

ASHBURTON DISTRICT COUNCIL

Funding Request - Barrhill Chertsey Irrigation Ltd

Background Report April 2009



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INTRODUCTION

Overview of Barrhill Chertsey Irrigation Limited Project

Proposal

Barrhill Chertsey Irrigation Limited (BCI) is working with Electricity Ashburton and Rangitata Diversion Race Management Limited (RDR) to develop an irrigation scheme and hydro-electric power generation facility on the south bank of the Rakaia River. BCI has approached Council to seek support to enable the project to be developed to its full potential.

The BCI Project is being developed in two stages:

Stage I:

- Construction of an intake to take 17 cumecs of water from the Rakaia River at Happy Valley
- Construction of 3.5 km of canal taking water via two electricity generators.
- Construction of a pump station to deliver 8 cumecs of water to the Rangitata Diversion Race (RDR) for irrigation.
- Stage I will provide irrigation to 17,800 ha of arable farmland in Ashburton District.

Stage II:

- Construction of a canal to deliver the remaining 9 cumecs of irrigation water to Ashburton District by gravity.
- Construction of electricity generation incorporating the additional 16 cumecs of water approved under application by Ashburton Community Water Trust.
- Likely access to a water storage facility in the foothills to provide BCI and other irrigators with greater reliability of water supply.
- Stage II will provide irrigation to 22,000ha of arable farmland in Ashburton District.

BACKGROUND

1.1 Rationale Underpinning the Business Case

BCI has approached Council to consider becoming a short term funding partner to enable the irrigation project to be developed to its full potential. This proposal for financial assistance by Ashburton District Council meets standard criteria for the funding of public projects:

1. The proposal is considered an appropriate use of public funds because it offers economic benefits to the wider Ashburton District community
2. The project to be funded is not in competition with the private sector
3. The project and its expected economic benefits will occur within the district's territorial boundaries
4. It is highly unlikely the project would take place without Council funding particularly as the resource consent that underpins the project must be activated by September 2010. It is considered unlikely that a further extension of the resource consent to take water would be granted
5. The requested Council funding will enable the project to take place more quickly than it otherwise would (see point 4)
6. The requested funding will allow the project to lock in economies of scale by completing construction of the canals and infrastructure needed to handle the entire 17 cumec water consent in one project at today's prices. Without Council support BCI shareholders could not afford to service the cost of the total infrastructure at stage 1 when they would only benefit from the initial 8 cumecs of consented water. Reducing overall project costs on a project that will benefit the district economically is a suitable use of public funds.
7. The project is suitable for community funding from the perspective of its intended outcomes and from the perspective of the Council finances. Although the Ashburton District Council is facing many demands for project funding it has the necessary financial capacity to support this project

1.2 Links to Community Outcomes

The outcomes from this proposal link directly to the achievement of a number of the District's defined community outcomes.

- ***Outcome 1: A thriving and diverse local economy that provides the foundation for a quality lifestyle***
- This linkage will be further addressed in the following section. At this stage it is noted that the BCI proposal has the potential to provide strong economic benefits for the district.
- ***Outcome 2: Natural and developed environments are sustained for the enjoyment of current and future generations***

The proposed project is expected to lead to a decrease in ground water takes within the district thereby improving aquifer recharge and maintenance.

- ***Outcome 4: A community with access to quality education and lifelong learning***

The district is well served by educational facilities. However it is important they are not only maintained but further developed to ensure that educational opportunities for residents continue to increase and develop. This is important not only for social reasons but to ensure the skills of the District's workforce remain competitive and relevant in the face of rapid technological change.

Educational facilities and their associated programme offerings, whether funded by central government or private industry, require population scale to drive the demand that is necessary to achieve the economic returns required for private sector funding or additional resources from government.

The growth and maintenance of population levels is closely related to economic performance. It is widely understood that greater economic output directly results in more jobs, population growth to fill job vacancies and retention of existing residents, including youth. This request is expected to result in increased economic output within the district as will be detailed later in this report.

- ***Outcome 5: Healthy, Active People enjoying a good quality of life in a caring and safe community***

Quality of life is directly related to both:

- The level and quality of healthcare available to the community and
- The living environment and leisure amenities available to the community

Population scale is required to justify population based government funding in the health sector and drive the demand that is necessary to achieve the economic returns required for private sector funding of health and recreation facilities.

- ***Outcome 6: A community with access to a variety of cultural, recreational and heritage experiences and facilities that enrich our quality of life***

Once again population scale is required to justify population based government funding in the heritage, cultural and recreation sector, and drive the demand that is necessary to achieve the economic returns required for private sector funding of cultural and recreation facilities.

1.3 Significance of Council Decision

The Ashburton District Council considers this proposal to be significant in terms of the current and future social and economic well being of the district. Council has prepared this report to assess the proposal, and to ensure it meets the requirements of:

Subpart I — Planning and decision making, Local Government Act 2002

This report

- sets out the project background and concept
- defines links to community outcomes
- identifies the cost and community benefits of the proposals
- identifies options considered
- assesses the financial impact on ratepayers

Environmental issues have been considered through the Resource Management Act process, with the proposal having been granted all necessary consents. These are not re-visited in this report.

The proposal has been included in the Council's draft Community Plan 2009-19 for consultation with our community. This document is intended to assist the wider community in understanding the proposal and to assess the impact, to ensure we have an informed community.

Comments and submissions are invited on this proposal along with any other service delivery or projects included in the draft Plan (LTCCP).

