Tabled @ Hearing
16·07·2015

in the matter of: the Resource Management Act 1991

and: submissions and further submissions in relation to proposed **Variation 2** to the proposed Canterbury Land and Water Regional Plan

and: **Barrhill Chertsey Irrigation Limited**
Submitter

Summary of submissions on behalf of Barrhill Chertsey Irrigation Limited

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SUMMARY OF SUBMISSIONS ON BEHALF OF BARRHILL CHERTSEY IRRIGATION LIMITED

INTRODUCTION

1 These submissions are provided on behalf of Barrhill Chertsey Irrigation Limited (*BCI*) in relation to proposed variation 2 (*Variation 2*) to the proposed Canterbury Land & Water Regional Plan (*pLWRP*).

2 At the outset, it is emphasised that BCI is generally supportive of the overall 'intent' of the notified version of Variation 2.

3 In terms of the approach taken in submission and evidence BCI has worked with a number of representatives from the primary sector in preparing its original submission on Variation 2. In particular, this has included providing input to the analyses undertaken by Fonterra Co-operative Group Limited/DairyNZ (*Fonterra*) and Rangitata Diversion Race Management Limited (*RDRML*).

4 On that basis, BCI has not attempted to undertake yet a further set analyses – rather its original submission, this submission and its evidence have generally tried to focus on the issues of relevance to the BCI Scheme and to explain, in particular, what a BCI load of 250 tonnes of new irrigation (i.e. **490 tonnes total** with 240 tonnes already existing) might look like.[1]

BACKGROUND TO THE BCI SCHEME

5 A general overview of the Barrhill Chertsey Irrigation Scheme (*BCI Scheme*) has been provided in the evidence of **Neil Thomas**.

6 For the purposes of determining the "*environment*" against which Variation 2 must be assessed, a wider overview of the consenting and development of the Scheme will assist.

7 In this regard:

7.1 BCI was granted resource consent in March 2001 (the main water divert take and use consent at that time being CRC990088) – authorising *inter alia* the take and use (for irrigation and hydro-generation) of 17 m^3/sec from the Rakaia River for the irrigation of 40,000 hectares;

[1] Noting that Ms Shirley Hayward has for example confirmed at paragraph 6.11 of her evidence that "*Following discussions with BCIL, I have modelled a total load of 250 t N for their new irrigation*"

7.2 the consent has been varied a number of times (CRC990088 is now recorded as CRC143165) and now includes four intakes along the south bank of the Rakaia River;

7.3 initial development of the Scheme did not commence until January 2010 and the 2001 consent was given effect to in September 2010 with 3 m^3/s initially being through the 'Acton intake' (the Acton irrigation area is located outside of the Hinds Plains area near the State Highway 1 Rakaia bridge); and

7.4 shortly after the initial take of water at Acton, the execution of 'water swap' and conveyance agreements with RDRML and TrustPower Limited allowed BCI to use the Rangitata Diversion Race to convey Rakaia Water across the Ashburton District (including the potential 'swap' of that water, when required, for spare Rangitata River water). This take (referred to as the Highbank take) was not given effect to until December 2010.

8 Given the recent development of the BCI Scheme, it is dominated by very modern and efficient irrigation systems (to this extent the BCI Scheme does not carry the 'legacy' of older borderdyke or more inefficient spray irrigation systems as is the case with some other irrigation schemes in Canterbury). All BCI shareholders are already required to undertake OVERSEER® budgeting and comply with a Farm Environment Plan (including an audited self-management programme) – consistent with 'good management practice' as it is generally understood.[2]

9 In terms of the 40,000 hectare area that is able to be irrigated by the BCI Scheme there is no restriction on the location within which this can occur (other than the obvious geographical constraint of needing to be located between the Rakaia and Rangitata Rivers).

10 The nature of the BCI use consent was confirmed through an Environment Court declaration proceeding (*Re Barrhill Chertsey Irrigation Limited* (Unreported, Environment Court, C119/08, 31 October 2008, Smith J)) and the subsequent grant of resource consent CRC147697 to "*use land for a farming activity and to discharge nutrients onto or into land*". In simple terms the existing BCI consents authorise:

10.1 the take and use of water for irrigation (as well as hydro-generation) on 40,000 hectares between the Rakaia and Rangitata Rivers (but there is no specificity in terms of irrigation area beyond that);

[2] See Neil Thomas evidence, para 15.

