

**CANTERBURY REGIONAL COUNCIL**

**IN THE MATTER OF**      The Resource Management Act 1991

**A N D**

**IN THE MATTER OF**      resource consent applications by Rosehip Orchards New Zealand Limited and High Country Rosehip Orchards Limited to take and use water in the Upper Waitaki Catchment

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**CLOSING SUBMISSIONS ON BEHALF OF ROSEHIP ORCHARDS NEW ZEALAND LIMITED AND HIGH COUNTRY ROSEHIP ORCHARDS LIMITED**

**DATED THIS 23<sup>RD</sup> DAY OF APRIL 2010**

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**MAY IT PLEASE THE COMMISSIONERS:****1 INTRODUCTION**

- 1.1 These properties, High Country Rosehip Orchards ("High Country") and Rosehip Orchards New Zealand Limited ("Rosehip Orchards") are located adjacent to each other, situated in the Mackenzie Basin in close proximity to the township of Twizel. The properties have lodged separate applications for water takes, High Country from the Ohau B Canal, and Rosehip Orchards from the Ohau C Canal. For both proposals water will be conveyed via pipelines under the Ohau River to pivot irrigators.
- 1.2 For the past seven years Rosehip Orchards has utilized a resource consent that enables it to irrigate 200ha of its land by centre pivot irrigation. Rosehip Orchards is now seeking a consent to irrigate a further 610ha of land, also by centre pivot.<sup>1</sup>
- 1.3 High Country is seeking consent to irrigate 500ha of a potentially new farm block (subdivision having not yet been completed). This irrigation will also be by centre pivot.<sup>2</sup>
- 1.4 You have heard from John Lyons who is a director of both Applicant companies, he has detailed the difficulties in utilizing these areas of land in a productive way without the ability to irrigate on a wider scale, in particular in relation to the unsuccessful attempt to grow orchards of Sweet Briar on a commercial scale at the Rosehip properties.<sup>3</sup>
- 1.5 The Applicants have presented a range of farm-use options in their consent application. This allows them a degree of flexibility in developing a farm system that is both suited to the land and profitable from an economic and capital perspective. Consent is sought for the full nutrient budget agreed in the Pukaki sub-catchment agreement which will enable any of the whole range of options presented to be developed. All options are predicted to be within the nutrient budgets for Rosehip Orchards and High Country.<sup>4</sup> The land use challenges facing farming in these areas have been, and continue to be, very significant and this has very much driven this approach by the Applicants.<sup>5</sup>
- 1.6 These applications for consent are placed firmly within the rubric of the MWRL case. The conditions suggested by MWRL are adopted including:

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<sup>1</sup> Peter Glasson, pg 6, para 29.

<sup>2</sup> Peter Glasson, pg 6, Table 2.

<sup>3</sup> John Lyons, pg 4, paras 15-19.

<sup>4</sup> Melissa Robson, evidence 30 November 2009, Tables 17 and 18.

<sup>5</sup> John Lyons, pg 4, para 21.

- (a) The lock-step approach to verification of the MWRL groundwater science;
  - (b) The environmental baseline monitoring;
  - (c) The staging approach to irrigation development on both properties.
- 1.7 To put the application/s specifically into the MWRL context, the relevant receiving environments identified and managed, and for which nutrient allowances are set are:
- (a) Rosehip Orchards – the Pukaki Groundwater Zone<sup>6</sup>; and
  - (b) High Country – the Twizel River<sup>7</sup>.
- 1.8 The assumption made for High Country is that there is a contribution of groundwater to the surface water in the Twizel River. As such, the NDA limit for High Country is very restrictive.<sup>8</sup>
- 1.9 As set out in my opening submissions, both Applicants have adopted a very conservative approach to developing their land use options and to assessing those options in relation to the nutrient thresholds in place for the properties. They have undertaken all modelling at the Highly Developed status to ensure that they will be well under the WQS thresholds and therefore a very conservative approach to environmental management is proposed; the developments will be undertaken in a staged approach, as set out in the MWRL evidence this week; the full suite of (yet to be finalised) MWRL conditions will apply to any consent granted; and the applicants have proposed additional conditions relating to the imposition of fish screens. It is understood that, of all the applicants, only High Country, Rosehip Orchards, Simons Pass and Simons Hill have adopted the very conservative “Highly Developed” OVERSEER setting as the basis for their nutrient discharge levels..

## **2 ISSUES RAISED IN THE TECHNICAL REPORTS BY THE REPORTING OFFICERS**

- 2.1 In terms of the technical reports by the reporting officers, the Applicants believe there are no outstanding issues in relation to these properties specifically that have not either already been addressed or are able to be adequately addressed through the stringent regime of monitoring and mitigation that is proposed in the

<sup>6</sup> Melissa Robson, 30 November 2010 pg 48, paras 174.

<sup>7</sup> Ibid, pg 40, para 147.

<sup>8</sup> Ibid, para 178.

condition suite. The draft proposed conditions are **attached** to these submissions.