1.4 Economic Indicators Triggering the Business Case

Agriculture & Irrigation in Mid Canterbury

Economic Reliance on Agriculture

The economy of the Ashburton District is heavily reliant upon agriculture.

This has been identified by many studies including those by the Ministry of Agriculture and Forestry (MAF). "For much of the Canterbury Plains, farm-based production is the basis of the communities and likely to remain so in the foreseeable future".¹ "Irrigation, rather than tourism or any other economic stimulus, is likely to make a more defining difference to communities in Canterbury than (other areas)".

¹ The Economic Value of Irrigation in New Zealand April 2004: MAF Technical paper 04/01

According to research conducted by Business and Economic Research Ltd. (BERL) in 2008², agriculture & food processing industries dominate the Ashburton District's economy. 2006 data reveals that 36% of the district's GDP was directly contributed by these industries. That is before allowing for the downstream effect these industries have on other industries and individual businesses within the district.

Other research by the Agricultural Economics Unit at Lincoln University³ (AERU) reveals that approximately 40% of all business units in the Ashburton District were involved in the agricultural or food processing industries and approximately 40% of the district's workforce was directly employed by those industries. Again this does not include downstream effects upon employment and business establishment.

Looking at flow on effects, BERL research estimated that the sheep & beef, dairy and arable sectors, alone, indirectly accounted for approximately 50% of all employment in the Ashburton District in 2006.

The dominance of agriculture in the district's economy is expected to prevail for the foreseeable future for 3 reasons:

1. Growing worldwide demand for food over the next 50 years during which world population is expected to increase from 6 billion to 9 billion
2. Existing agricultural infrastructure and scale within the district
3. Comparative advantage this district holds in agriculture because of:
 - a. The retention of productive farmland – the district has the largest area of flat arable land in New Zealand
 - b. Relatively beneficial climate
 - c. Extensive use of irrigation
 - d. Proximity to export ports/airport
 - e. High level of skills of local farmers, especially in irrigation⁴

Comparative Advantage is closely linked to Irrigation

AERU research confirms that the Ashburton District has the largest area of irrigated farmland in New Zealand and this is the direct result of the foresight shown by the developers of the Rangitata Diversion Race and subsequent irrigation schemes together with the availability of large areas of productive flat land.

These resources are underpinned by supporting infrastructure and extensive operational knowledge and competence in irrigation. This has been developed by irrigation businesses and individuals within the Ashburton District (intellectual property). As a result of the factors previously identified the Ashburton District currently has comparative advantage in agriculture within New Zealand. A key component of this advantage is irrigation without which the district would not have comparative advantage.

² BERL August 2008: Profile of the Ashburton District and its Key Sectors

³ AERU December 2008: Ashburton – Economic Base of the District

⁴ According to respected farm advisor Bob Engelbrecht

The contention that irrigation underpins this comparative advantage is supported by data from AERU which reveals that the Ashburton District has the highest levels of irrigated farmland of any district in New Zealand. It is further supported by evidence from Phillip Donnelly⁵ on the competitive advantage provided by the existing infrastructure of the Rangitata Diversion Race schemes within the district.

Perhaps even more importantly, as pointed out by John McKay⁶ - CEO of South Pacific Seeds, internationally irrigation is simply seen as a hygiene factor (standard input) in agricultural production rather than an optional input. This is supported by MAF who contend that, given international competition in agriculture, irrigation will be important to enable the agricultural sector to quickly respond to market signals on quality, quantity and composition in niche markets and to deliver on time. These issues are more important than price.⁷

Considering the limited availability of the water resource and its importance to food production, greater availability and control of the resource within the Ashburton District should bring substantial benefits to the local community as shall be seen later.

The BCI Project is important because Mid Canterbury farmers have few (if any) alternative sources of new irrigation water that are readily accessible or available at present.

Opportunity for Increased Economic Output

Opportunities for increased economic output have been assessed from both supply side and demand side perspectives. Clearly the ability to provide increased output will not bring economic advantage without a corresponding increase in demand for that output.

Supply

A number of studies have assessed the level of increased output that results from the conversion of dry land farming to irrigated agricultural production.

Economic Output

In particular MAF conservatively estimated that irrigated farmland produces 2.8 x the level of farm gate GDP than that of dry land farming.⁸ This does not include wider flow on effects to downstream businesses resulting from the increased farm gate value added.

This finding supports the contention that the BCI project will have a positive impact upon economic activity within Ashburton District. On the basis of the MAF findings the BCI project could be expected to almost triple net economic contribution at the farm gate for 17,800 ha in stage 1 and a further 20,000 ha in stage 2. Although this does not include flow on effects it is reasonable to

⁵ Statement of evidence 9/2003 in support of an application for a Water Conservation Order by RDRML

⁶ Platform address to the October 2008 Irrigation New Zealand conference in Christchurch

⁷ Bob Engelbrecht

⁸ MAF Technical Paper April 2004: The Economic Value of Irrigation in New Zealand.

assume that secondary effects would be impacted to a similarly positive degree. The off-farm benefits are referred to later in this report (Employment).

Economic benefits do not end here; the same MAF report identified that irrigation increases farm capital values which allows increased borrowing, for example for farm development, which in turn increases economic activity.

Further positive economic benefits identified in the MAF report are set out below.

