,000	\$10,120,000
Total	\$24,850,000	\$24,850,000

Note: The total budget above has been indexed to CPI movements.

- 11 The reduction of the 31 options to a shortlist of between 5 to 8 was completed by CH2M/Beca and presented to Council in March 2010 (refer to report DP-10-818). At that meeting Council resolved:
- *That the Council notes consultation to date shows a community preference for 'in-catchment solutions' for the Waikanae, Paraparaumu and Raumati water supply system.*

- *That the Council agree to investigate further the six in-catchment solutions proposed (recommendation one in Appendix 1 to report DP-10-818), noting that the final solution may involve more than a single solution. The six in-catchment solutions proposed are:*
 - a) *Lower Maungakotukutuku storage dam*
 - b) *Aquifer Storage and recovery*
 - c) *Groundwater river recharge*
 - d) *Kapakapanui dam*
 - e) *Ngatiawa dam*
 - f) *Extended borefield and storage*
 - *That the Council recognizes and acknowledges the previously taken position by tāngata whenua and Ōtaki residents in relation to the Ōtaki pipeline concept and seeks formal confirmation from both, of their current views on whether or not 'out-of-catchment' solutions should be included in the next stage of the water supply review for Waikanae, Paraparaumu and Raumati.*
 - *That the Council asks the Ōtaki Community Board to facilitate (with Council assistance) further consultation on Ōtaki water management matters as input into the current water review, including confirming the preferred community position on inclusion of any 'out-of-catchment' option in the next stage of review.*
- 12 This report recommends reducing the over-all list of eight options to four, with further analysis of only the remaining four. The report presents base cost analysis of the eight options to support the placing of four of those options on hold.
- 13 It is intended to report back to Council in August with a final recommendation. That report will also address composite solutions. The potential of these composites only became apparent during the early assessment phase.
- 14 The August report will also contain updated cost estimates for out-of-catchment options. The estimates are being included so Councillors are able to make decisions based on current dollar comparisons.

CONSIDERATIONS

Progress

- 15 Since the March 2010 report to Council (refer to report DP-10-818) CH2M/Beca have been conducting intensive investigations, analytical work and concept designs that have looked at, but are not limited to, the following aspects:
- geotechnical investigations
 - aquatic ecological assessment
 - terrestrial ecological assessment
 - public and Iwi consultation
 - land valuations
 - surface water modelling
 - cost estimation
 - risk assessment
 - legal and regulatory review
 - economic analysis
 - treatment investigation
 - aquifer modelling
- 16 Public consultation has been carried out, as below, and the community is aware a decision is due to be made on a preferred water supply solution shortly. Consultation has included:
- press releases on major developments;
 - sustainable home and Garden Show – water tent;
 - two public information days;
 - three project newsletters to stakeholders (over 765 registered);
 - meeting with river-based stakeholder groups;
 - discussions with Greater Wellington Regional Council staff;
 - establishment of and meetings with the Te Ati Awa Water Working Group.
- 17 The bulk of investigations have been completed, but some work still remains. The work completed already highlights some options that cannot be implemented within the project budget of \$23 million (in 2010 dollars) as set in the 2009 LTCCP. This raises the question of whether to continue analysis of these options.
- 18 Based on investigation to date, it is proposed to reduce the eight options to four and continue analysis of these options. Final costings for options will be provided in the final ‘Ranked Option’ report to Council in August. The four options are:
- a) Lower Maungakotukutuku storage dam (river water)
 - b) Aquifer Storage and recovery
 - c) River Recharge with Groundwater (bore water)

- d) Extended borefield - No storage, borewater only, full treatment
- 19 The options proposed to be put on hold are:
- a) Kapakapanui dam
 - b) Ngatiawa dam
 - c) Extended borefield and storage - Large storage ponds, blending river water with borewater, no additional treatment
 - d) Extended borefield and storage - Small storage pond, less blending river water with borewater, minimal treatment