10.2 a discharge of 1,232 tonnes of nitrogen using OVERSEER version 6.0.3 (with that calculation being based on 17,604 hectares of land with irrigation supply agreements in place with the consent holder prior to July 2013 and 22,396 hectares of subsequent irrigation areas). This was based on an average of 31 kg N/ha/yr, comprising (noting that this is not set out in the consent but was put forward as part of the original application process):

(a) 38 kg N/ha/yr from existing irrigation (as at July 2013); and

(b) 25 kg N/ha/yr for then future (i.e. dryland) irrigators supplied water by BCI.

11 As set out by **Mr Thomas**, as at 31 March 2015, BCI now has in place water supply agreements relating to 24,903 hectares. Around 4629 hectares of this is located in the Hinds Plains area.

12 In terms of the appropriateness of the consented load (i.e. 1,232 tonnes) it is BCI's view based on the development that has occurred that even with high efficient irrigation systems and detailed good practice management requirements the anticipated discharge for new irrigation of 25 kg N/ha/yr is very challenging to meet (again emphasising that this is based on an earlier version of OVERSEER® so is not directly comparable to the 27 kg N/ha/yr proposed in Table 13(i) of Variation 2).

13 At the time of obtaining consent the average of 25 kg N/ha/yr for new irrigation was seen as a very conservative 'interim approach' that would be workable during the development phase of the BCI Scheme across the whole of the Ashburton District (i.e. prior to the 40,000 hectare area being reached). The final approach in the Hinds Plains area will of course be provided by Variation 2.

14 Against the above, the following points are emphasised:

14.1 in terms of Rule 13.5.22(3) (and Rule 13.5.14(2)) it appears it is very difficult to ascertain how the 30,000 hectare 'intensification limit' has been derived - and in particular the proportion that has been deemed to form part of the existing "*environment*" by virtue of the resource consent CRC147697 held by BCI and also resource consent CRC121664 held by RDRML;

14.2 a number of submitters have questioned the appropriateness of the Council's catchment modelling - including the extent to which the load limit of 3,400 tonnes of N/yr (based on an existing modelled load of 4,500 tonnes of N/yr) is reflective of reality. Other assessments of actual current nitrogen loss

include for example 5,350 tonnes of N/yr[3] and 6,508 tonnes of N/yr;[4]

14.3 against the above uncertainty it is submitted that the most obvious starting points are the:

(a) actual individual nitrogen losses as constrained by the 'nitrogen baseline' in the proposed Canterbury Land & Water Regional Plan (albeit it appears that the aggregate of those is still not accurately understood at a catchment scale); and

(b) the limits set out in any resource consent relating to an irrigation scheme.

14.4 The above does potentially provide certainty in terms of an assessment of **relative** change (for example, by allowing Variation 2 to require percentage reductions over time) - but in the case of a partially developed irrigation scheme such as BCI where increases will occur, it is unclear on the extent to which a 'percentage reduction' regime can reasonably inform an allocation regime for new irrigation - either within the Scheme or within the context of Variation 2.

14.5 Given the above it appears that for BCI and RDRML further irrigation development (or intensification over permitted activity levels) will still need to be provided for by way of either a per hectare load limit (expressed on a per hectare basis as suggested by RDRML) or a total scheme load limit (as set out by BCI).

15 Prior to turning to the potential allocation nitrogen within Variation 2 in more detail it is useful to briefly recap on the extent to which BCI resource consent CRC147697 properly forms part of the existing 'environment' for the purposes of assessing the appropriateness of the provisions of Variation 2.

BCI FORMS PART OF THE EXISTING ENVIRONMENT

16 BCI holds all primary consents necessary for the development and operations of the BCI Scheme. BCI also has a significant proportion of its distribution infrastructure in place and it is already delivering water to around 4629 hectares within the Hinds Plains area

[3] RDRML - see evidence of Mr Stuart Ford

[4] Fonterra Co-operative Group Limited and DairyNZ - see evidence in chief of Mr Mark Neal. It is noted that Mr Peter Wilson for Fish & Game also appears to agree that actual nitrogen loss has been underestimated - see his rebuttal evidence.