Irrigation leads to a reduction in economic risk by;

- Increasing the reliability of production thereby reducing problems in dry periods.⁹ Stability of production, and therefore economic output, is not only of direct benefit to farmers but also to the wider community in district's such as Ashburton whose economy is dominated by agriculture and agricultural support activities
- Diversification – reducing risk and increasing farming opportunities through the greater range of possible land uses that irrigation allows.¹⁰ The diversification benefits of irrigation are apparent in this district's growth in dairy farming and process vegetable farming as well as in the ever increasing range of arable crops and seeds able to be successfully grown

MAF also identified wider positive impacts upon the community's social wellbeing. Irrigation enables more intensive agriculture on less land meaning; more farms, more employees, and more consistent cash flows throughout the community. This has in turn been found to lead to better services and improved optimism and innovation within a community.¹¹

It is important to understand that the increased economic benefit irrigation provides to the community is largely based upon increased farm input costs rather than increased farm profitability. In essence while irrigation increases a farms productive capacity it also locks a farm into significantly increased farm operating costs such as electricity, irrigation maintenance and employment. These costs are largely non-discretionary and represent the major portion of farm revenues. This results in greater economic activity within the district, than would have been the case without irrigation, even in times when farm profitability may be low.

Finally BERL¹² identified that the majority of Ashburton District farm input expenditure is spent within the local community.

Employment

Of particular benefit to the community is the positive impact irrigation has upon employment opportunities. According to MAF "increased land use intensity results in more employment opportunities on farms". A 2002 study on the Lower Waitaki irrigation scheme estimated an additional 10.4 jobs per 1,000ha irrigated.¹³

⁹ Ibid

¹⁰ Ibid

¹¹ Ibid

¹² BERL August 2008: Profile of the Ashburton District and its Key Sectors

¹³ MAF Policy Technical Paper 2002/13: Ford, S.s Dec.2002 "Economic and Social Assessment of Community Irrigation Projects"

On this basis the BCI scheme could lead to an additional 185 jobs on farm at stage 1 (231 if the Acton option is taken up at this time) and a total of 416 by stage 2. These are on farm jobs and do not include additional employment in downstream industries such as; irrigation, transport, engineering, contracting, veterinary, accountancy etc.

Assuming an average farm worker's income at the bottom of the scale - \$38,000, the estimated increase in on farm employment alone would equate to an additional \$16m in economic output by farms before secondary effects are considered.

An earlier study by the Agricultural Group and others estimated a range of direct on farm employment effects, depending on land use, from .5 to 2.7 times those indicated by the MAF study.¹⁴ The Agricultural Group study also estimated wider employment effects for the greater Canterbury region. On the basis of those calculations BCI stage 1 + 2 could result in an increase in employment of between 1250 and 2500 jobs in the region.

A MAF report in 2002 compared 2 similar areas (soil, climate, location) one of which had significant irrigation for 20 years and one of which had predominantly dry land farms. The results showed that during the period under review the irrigated locality increased its population by 16%, had higher average household incomes, a greater proportion of higher paying jobs and more fulltime jobs.¹⁵

This finding is of particular value to this district given that current statistics indicate the Ashburton District lags behind both Canterbury and New Zealand in terms of average wages paid and the percentage of higher paying jobs available within the community.¹⁶ For that reason projects which are likely to improve the district's wage structure should be encouraged.

Demand

In the long term the opportunity for increased output is contingent upon increased demand for production.

The worldwide demand for food is directly linked to population levels and the world's population is projected to increase by 3 billion (50%) within the next 50 years. This is supported by an abundance of published information that indicates strong growth in demand for food products (agricultural products) for the foreseeable future. In the final analysis you can't defer the consumption of food.

An equally important component of demand from this district's perspective is the ability of consumers to pay for agricultural produce.

Information provided by many sources, including Massey University's department of Pastoral Agriculture and the international agri-banking group Rabobank, has identified a growing middle class in Asia, notably India and China, able to afford higher quality food and actively seeking higher quality food products and proteins.

¹⁴ Agriculture New Zealand et al. November 2000: Central Plains Water Enhancement, Economic and Social Impact of Proposed Irrigation Schemes

¹⁵ MAF Policy Technical Paper 2002/13: Ford, S.s Dec.2002 "Economic and Social Assessment of Community Irrigation Projects".

¹⁶ AERU December 2008: Ashburton – Economic Base of the District

New Zealand, and more particularly Ashburton, is well placed to capitalise on that demand both because of its capability and because of projected worldwide food supply shortages. Estimates of the remaining land, worldwide, that is suitable to be put into agricultural production show that it is insufficient to meet projected demands for additional food products. Some estimates indicate that as little as 5% of world land is able to be added to agricultural production.

It is also important to understand that New Zealand, unlike most of its farming competitors, operates a sustainable farming system rather than a 'depletive' system. In a 'depletive' system resources tend to be consumed rather than harvested on a renewable basis. Examples include exhausting the harvest potential of soils and then moving on to cultivate new areas rather than systematic soil enhancement and rotational cropping.¹⁷

The scale of projected demand, relatively small size of N.Z. production and constraints on agricultural supply¹⁸ mean that increased agricultural production is unlikely to result in lower commodity prices¹⁹.

Requirement for Water Storage

The case for water storage in this region and the need to manage the district's water assets for the sustainable benefit of all interests, including renewable electricity generation, is reasonably well understood within the district. At a regional and national level this is now being recognised.