Factors to be considered

- 20 Cost is a consistent screening criteria used throughout each of the assessment phases of options. Cost was used in the previous 'coarse screening' of the 40 options and was an important issue identified in public consultation.
- 21 Any reduction of options should not affect the Council's ability to achieve the best possible overall solution for securing additional water supply for the Waikanae/Paraparaumu/Raumati catchment.
- 22 Analysis and investigation into options that provisionally fall well outside the project budget of \$23 million (2010 dollars) should be put on hold if they are not essential to achieving the above objective.
- 23 If options fall outside the project budget of \$23 million but play an important part in the possible development of composite solutions (consisting of a mix of more than one option), then they should be retained.
- 24 Cost is not the only factor being considered in this report when recommending the placement of four options on hold. Some of these factors include social and ecological impacts as discussed in the attached report.

Reasons for shortlisting

- 25 An early assessment of costs provides an opportunity to focus on more viable options going forward.
- 26 The proposed shortlisting of options at this stage is prudent management of project costs as it minimises excessive investigations on options that are unlikely to be selected as a preferred solution.
- 27 Shortlisting options provide greater certainty to directly and indirectly affected people. All the options proposed to be 'put on hold' require significant land purchase and this generates uncertainty in the community. The proposed shortlisting allows some people who may have been affected by options to make decisions about future and ongoing development of their land.
- 28 Narrowing the options also assists future decision-making because there are fewer options with complex variables to analyse and compare. By focusing on the more viable options the project team, stakeholders, Te Ati Awa Water

Working Group, Technical Advisory Group and Council will be aided in their further analysis.

- 29 While options are being put on hold for cost reasons, a future re-evaluation may be required in the event a preferred solution does not emerge from the final 'Ranked Options' report.

Base cost estimates of options

- 30 Since March 2010 the in-catchment options have been investigated in more detail allowing CH2M/Beca to estimate the cost of the options independent of the original (pre July 2009) Council reports. This means that the costs of each option can be compared like for like.
- 31 The table below presents the cost of each option that has been estimated in the attached CH2M/Beca report and recommends which options be continued or put on hold.
- 32 The costs are based on the estimation method (outlined in the attached report) and are not final costs as these will be presented in the 'Ranked Option' report in August 2010. This method provides a robust cost estimation for each option so a fair comparison can be made.

Potable source	Option	Cost (2010 dollars)	Analysis	Beca report	
Groundwater	Extended borefield – No storage, borewater only, full treatment.	\$29,700,000	Continue	Clause page v	2.1.5
River	Lower Maungakotukutuku dam	\$25,150,000	Continue	Clause page iv	2.1.2
	Aquifer Storage and recovery	\$22,690,000	Continue	Clause page v	2.1.6
	River Recharge with Groundwater	\$18,950,000	Continue	Clause page v	2.1.7
	Kapakapanui dam	\$43,420,000	Put on hold	Clause page iv	2.1.1
	Ngatiawa dam	\$31,920,000	Put on hold	Clause page iv	2.1.3
Groundwater /River	Extended borefield and storage – Large storage ponds, blending with borewater, no additional treatment.	\$56,140,000	Put on hold	Clause page iv	2.1.4
	Extended borefield and storage – Small storage pond, less blending with borewater, minimal treatment.	\$42,070,000	Put on hold	Clause page iv	2.1.4

Next Steps

- 33 The 'Ranked Option' report being presented in August 2010 will provide an analysis of:
- the four remaining in-catchment options (but not any of the options put on hold);
 - any suitable composite solutions :
 - economic assessment including capital costs and ongoing operational costs of all options.
- 34 The August report will also cover outstanding items such as Whakatikei Dam, Iwi response to options, costs of and response of Ōtaki community to out-of-catchment options, and the TAG report.