17 Against that factual background, some submitters have suggested that, for example, Rule 13.5.21 and 13.5.22 be removed and further development (even if consented) cease until a "*trajectory of improvement*" can be shown. [5]

18 With respect, it is submitted the Hearing Panel is *obliged* to regard the BCI Scheme as both developed and consented as forming part of the existing environment for the purposes of Variation 2. This is supported by the now long line of authority that begins with the Court of Appeal decision in *Queenstown Lakes DC v Hawthorn.*[6] This case concerned an application for resource consent (as opposed to a plan change), however the principles around determining the meaning of the 'existing environment' are, it is submitted, equally applicable here.

19 At para [84] of the decision, the Court of Appeal stated:

> [84] ... In our view, the word "environment" embraces the future state of the environment as it might be modified by the utilisation of rights to carry out permitted activity under a district plan. It also includes the environment as it might be modified by the implementation of resource consents which have been granted at the time a particular application is considered, where it appears likely that those resource consents will be implemented.

20 More recent decisions to apply it in the express context of a plan change include *Shotover Park v Queenstown Lakes District Council*[7] and *Milford Centre Limited v Auckland Council*.[8] In light of the authority squarely applying the *Hawthorn* case to the plan change context (and the existence of the resource consents held by BCI), it is submitted that there is no doubt as to the existence of the BCI Scheme for Variation 2.

21 The 'environment' relevant for the consideration of Variation 2 therefore includes the environment as has been **and** will be modified by the BCI Scheme – or to put that another way, an implemented BCI Scheme is the appropriate starting point for considering the Variation 2 regime (including compliance with relevant statutory documents such as the pLWRP, the Regional Policy Statement and the National Policy Statement on Freshwater Management 2014).

22 It is therefore submitted that the real question for the Hearing Panel is ultimately the extent to which further development under BCI

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5 For example Fish & Game - see legal submissions, para [51]-[52]

6 [2006] NZRMA 424(CA).

7 [2013] NZHC 1712.

8 [2014] NZEnvC 23.

resource consent CRC147697 is contemplated within the Hinds Plains area (as noted above the resource consent does not specify a limit for irrigation within that area).

23 To this extent BCI is not suggesting that anywhere near its full consented, but undeveloped area (about 15,100 hectares out of a total of 40,000 hectares) would occur within the Hinds Plains area - rather a load of **490 tonnes** (including around 240 tonnes of 'existing' and 250 tonnes 'new') is proposed - being around a third (based on the 27 kg N/ha/yr set out in Table 13(i)) of both the total 40,000 hectare BCI Scheme area and the much larger command area.

24 By volunteering a total load in the Hinds Plains area, BCI considers there is much more certainty in terms of the load that will ultimately be derived from the Scheme.

25 In the event that new BCI irrigation is, at least based on current systems and technology, unable to meet the prescribed 27 kg N/ha/yr limit for new irrigation prescribed in Table 13(i)(B) then BCI would still not exceed the 490 tonne limit - in such circumstances the full BCI 40,000 hectare scheme area would only occur if opportunities were identified outside of the Hinds Plains area.

ALTERNATIVE APPROACHES AND PARTICULAR BCI ISSUES

26 As set out in paragraphs 3 and 4, BCI has not attempted to duplicate the significant technical work undertaken by (in particular) Fonterra and RDRML - both of which have made varying reference to the BCI Scheme and contemplate its ongoing development.

27 This part of the submission instead focuses on a number of issues that are pertinent to the BCI Scheme (or which have otherwise been expressed by other submitters to the hearing process).

A percentage reduction regime

28 Fonterra has proposed an "*alternative planning regime*" that would allow have two tiers of individual increases - being up to 15 kg N/ha/yr as a permitted "*Tier 1 flexibility cap*" and a restricted discretionary "*Tier 2 flexibility cap*" available to properties leaching between 15 and 20 kg N/ha/yr. On top of this would be the completion of approximately 15,000 hectares of consented but not yet implemented irrigation scheme area.