#### **Dr Mike Freeman**

- 2.2 The most recent addendum report of Dr Freeman has classified the water takes for both properties as "amber".<sup>9</sup> Mr Freeman's description of the amber category states that it includes "*those that, on the basis of the currently available information, had significant uncertainties about potential adverse effects on cumulative water quality and depending on additional consideration relating to issues other than cumulative water quality effects **could be granted**, provided that either more information is obtained to reduce the uncertainties and/or subject to strict comprehensive monitoring and response conditions that would enable a rapid and effective control response that would adequately prevent the occurrence of significant adverse effects.*"<sup>10</sup>
- 2.3 As I have noted today, both Rosehip Orchards and High Country are proposing to adopt the full suite of MWRL monitoring and mitigation conditions, including that monitoring proposed prior to the implementation of the irrigation. They are committed to a staged approach to their development in order to provide another level of protection should any unexpected adverse effects occur.

#### **Darren McNae**

- 2.4 Mr McNae's report states, "*A majority of the issues identified have been satisfactorily revised or responded to by the Applicants and it is noted in the above tables where Applicants have provided responses that are still not deemed to be in line with "best practice use" of OVERSEER.*"<sup>11</sup> Mr McNae had only minor concerns about the operation of OVERSEER in relation to these applications. His concerns included that there appeared to be a very high stocking rate, the applicants own irrigation nutrient concentrations were used as opposed to the default concentrations; and that the pasture production rates seemed high.<sup>12</sup>
- 2.5 For all these matters, Mr McNae was provided further explanations. A detailed summary of these explanations can be seen in the attachments to Mr McNae's addendum report<sup>13</sup>. He concludes that report by saying "*Overall there is a strong level of confidence that the completed modelling provides a reasonable representation of future nutrient loading.*"<sup>14</sup> It is further noted that neither

<sup>9</sup> Mike Freeman, s42A report addendum, 11 January 2010 pg 16, para 47.

<sup>10</sup> Ibid, pg 16 para 47.

<sup>11</sup> Darren McNae, addendum report, 13 April 2010, pg 8, para 14.

<sup>12</sup> Darren McNae, addendum report, pg 38, Rosehip Orchards, Audit Table.

<sup>13</sup> Darren McNae, addendum report, 13 April 2010, pgs 18 and 38, Audit Table.

<sup>14</sup> Darren McNae, pg 8, para 18.

Applicant is included within the list where further doubt regarding the OVERSEER modelling remains.

### **Chris Glasson**

2.6 Mr Chris Glasson's addendum report makes the following comments in relation to landscape that are present in the Applicant's proposal:

- *A landscape assessment was undertaken by Mike Steven;*
- *Pivot irrigation;*
- *Buffer between irrigation and the terrace riser and the rivers;*
- *All irrigation on the upper terrace*<sup>15</sup>.

2.7 His recommendation is that if the mitigation measures proposed are undertaken "then the landscape and visual effects of the site can be retained".<sup>16</sup> Mr Chris Glasson has concluded that, with the additional mitigation on High Country by removing any irrigation from the upper terrace, that he has no further concerns regarding the two properties.

### **3 ISSUES RAISED BY YVETTE RODRIGO IN THE INDIVIDUAL SECTION 42A REPORTS**

3.1 Ms Rodrigo raised a number of concerns in her initial report in relation to the potential adverse effects of these applications. The Applicants have now addressed these issues as detailed below.

#### **Minimum lake levels**

3.2 In the section 42A reports of Yvette Rodrigo, it was considered that the minimum lake levels for Lakes Pukaki and Ohau, (as set out in Table 4 of the WCWARP) should be adopted to ensure the application is treated as a discretionary activity. She stated specifically, "*Lakes Pukaki and Ohau control downstream hydro-generation and therefore any takes from the Ohau B and C Canals should be subject to the minimum lake levels of these lakes. The status of the proposed activity hinges on the adoption of these minimum lake levels.*"<sup>17</sup>

3.3 The Applicants have agreed that the proposed takes from the Ohau B and Ohau C Canals will be operated in such a way that the minimum lake levels in Lakes Pukaki and Ohau specified in Table 4 of the WCWARP will be adhered to. This

<sup>15</sup> Chris Glasson, addendum report, 23 December 2009, pg 13, para 54.

<sup>16</sup> Ibid, pg 13, para 54.

<sup>17</sup> Yvette Rodrigo, addendum report, pg 22, para 89.

undertaking by the Applicants will be assured by the proposed condition has been set out in the **attached** conditions<sup>18</sup>.