Financial Considerations

- 35 Reducing options reduces costs of future investigation and analysis.
- 36 Final cost analysis of options (to be presented in August) will also include operational costs, possible staging, and net present value analysis. This will ensure that options are compared using capital plus ongoing operation costs.
- 37 The 2009/10 financial budget is expected to be overspent by \$490,000. However, throughout the life of the project the total expenditure is programmed to be within the \$23 million set aside in the 2009 LTCCP.
- 38 This is a result of more options and sub-options being investigated. The work was essential to thoroughly compare the potential of each option.
- 39 Some of this expenditure will have flow-on benefits later in the project. For example, the level of detail of concept design for each option will provide budget savings in the preliminary designs required for resource consent application.
- 40 At the time the budget was assessed in November 2009, the project team was uncertain as to the number or type of options being progressed. Not all technical factors needing investigation were known, and additional work on some options was required as a result.

- 41 The table below shows the estimates used for budgeting in December 2009 compared to the revised budgets based on a review of the last six months expenditure.

Financial Year	December 2009 Revised Staging	Revised Staging
2009/10	\$1,120,000	\$1,610,000
2010/11	\$1,380,000	\$1,275,000
2011/12	\$2,110,000	\$1,725,000
2012/13	\$10,120,000	\$10,120,000
2013/14	\$10,120,000	\$10,120,000
Total	\$24,850,000	\$24,850,000

Note: The total budget above has been indexed to CPI movement.

- 42 Once a preferred solution has been identified, a review of all budgets and program will be undertaken as there will be much more certainty around future expenditure. It is expected the project team will provide a complete revised budget for the total project before the end of this calendar year. It is important to remember that the total project budget is not expected to exceed \$23 million (in 2010 dollar terms). However this is dependent on what preferred solution is selected.

Legal Considerations

- 43 There are no legal considerations at this stage relating to this report and proposed recommendation.

Delegation

- 44 Council may make a decision on this matter under Section A.2 of the Governance Structure 2007-2010: *“Exercise any other Council powers, duties and functions of a strategic overview nature including infrastructure development and coordination...”*

Consultation

- 45 The consultation programme relating to the Water Supply project has been outlined in paragraph 16 earlier. This consultation will continue as the project progresses.
- 46 Water supply options have and will continue to be discussed with the Te Ati Awa Water Working Group.

Policy Implications

- 47 There are no policy implications generated by this report. The LTCCP and other relevant strategic documents have been considered as part of the review of options captured in the attached report.

Publicity Considerations

- 48 The report addresses relevant technical issues as identified in Council and public documents. It is proposed that this report and the attached report (see Appendix 1) will be made available to the public.

RECOMMENDATIONS

- 49 That Council notes the conclusions and recommendations of the attached Attachment One: CH2M/Beca – Option Shortlisting Report dated 17 June 2010.
- 50 That Council confirm the listed options below will not be considered further as a preferred water supply option at this stage based on evaluations to date:
- a) Kapakapanui dam
 - b) Ngatiawa dam
 - c) Extended borefield and storage - Large storage ponds, blending with borewater, no additional treatment
 - d) Extended borefield and storage - Small storage pond, less blending with borewater, minimal treatment.
- 51 That Council approves amending the timing of capital expenditure on the water supply project as detailed below.

<i>Financial Year</i>	<i>December 2009 Revised Staging</i>	<i>Revised Staging</i>
2009/10	\$1,120,000	\$1,610,000
2010/11	\$1,380,000	\$1,275,000
2011/12	\$2,110,000	\$1,725,000
2012/13	\$10,120,000	\$10,120,000
2013/14	\$10,120,000	\$10,120,000
Total	\$24,850,000	\$24,850,000

Report prepared by:

Approved for submission by:

Phillip Stroud

Gary Simpson

Project Manager

Group Manager Assets and Services

ATTACHMENTS:

Attachment One: CH2M/Beca – Option Shortlisting Report dated 17 June 2010.

04 June 2010 08:53 A.M.