29 In terms of what this might mean for BCI based on existing BCI shareholders within the Hinds Plains area of 4629 hectares, BCI would very approximately comprise around a third of the 'consented but not yet implemented' 15,000 ha area. Fonterra appears to assume that the BCI Scheme may be able to occupy a slightly larger

proportion of the 15,000 hectares – with 7,200 hectares being suggested.[9]

30 BCI is generally supportive of that approach (and it appears to be consistent with the implementation of the reasonably contemplated BCI Scheme). However, given the uncertainties around the accuracy of the 15,000 hectare area (and what a given total load might enable in terms of irrigation area), BCI considers that consideration could be given to a load (rather than area) for the purposes of accommodating irrigation scheme increases - in the case of BCI this would be 250 tonnes.

31 In terms of how the increase would be accommodated, BCI understands that the "*headroom*" for this regime would be provided over time by all farms (regardless of activity) discharging over 20 kg/ N/ha/yr reducing their discharges by up to 36% by 2035 (to achieve a 30% reduction in root zone concentrations). To that extent, it appears that BCI existing irrigators would have to comply with that reduction regime by virtue of Row A of Table 13(i).

Applicability of reductions to BCI

32 BCI is concerned around the extent to which significant reductions (i.e. beyond good management practice) will actually be achievable on the properties receiving water from the BCI Scheme. As previously noted, given the recent development of the Scheme existing BCI shareholders are already operating high efficiency irrigation systems with a supporting farm management and nutrient management regime. In BCI's experience such shareholders are more than likely already operating well above 'the average' (at least for irrigated operations) across the catchment.

33 To this extent, it is simply not possible for BCI (at least on current technology) to make significant improvements in nitrogen loss through, for example, converting remaining border-dyke properties to spray (as no such opportunities exist for BCI).

34 Accordingly, as BCI sits at the moment a 36% reduction by 2035 (as proposed by Fonterra) for existing BCI Scheme shareholders appears very challenging. Although BCI accepts the desire to improve water quality in the catchment in reality significant time is likely to be required to not only achieve sought catchment outcomes, but also to improve the collective understanding of nutrient losses in the catchment. BCI therefore supports the longer timeframes for compliance with the interim/incremental reductions proposed by Fonterra.

35 It also acknowledges and supports the intent of the overall timeframe being suggested by RDRML – appreciating further that

[9] See Shirley Hayward, para 6.12/Table 2

should technology and improved practices become available sooner then the Variation 2 policies (e.g. Policy 13.4.12) as notified would still at least in part support their early implementation.

36 In practice, BCI anticipates that the achievability of catchment outcomes will be heavily dependent on other catchment interventions (for example, managed aquifer recharge and targeted stream augmentation). To this extent BCI respectfully submits that it is important to not lose perspective of the fact that non-regulatory interventions are likely to be required to achieve the full extent of the catchment outcomes sought. Although of more limited relevance to the current hearing process it also appears almost inevitable that the plan and the effects it are managing will need to be managed 'adaptively' over time – it might well be found for example that direct catchment interventions are far more successful in the achievement of catchment outcomes than the narrower reduction regime contemplated in Variation 2.

37 Looking at BCI in isolation, it appears very unclear as to the extent to which BCI might be able to achieve an average reduction of 36 % across its shareholders.

Table 13(i) – and interface between Row A and B

38 One aspect that may assist in addressing BCI's concern in relation to the above is accepting its submission on Rule 13.5.22 and Table 13(i) to the extent that no property subject to existing irrigation as at 1 October 2014 is required to reduce its nitrogen losses to less than that applying to new properties (i.e. 27 kg N/ha/yr).

39 As currently drafted it appears that an existing (i.e. irrigated prior to 1 October 2014) BCI shareholder that was losing, for example, 30 kg N/ha/yr would be required to undertake the full reduction proposed (at least as averaged across the BCI Scheme) - obviously a 36% reduction applied to such a property would put it well below the 27 kg N/kg/ha per year provided for new irrigation.

40 BCI respectfully submits that such a requirement is not reasonable or appropriate – and accordingly "C" as provided for in Row A should only apply to the extent that nitrogen losses are above 27 kg N/kg/yr.

EVIDENCE TO BE CALLED

41 In terms of evidence:

41.1 BCI is calling **Mr Neil Thomas**, who provides an outline of the Scheme and the issues of particular relevance to BCI; and

41.2 in addition **Mr John Wright** (General Manager) is present and able to assist the panel on any further questions it might have on the operation of the BCI Scheme.

Dated 16 July 2015

Ben Williams
Counsel for **Barrhill Chertsey Irrigation Limited**