STAFF REPORT

TO: Chairman and Members, Engineering Services Committee

FROM: Engineering Manager, Peter Thomson

REFERENCE: W344

DATE: 29 May 2006

SUBJECT: **WAI-ITI VALLEY COMMUNITY DAM**

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1. PURPOSE

This report summarises the cost to complete the capital project and reviews the capital funding options available to Council in light of submissions from the Wai-iti Water Augmentation Committee.

2. BACKGROUND

The Wai-iti Valley Community Dam was approved by Council to proceed as a capital project in October 2004. The approval was based on a total capital project value of $2.9 million comprising $700,000 as a loan from Council's General Reserves and a further loan of $2.2 million to be funded by the users of the scheme. The users of the scheme are irrigators who hold a water permit issued under the RMA within the Wai-iti Dam Service Zone in the Wai-iti Valley.

The scheme is designed to harvest rainfall from the Kainui stream catchment and augment the flow in the Wai-iti River during the dry season to provide greater security to the irrigators. The storage available at the dam will provide an equivalent of approximately 700 hectares of irrigation. Of this total, 400 hectares is being provided to offset the 70% allocation in the irrigation zone. A total of 300 hectares is available as new irrigation within the service zone.

At the time of committing to the scheme Council notified users that based on the capital estimates, the repayments to the irrigators' loan would be met by a target rate of $270 per hectare per year. In addition to this, new irrigation was reserved on the basis of an initial lump sum contribution of $1,060 (including GST) per hectare. If all 300 hectares were fully subscribed then this would provide a capital sum of just under $283,000 (excluding GST) and thereby reducing the irrigators' loan total required from $2.2 million to $1.917 million.

The project was undertaken through a physical works contract with Taylor's Contracting. This contract was administered by scheme designers, Tonkin & Taylor. The construction phase has taken significantly longer than was originally anticipated. The work commenced in December 2004 and was expected to be complete before winter 2005. However, construction progress was slow and

earthworks virtually came to a standstill in the middle of the year with the risk of site shutdown over the winter. Taylor's Contracting put forward a proposal to carry on construction with the use of an off-site alternative borrow site. This was successfully negotiated and allowed the project to proceed through the end of winter and all works were nearing completion in October 2005.

In October/November 2005 a problem was discovered in the concrete conduit at the base of the dam and remedial works were the responsibility of the designers, Tonkin & Taylor. The conduit comprised a 525 mm diameter concrete pipe surrounded by a reinforced concrete encasement. Following completion of the embankment the concrete pipe was found to have circumferential cracks at locations corresponding to the control joints in the encasement. Remedial works comprising a cured in place pipe line and grouting were undertaken to control seepage into the conduit. The liner was inserted within the concrete conduit under the full length of the dam, the ends sealed, pressure-tested and epoxy grout being injected along the full length of the conduit.

The conduit remedial works, for various reasons, were drawn out over a significant time frame. Final completion of the grouting and re-installation of the HDPE discharge pipe was not completed until 12 May 2006. At this time all valves were closed off and the reservoir was complete and storing water, harvesting winter rainfall.

At time of writing the live storage in the reservoir is 90,000 cubic metres, and the water is 3 metres above the intake level.

3. PROJECT COSTS

The completion costs of the project are shown on the table below. The final total capital expenditure for the project is expected to escalate from the original $2.9 million to $3.23 million over the two-year period. With the prolonged construction period, the project has incurred loan interest charges which are expected to total $204,000 by the end of June 2006. These interest charges have been capitalised into the total expenditure pushing the total capital cost to $3.438 million.

Due to the delays in the project the Council has resolved not to levy the target rate on irrigators in 2005/2006. This has resulted in a delayed cash flow for the project and therefore the need to capitalise the loan interest for the first two years.

The draft LTCCP has published the target rate at $300 (including GST) per hectare per year. The 300 hectares of new irrigation is fully subscribed and initial contributions have been invoiced to new irrigators throughout the course of this financial year with all payments due by the end of June 2006. The full total of $283,000 is expected to be available as income to the project at this time.

	2002/2003 & 2003/2004	2004/2005	2005/2006 Projected	Totals	Budget
Capital Expenditure	$269,161	$1,958,501	$1,006,000	**$3,233,662**	$2,900,000
Loan Interest	-	$37,471	$166,298	**$203,769**	-
Total Cost	$269,161	$1,995,973	$1,172,298	**$3,437,432**	$2,900,000

4. DISCUSSION

The additional construction time for the project has resulted not only in cost increases, particularly as the cost of supervision has been high over a long period of construction, but has also delayed the much-needed cash flow for the project.

The Wai-iti Water Augmentation Committee has been active throughout the course of the project with regular meetings with staff and project managers as required. A submission from the Augmentation Committee Chairman, Mr Evan Baigent to the draft LTCCP is attached for consideration. The Committee recognises the increases in the capital costs but has also requested that Council give serious consideration to keeping the target rate at its earlier agreed level of $270 for at least the first three years of the project repayment period. Many of the new and existing irrigators will now be making significant capital investments within their own properties to access and use a greater amount of irrigation or to invest in a greater level of irrigation because of the much-needed improvement in drought security.

5. FUNDING OPTIONS

At the time of committing to the scheme the Council saw fit to contribute 24% or $700,000 to this project given that it provides for better environmental outcomes for the whole of the Wai-iti Valley, and also the wider community benefit of a more secure irrigation resource. The irrigators, through the Wai-iti Water Augmentation Committee have requested that the target rate be kept somewhere near the original estimation of $270 per hectare.

Three methods are suggested to control the user's costs.

a) Council makes good a 24% contribution to the final capital cost of the scheme, ie., 24% of $3.438 million being $830,000. This is an equitable way of Council and the irrigators sharing in the risk of the construction costs;

b) The irrigator's capital share loan be raised over a 30-year, rather than the previously proposed 20-year period. The Wai-iti Water Augmentation Committee has suggested this as a possibility; and

c) A reduction in principal repayments within the first three years to lower the target rate during that period with an acceptance that there will be corresponding incremental increases in the target rate from Year-4 to Year-30 to make up for this.

A table showing the revised funding for the capital project is set out below.

	2004 Project Budget	**2006 Project Completion**
Total Cost	$2,900,000	$3,438,000
Less Council Contribution	$700,000	$830,000
Irrigators Capital Share	$2,200,000	$2,608,000
Less New Irrigation Payments	$283,000	$283,000
Capital Loan Required	$1,917,000	$2,325,000
Target Rate (incl GST):		
• **Years 1 to 3**	$270	$280
• **Years 4 to 20**	$270	$315
• **Years 21 to 30**	$25	$315
• **Years 31 +**	$25	$25

6. RECOMMENDATION

THAT the Engineering Services Committee recommend to Council that:

a) Council approve to raise a loan of $2.325 million over a 30-year period for the purposes of funding the Wai-iti Valley Community Dam. This loan to be repaid by the users of the scheme through the Wai-iti Valley Community Dam target rate.

b) Council approve an $830,000 loan over a 20-year period to fund the Wai-iti Valley Community Dam. This loan represents Council's contribution to the project from general funds.

c) Council adopt a target rate of $280 (including GST) per hectare in 2006/2007, for all water permits issued within the Wai-iti Dam Service Zone.

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