In simple terms water storage is a 'must' for agriculture in this region to develop to its full potential while protecting our natural environment. Without water storage much of the water available for irrigation is simply not reliable enough to meet today's or tomorrow's food production needs

This point was made by John McKay at a recent New Zealand irrigation conference. "Greater reliability and certainty of water supply for irrigation is required to meet the quality, quantity and 'delivery on time' requirements that are expected of agricultural producers by international customers".²⁰

An important driver of the need for water storage in the Canterbury region is the predicted effect of climate change. Eastern areas, including the Canterbury plains, are expected to experience reduced rainfall. At the same time alpine areas are expected to receive greater rainfall leading to increased flows in alpine rivers- including the Rakaia and Rangitata. Thus there will be both; a greater need for irrigation, and greater availability of run of river water in the major alpine rivers.

Completion of BCI stage 1 and the uptake of the associated resource consent for water take is the next step in the process of realising the productive capability of the Ashburton District.

¹⁷ Bob Engelbrecht

¹⁸ Constraints include urban encroachment, adverse weather events and redirection of crops into alternative fuels

¹⁹ Provided our trading partners do not reintroduce non-competitive agricultural subsidies

²⁰ John McKay CEO of South Pacific Seeds in an a keynote address to the 2008 Irrigation N Z conference in Christchurch

1.5 BCI

BCI Background

Brief

BCI is a company with nearly 200 farmer shareholders from within the Ashburton District. In 2001 the company was granted resource consent to take 17 cumecs of water from the Rakaia River and use it for electricity generation and irrigation within the district.

Personnel

The current BCI team is as follows:

- John Wright – *Chief Executive and Chairman*
- Roger Bonifant - *Director*
- Mark Robinson - *Director*
- Colin Maw - *Director*
- Bruce Sim - *Director*
- Chris Bell - *Director*

The team is closely supported by two other individuals:

- Gordon Guthrie - *Chief Executive Electricity Ashburton*
- Ian Mackenzie - *Chairman Ashburton Community Water Trust*

Extended Background

Following a generation of background work on the feasibility of irrigating the area from Highbank to Chertsey local farmers formed Barrhill Chertsey Irrigation Limited in 1998.

Pre-feasibility work was funded by a small group of local farmers and applications were lodged for consents with the Canterbury Regional Council and Ashburton District Council. Consents for the scheme were granted in 2001 following a period of intensive consultation and a consent hearing.

BCI then raised \$600,000 from 178 farmers in the region to fund a full feasibility study. The study provided a number of options for delivery of Rakaia River water to the area and a further prospectus was issued in 2004 to attract farmer investment to develop the scheme.

Due to a perceived lack of supply reliability, high capital cost and the (at that time) availability of ground water consents (pre red zones) farmers in the area did not support the scheme to the level required to commence construction. Red zones limit the ability to access ground water.

The BCI consents had a lapsing date of March 2006 and the company made the decision, with encouragement from the local community, that an application for extension of that lapsing date should be sought and the proposal revised to enable uptake of the water within the district. Environment Canterbury subsequently granted an extension for three years.

Once BCI had a clear path to development a commercial relationship was formed with Electricity Ashburton Limited (EA). EA provided support to enable BCI to develop an alternative development strategy and promote it to the district.

Towards the end of 2007 the new strategy took shape. It involved utilising a water swap arrangement with Rangitata Diversion Race Management Limited (RDR) to deliver water across the upper plains of the district in a two stage development. EA would play an integral part in developing the primary infrastructure at river level which would give effect to the entire consent through hydro generation. The Ashburton District Council was an obvious candidate to support the infrastructure not required by the initial irrigators.

The new strategy, with its staged development, garnered a high level of support. Expressions of interest were positive and discussions and feasibility studies commenced.

RDR highlighted potential legal issues relating to use of the race and Rangitata River water outside the current scheme areas and a declaratory judgment process was undertaken in the Environment Court. The Court concluded that the proposed scheme would not breach RDR consents and the parties are now progressing to achieve commercial agreements.

Due to statutory time delays for a number of activities BCI applied for another extension to the lapsing date later in 2008 and was granted a further eighteen months. This extension was required to ensure the infrastructure could be completed in time to activate the water consents.

BCI issued a further prospectus in November 2008 and raised \$2,670,000 from Mid Canterbury farmers. The prospectus was over-subscribed by \$1,000,000 and allocated the first eight cumecs of the seventeen cumecs of consented water. The funds are being used for a final feasibility study and commercial agreements with the aim of issuing a final prospectus in April 2009.

Project

The BCI project involves two stages. It is for stage 1 of the project that the requested funding is sought.

STAGE 1: This stage will see construction of the necessary infrastructure to eventually take 17 cumecs of water from the Rakaia River at Happy Valley, 4km below the Rakaia Gorge Bridge. The water will be conveyed by a 3.5 km canal to the vicinity of the Highbank Power Station via two electricity generators. This water take is already consented by Environment Canterbury. In this stage pumps will deliver 8 cumecs of water to the Rangitata Diversion Race (RDR), on the upper terrace, for irrigation in Mid Canterbury. Proposed conveyance and water swap arrangements with the RDR will allow irrigation water to be delivered under pressure, to farm gate, via a pipe network across the upper plains. This will provide irrigation for 17,800 ha of arable farmland.

There are four components to stage 1:

1. Construction of the canal and intake at Happy Valley – overseen by Electricity Ashburton and constructed by Fulton Hogan.
2. Construction of the pump station – overseen by BCI, and their consultants MWH.
3. The necessary alterations to the RDR infrastructure to manage water backflow and the off-take – overseen by Rangitata Diversion Race Ltd.
4. Construction of the water distribution network from the RDR to farm gate – overseen by BCI and their project managers Tyco. Tyco recently managed a similar project for the Ashburton Lyndhurst Irrigation scheme.

An important feature of stage 1 is the quality of the project team, which includes Electricity Ashburton and international firms such as; MWH, Fulton Hogan and Tyco. Those organisations have strong project management credentials.

Electricity Ashburton will oversee engineering and construction of the major irrigation infrastructure. The project management experience and financial strength of Electricity Ashburton has a positive impact on the operational risk of this project. Electricity Ashburton will be spending circa \$60 million on the project and the requested Council funding will not be called upon until the construction has been completed.

STAGE 2: This will see the construction of a canal to deliver the remaining 9 cumecs of irrigation water to Mid Canterbury by gravity. It will provide irrigation to a further 20,000 ha of arable farmland in the Ashburton District. Significant electricity generation is planned in conjunction with a further approx 16 cumecs of water from the Ashburton Community Water Trust. That Trust was recently granted interim approval for a water-take application. This stage will require water storage in the foothills in order to provide the BCI and other irrigators in the district with the level of reliability of water supply that will be required to make the additional investment economically viable. Storage will also improve the economic viability of existing irrigation water. Repayment of the proposed Ashburton District Council funding is budgeted to take place at this stage from the proceeds from new shares issued to irrigators for the additional 20,000ha. If this stage does not proceed, repayment will be made in 10 years.

The BCI Request

The directors of BCI have requested temporary financial investment of \$7 million over a 5 year period to enable stage 1 of the BCI project to be developed to an optimal level. The finance is required for two purposes:

1. To meet a portion of the estimated \$4 million annual infrastructure rental charge that will be levied by Electricity Ashburton.
 - a. This cost will have to be met regardless of the water capacity used. Stage 1 of the project is expected to see only 8-10/17^{ths} of the water allocation used because of issues with the reliability of the consented water above this level. However it is intended to build the necessary infrastructure to enable distribution of the full 17cumeecs at this time as this will considerably reduce construction costs in the long run. Levying the cost of full infrastructure rental charges on the initial water users, who will only benefit from a portion of the infrastructure costs, appears unfair and would not be economically viable for the farmers concerned.

As such there is an element of “community carry” in the project to assist with a portion of the holding costs for the infrastructure which will be constructed to handle the full 17 cumeecs until such time as stage two of the project is completed.

2. Potential support for negative cash flows as a result of shareholders taking up less than 8 cumeecs in the first few years.
 - a. If the water uptake is less than 100% but significant and the directors of BCI determine that full uptake is likely to occur within a reasonable period, they may wish to proceed with the project on that basis rather than lose the rights to the consented water. If the rights are lost it would be extremely difficult or even impossible to obtain them again in the future.

1.6 Stakeholder Identification

The following stakeholders have been identified and the needs of those stakeholders have been considered by this document:

- BCI Farmers
 - Direct economic beneficiaries
- Downstream Businesses & Employees
 - Indirect economic beneficiaries
- Ratepayers
 - Indirect economic beneficiaries
 - Funders of the proposal
- Other Residents
 - Indirect economic beneficiaries
 - Affected by constraints this project may place on other Council related project funding within the district
- Ashburton District Council
 - Stewards of the natural environment
 - Prudent managers of the district's financial resources and rating base
 - The territorial local authority tasked with considering the social and economic development needs of the district
- Enterprise Ashburton
 - The agency tasked with overseeing economic development within the district
- Rangitata Diversion Race Management Ltd (RDR)

PROPOSAL

2.1 Recommendation & Preferred Option

1. The request by BCI for funding of up to \$7m over 5 years be granted.
2. The request to be funded by a bank loan to Council with debt servicing funded by rates until repayment by BCI
3. Debt servicing is to be funded from the general rate
4. Council continues to work with central government to investigate the possibility of raising co-funding to reduce or eliminate the impact on rates in future years

The following conditions are to be met by BCI before any funds are advanced by Council:

- All construction is to have been completed to the required standard and all permits and consent conditions must have been met
- Suitable insurance must be held by BCI at all times
- All commercial agreements must be completed and in place. This includes Electricity Ashburton Limited and Rangitata Diversion Race Management Limited.
- All resource consent conditions must be met and maintained to meet operating requirements
- Council's investment to be structured via a placement of redeemable preference shares which provides priority over ordinary shareholders. These shares will receive a cumulative dividend equal to the interest rate paid by Council. The shares allow Council to appoint one director.
- ADC to approve the trust company which will hold the resource consent for water take
- The directors of BCI Ltd agree to the following covenants:
 - Not to undertake further borrowing without the prior approval of ADC
 - Not to sell or otherwise dispose of the business or its assets without the prior approval of ADC
 - Not to operate in any way to the detriment of the preference shareholder

2.2 Key Benefits

The key benefits provided by this recommendation are set out below.

Tangible

1. Increased economic output.
 - a. Application of the methodology used by Agriculture N Z²¹ to this project indicates the potential to increase economic output in the district by:
 - i. approx \$100 million – based on the whole BCI project
 - ii. approx \$46-55 million at stage 1
 - b. Although increased economic activity will take time to build to its full level, economic impacts from the construction phase in early years should be high²²
 - c. The economic benefits will initially be felt by the wider community rather than the scheme members as a result of:
 - i. Project construction expenditure
 - ii. Increased farm expenditure and employment as farms are developed and before profits are received²³
2. Increased employment.
 - a. It has previously been identified that the project has the potential to increase direct employment by over 400 FTE's and indirect employment throughout Ashburton District and the Canterbury region by up to 2,500 FTE's when Stage 2 is complete.
 - b. Downstream business effects have not been identified but are expected to be substantial
3. The potential to further grow average wage levels within the district

Intangible

This project also promises a range of intangible community benefits.

1. Positive population growth
 - a. Research by groups such as the Agribusiness Group indicate that population growth is associated with irrigation development.
 - b. Not only does research indicate that irrigation development results in population growth but it also results in; growth in the younger population, higher incomes and improved employment status²⁴. This benefit is of particular importance to the Ashburton district in light of the district's current and projected age profile which exceeds that of Canterbury and New Zealand as a whole

²¹ Agriculture N Z et al, 11/2000: Central Plains Water Enhancement – Economic and Social Impact of Proposed Irrigation Schemes

²² Agriculture N Z et al, 11/2000: Central Plains Water Enhancement – Economic and Social Impact of Proposed Irrigation Schemes

²³ This reflects the 'high input cost/high output value' model of the districts farms – Bob Engelbrecht

²⁴ Ibid

- c. The research also indicates an increase in both single workers and young families.²⁵This has been shown to increase support for community organisations and sports clubs and improve the viability of a range of community services including education and health services
- 2. Enhanced community wellbeing through reduced unemployment²⁶
- 3. Direct expenditure by farms is likely to be concentrated in smaller rural towns helping to ensure that economic benefit is shared with the wider community²⁷
- 4. A net reduction in the amount of electricity required for irrigation
 - a. Although there will be increased electricity use to pump water from the Rakaia to the RDR this will be offset by some generation from the pumped water, a reduction in electricity use on farm and greater potential for small scale generation. Water in the BCI scheme will be supplied to farms under pressure. The farms will not need to extract water from wells or holding ponds at high electricity cost. This is both an economic and environmental benefit as it will lessen the demand for increased electricity generation capacity per irrigated hectare
- 5. Strategic value
 - a. The BCI project is important because Mid Canterbury farmers have few (if any) alternative sources of new irrigation water
- 6. Environmental
 - a. The upper plains have limited opportunities for additional ground water allocation due to water depth and over-allocation. BCI stage 1 will reduce pressure on further allocation of the district's ground water resources. This is particularly beneficial because pressure from ECAN to reduce groundwater take is likely to increase given recent support to the theory that groundwater in central and Mid Canterbury is a single interconnected system in which all water takes contribute to cumulative effects²⁸
 - b. The project will also enable a more balanced use of the district's water and energy resources. Over a period of time, it is expected there will be a shift from deep well use in the upper plains if a "run of river" supply is available. The use of "run of river" water in the upper plains will significantly reduce energy consumption for pumping and provide further ground water recharge in the lower plains. Electricity generation within the scheme will provide the district with a valuable source of renewable energy generation.
 - c. Increased irrigation has been shown to improve the efficiency of soil to retain moisture and reduce the run off of nutrients into the groundwater system²⁹
 - d. Recharge of the lower (eastern) plains groundwater system is expected to be enhanced by improved irrigation on the upper (western) plains³⁰

²⁵ Agriculture N Z et al, 11/2000: Central Plains Water Enhancement – Economic and Social Impact of Proposed Irrigation Schemes

²⁶ Ibid

²⁷ Ibid

²⁸ Sinclair Knight Merz 2008: Inventory of aquifer test data for the Central Plains' reviewed aquifer test data covering Canterbury's Central Plains

²⁹ MAF Policy Technical Paper 2002/13: Ford, S. Dec.2002: Economic and Social Assessment of Community Irrigation Projects

- e. The Rakaia Water Conservation Order sets the river management flow regime to protect the river system. The approved take consent is consistent with this Order.
- f. The land use consents have considered other environmental issues.

2.3 Risk Analysis

Risk Profiling

Risk Matrix

| | | | | | | |
|-------------------|----------|---------------------------|----------|-----------|------------|--------------|
| Likelihood | 5 | Medium | High | Very High | Major Risk | Extreme Risk |
| | 4 | Moderate | Medium | High | Very High | Major Risk |
| | 3 | Low | Moderate | Medium | High | Very High |
| | 2 | Minimal | Low | Moderate | Medium | High |
| | 1 | Insignificant | Minimal | Low | Moderate | Medium |
| | | 1 | 2 | 3 | 4 | 5 |
| | | <i>Consequence</i> | | | | |

Risks

The following risks relate to the overall project. Overall, the risks to the Council are considered moderate as funding will not be provided unless the project is completed to the required standard:

³⁰ Aqualinc: Workshop Presentation to the 2008 Irrigation N Z conference in Christchurch and 2008 Monitoring Report on the impacts of the Waimakariri Irrigation Scheme

1. The project is not completed in time to activate the water take consent
 - i. Risk profile Medium
 - ii. Likelihood 2
 - iii. Consequence 4
 - b. Risk mitigation
 - i. Close overview of the project and assistance with commercial negotiations will be provided by ADC
 - ii. Electricity Ashburton will not allow the project to be undertaken if it cannot be completed in time to activate the water take consent. It is expected that Electricity Ashburton will take over and complete the scheme if BCI is unable to fulfil its construction obligations
 - iii. Requested funding will not be provided unless the project is completed on time and within consent criteria
2. Uptake by farmers is less than expected
 - a. Risk profile Low
 - i. Likelihood 2
 - ii. Consequence 2
 - b. Risk mitigation
 - i. The scheme is unlikely to proceed unless farmer uptake exceeds 85%
 - ii. The cost of the scheme compared to other new schemes or new groundwater (if available) has been investigated. Taking into account the estimated operating charge (\$450/ha) and the initial equity cost to the shareholders, this scheme appears comparable. It should be noted that there are many variables involved that make direct comparisons difficult.
 - iii. No alternative water supply schemes are available and it is expected that it will become increasingly difficult to access water for additional irrigation.

The following risks that are directly related to this funding application have been identified and assessed with regard to their potential impact upon ratepayers:

1. Capital budget is exceeded and additional funding is required to complete the project
 - a. Risk profile Moderate
 - i. Likelihood 2
 - ii. Consequence 3
 - b. Risk mitigation
 - i. The current economic environment and the likely economic environment during the construction stage of this project are considered conducive to cost control.
 - ii. The parties overseeing the major construction, notably Electricity Ashburton and their consultants have expertise in projects of this type.
 - iii. Regular review of the project and its costs will be required by ADC
 - iv. ADC will not provide additional community funding over and above this request. Any cost overruns will have to be met by the company and its shareholders

2. Interest rates. The request is sensitive to interest rate movements which could positively or negatively impact on ADC debt servicing costs and the cost of infrastructure rentals for BCI.
 - a. Risk profile Moderate
 - i. Likelihood 3
 - ii. Consequence 2
 - b. Risk mitigation
 - i. Internal interest rate risk will be managed within the Council's treasury function
 - ii. Increased costs of infrastructure rentals (so far as they exceed this recommendation) will not be met by ADC
 - iii. ADC will recover actual interest costs on redemption

3. Stage 2 is delayed or does not proceed and BCI is unable to redeem the shares
 - a. Risk profile High
 - i. Likelihood 3
 - ii. Consequence 4
 - b. Risk mitigation
 - i. This is considered to be the major risk attributable to this funding request and the most difficult to mitigate. Resolving this issue may require intra-Canterbury cooperation and political assistance from regional and central government
 - ii. Significant action to address the issue of water storage is already well underway and includes:
 1. Joint action by the Canterbury Mayoral Forum to develop a regional consensus on water usage including water storage and scientific study to identify the most appropriate site and method
 2. Political representation to central government on the requirement for water storage capability. The recent change of government appears to be of positive benefit
 - iii. If the shares are not redeemed by the Company in the 10 year period, they will convert to debt and be recoverable by Council as due and payable
 - iv. The risks of not supporting this application outweigh the risks of stage 2 being related or not proceeding
 - v. The real cost to ratepayers in servicing the required loan will reduce over time in line with inflation and will not result in the financial failure of ADC.

4. Opportunity risk through not being able to undertake another project offering greater community return
 - a. Risk profile
 - i. This risk cannot be quantified at this time but it is a potential risk
 - b. Risk mitigation
 - i. It is not possible to mitigate this risk

2.4 Sensitivity Analysis

This project is sensitive to the following factors:

- Interest rates
 - Refer to the later section covering financial implications
 - Capital construction costs, EA levied infrastructure rental costs, internal BCI and ADC debt servicing costs are sensitive to interest rate movements. The interest rate environment expected during the construction phase is considered more likely to favourably impact interest rates. Post construction the impact is more likely to be negative as the NZ and international economies and credit markets recover from recession.
- Commercial construction rates. Infrastructure rental and ultimately project feasibility are sensitive to construction costs
 - The economic environment expected during the construction phase is considered unlikely to impact unfavourably on construction costs
- Availability and economics of alternative sources of irrigation water
 - Current data (based on expected construction costs) indicates that although the cost to farmers of BCI water is at the upper end of current irrigation costs it is likely to become more favourable over time as input costs to alternative irrigation methods (notably electricity) rise. The costs of this scheme, which are heavily influenced by initial capital costs, are likely to reduce over time in real terms
 - The only current alternatives are groundwater extraction because the existing community irrigation schemes are fully allocated. As previously indicated in this report there is limited potential for irrigators to obtain new groundwater takes that offer reasonable reliability

2.5 Cost Benefit Analysis

The following costs have been assessed as attributable to this recommendation:

Costs

Short term

- Increased rates – see later section – Financial Implications
 - Likely financial impact 0.7% increase in an average rate bill of \$1,630.00
- Greatest impact likely felt by those ratepayers on limited fixed income

Long term

- Greater demand on community facilities, particularly for recreation
 - This is expected to be offset by increased economic activity and an increased rating base
 - In so far as it leads to improved community facilities, this could also be seen as a community benefit

Benefits

Refer section 2.2 “Key Benefits”.

Cost Benefit Summary

The identified benefits significantly outweigh the identified costs.

2.6 Control

- Community protection provisions in trust company and BCI company constitutions
- BCI Board membership
- Undertakings to be provided by the BCI Board member

OPTIONS

3.1 No Council Support

Costs

- All identified benefits will likely be foregone

Benefits

- All identified costs are avoided

Risks

- It is unlikely the community would again be able to gain access to the consented 17 cumecs of water. Even if water storage is eventually achieved significant competition for water takes would be faced from Synlait, Central Plains and future irrigators. If the irrigation rights are lost significant economic potential will be permanently lost to the district and the district faces erosion of its comparative advantage in agriculture with resulting negative impacts upon economic activity

The risks and costs identified significantly outweigh the benefits accruing from this option. Therefore this option is not recommended

3.2 Guarantee Commercial Borrowing

Costs

- Greater demand on community facilities, particularly for recreation, albeit funded by a larger rating base
- Increased borrowing costs for the project and related carrying costs for scheme members and potentially for ratepayers

Benefits

- Identified benefits are achieved
- There is little or no impact upon rates unless Council is called on to honour the loan

Risks

- ADC could be forced at short notice to meet its obligations under the guarantee causing a sudden and significant impact upon rates without the opportunity for community consultation
- ADC could be in breach of current legislation. A legal source has indicated such a move would not be lawful under the Local Government Act

The Council is unaware of any potential to significantly mitigate the identified risks attached to this proposal. Those risks are not considered tolerable. Therefore this option is not recommended

3.3 Guarantee Private Investment

Costs

- Greater demand on community facilities, particularly for recreation, albeit funded by a larger rating base
- Increased effective financial cost for the project and related carrying costs for scheme members and potentially for ratepayers

Benefits

- The availability of sufficient private equity is unknown
- All identified benefits are achieved
- There is little or no impact upon rates

Risks

- ADC could be forced at short notice to meet its obligations under the guarantee if BCI were to default. This would have a sudden and significant impact upon rates without the opportunity for community consultation.
- ADC may be in breach of current legislation as a legal source has indicated such a move would not be lawful under the Local Government Act

This option is almost identical to the proceeding option but would take longer to establish and may include additional set up costs.

Therefore this option is not recommended

3.4 Fund Directly from Rates without Recourse to Bank Finance

Council considers this option to be too great an impost on ratepayers

3.5 Raise Commercial Loan and On-lend

This is the recommended option - see section 2

3.6 Approach Local Community Support Organisations for Forward Funding Commitment

Electricity Ashburton

This organisation is already committing to \$60m of project costs and is accepting a reduced rate of return because of the community interest of the project.

Investigations indicate that additional funding is not available from this source at this time.

3.7 Approach Central Government

Direct Funding

An optimal solution that offers all of the identified benefits without the identified costs

However this option will take too long to meet the deadline for this project. Investigations by the CEO and Mayor indicate this option is not likely to proceed until such time as Canterbury-wide consensus on irrigation projects is achieved.

Proportional Funding

A more palatable option for central government but one that is still unlikely to proceed within the required timeframe. It is being investigated by the CEO and Mayor as a method of reducing the project's impact upon rates in the future.

Infrastructure Investment Fund Investment

Another optimal solution and one which appears to be a logical use of central government infrastructure funding. However central government has signalled that this project could not be considered within the required timeframe.

It is being investigated by the CEO and Mayor as a method of reducing the project's impact upon rates in the future.

Central Government Guarantee

This option offers the same benefits as the ADC guarantee option but without the risks to ratepayers which could potentially reduce BCI's overall funding costs through lower interest rates.

However it is unlikely to proceed within the required timeframe. It is being investigated by both BCI and the CEO and Mayor as a method of reducing the project's impact upon rates in the future.

POTENTIAL IMPACTS

4.1 Economic

See section 1

4.2 Environmental

The environmental impacts of the project are not a consideration of this business case:

- The environmental impacts have already been considered when the resource consent was granted/ or/ the environmental impacts will be considered separately when an application for resource consent is lodged to complete the construction.

4.3 Social & Cultural

See section 1

FINANCIAL IMPLICATIONS

Interest 6%

| | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 |
|-------------------|--------------|--------------|-------------|-------------|-------------|
| Capital | \$3,000,000 | \$4,000,000 | \$5,000,000 | \$6,000,000 | \$7,000,000 |
| Interest (Annual) | \$180,000 | \$240,000 | \$300,000 | \$360,000 | \$420,000 |
| Total Rates | \$22,794,410 | \$24,220,436 | 25,757,179 | 27,444,494 | 29,356,913 |
| % of Total Rates | 0.8% | 1.0% | 1.2% | 1.3% | 1.4% |

Impact

| | | | | | |
|--------------------------------------|---------|---------|---------|---------|---------|
| Rural property CV \$2,000,000 | \$39.93 | \$52.45 | \$64.59 | \$76.36 | \$87.77 |
| Residential property CV \$230,000 | \$4.59 | \$6.03 | \$7.43 | \$8.78 | \$10.09 |

TREASURY LIABILITY AND MANAGEMENT POLICY

This proposal is consistent with the Council's Treasury Liability and Investment Management Policy.

Refer: Part 1 — Treasury Management Policy

Objective 3, 1

(c) Investment in Community Projects

"At various times groups within the community request loans, advances or guarantees for projects that will be of benefit to a significant proportion of the community. As these investments are with groups that the Council would not normally invest with, the Council needs to debate the suitability of any loan application. During this process Councillors should pay particular regard to the ability of the applicant to service the debt and repay principal. The Council will be responsible for authorising any such loans, advances or guarantees."

(d) Share Investments

"Council believes it may be appropriate to have limited investment in equity (shares) when Council wishes to invest in equities for strategic or social reasons. Equity investment for strategic or social reasons will be approved by Council on a case by case basis, if and when they arise."

As referred to in this report, Council is of the opinion that this investment will provide strategic and social benefits to the wider Ashburton Community through

- contributing towards Community Outcomes
- provide for economic growth for the district
- provide additional employment opportunities
- provide greater community resilience against the predicted effects of climate change in the region