### **Surface water quality**

- 3.4 Following the provision of the draft FEMP and water quality assessment by Ms Robson, Ms Rodrigo had some concerns about the potential adverse effects of the applications on surface water quality and stated the following: *"There are some uncertainties about the potential adverse effects and suggest that either more information is needed or strict monitoring and response conditions would be needed to put address cumulative water quality effects. I note that to date, no appropriate conditions addressing water quality on a local or cumulative scale have been proposed by the Applicant.*

*In addition, Mr McNae, in his section 42 report has identified a number of inputs used in the OVERSEER model for the site that require clarification in order to confirm the validity of the results of the model.*

*Therefore at this time, local and cumulative water quality effects remain outstanding for these applications."<sup>19</sup>*

- 3.5 The monitoring and response conditions present in the MWRL suite of conditions, **attached** hereto, are intended to cover issues of monitoring of water quality at specific nodes, any adverse effect will be picked up quickly and Applicants will need to respond in terms of the conditions. The proposed pre-irrigation monitoring regime and the stringent ongoing monitoring regime (with potential remedial action plans, if required) and realistic, effective mitigation conditions will ensure that any uncertainties will pose no risk of unforeseen environmental effects<sup>20</sup>.

### **Landscape and amenity**

- 3.6 While the initial section 42A reports for these properties and the cumulative landscape report by Chris Glasson originally had concerns that these applications could result in an adverse visual effect, both reporting officers now accept that the mitigation proposed by the Applicants (removal of all irrigation from the upper terrace of High Country) is sufficient to remove such a risk<sup>21</sup>.
- 3.7 The mitigation has principally involved the alteration of the proposed location of the centre pivots on the Applicants' properties. Irrigation is now only proposed on

<sup>18</sup> Water Take Conditions, Condition 8.

<sup>19</sup> Yvette Rodrigo, addendum report, pg 22, paras 91-93.

<sup>20</sup> Water Use Conditions, Conditions 4-11.

<sup>21</sup> Yvette Rodrigo, pg 22, paras 94-95; Chris Glasson, addendum, pg 13, paras 52-54.

the middle terrace of High Country rather than the upper terraces adjacent to State Highway 8. On the Rosehip Orchards property, irrigation is now only proposed on the middle terrace and has been removed from the lower terraces adjacent to the Twizel and Ohau Rivers, ensuring that the proposed irrigation is now away from wetland areas identified by the Department of Conservation.

- 3.8 This will be dealt with again at a later point in my submissions and further details also be found in Peter Glasson's evidence in chief.<sup>22</sup>

#### **Efficient and reasonable use**

- 3.9 The original section 42A report stated, *"The taking of water in excess of that required for the intended use may contribute to water levels being unnecessarily reduced and less water available for other users."*<sup>23</sup>

- 3.10 This comment was in relation to the original High Country application which had proposed to irrigate two areas of the property. As Peter Glasson's evidence sets out, there is now only a single area of irrigation comprised of 500ha within the southern irrigation command area. Consequently the updated section 42A report now states<sup>24</sup>, *"As the soils in this area are light soils with the PAW of 30mm, the annual volume established using WQN v2 is 3,125,000m<sup>3</sup>. This volume is higher than the annual volume applied for by the Applicant. As the application limits the maximum annual volume that may be granted, in my view the annual volume applied for should be adopted."*<sup>25</sup>

#### **Cultural values**

- 3.11 In terms of consultation with Ngāi Tahu, the latest section 42A report states *"I cannot confirm whether there are still remaining concerns, or whether the mitigation proposed by the applicant is acceptable."*<sup>26</sup>
- 3.12 The evidence of Peter Glasson set out the extensive consultation undertaken with Ngāi Tahu and the three local rūnanga.<sup>27</sup> In addition to the consultation, the monitoring and mitigation measures that the applicants have proposed, in combination with a staged development of irrigation ensures, are aimed at addressing the potential degradation of surface water bodies, issues that Ngāi Tahu have stated are central to their concerns<sup>28</sup>.

<sup>22</sup> Peter Glasson, pg 96, para 27.

<sup>23</sup> Yvette Rodrigo, original section 42A report 19A, 31 August 2009, pg 10, para 49.

<sup>24</sup> Peter Glasson, pg 6, para 26.

<sup>25</sup> Yvette Rodrigo, addendum report, pg 22, para 97.

<sup>26</sup> Yvette Rodrigo, addendum report, pg 23, para 98.

<sup>27</sup> Peter Glasson, pg 12, para 64.

<sup>28</sup> Paul Horgan, pgs 5 and 6, paras 13 and 14.

### **Impacts on Flood-carrying Capacity**

- 3.13 In terms of the works required to install infrastructure, including constructing a pipeline under the Ohau River, there were initially some concerns. The first was that if Meridian elected to release water into the Ohau River via the labyrinth weir during the installation works there could potentially be adverse effects.<sup>29</sup>
- 3.14 This issue was addressed in<sup>30</sup> Mr McIndoe's evidence where he stated "*water is only released into the river via the labyrinth weir as an emergency overflow. The proposed works in the riverbed are located upstream of the weir and therefore the flood carrying capacity of the river will not be affected in any way by the works*".
- 3.15 As such the reporting officer has now recognised that the temporary works required to install a pipeline under the Ohau River should not result in an impact on the flood-carrying capacity of the river<sup>31</sup>.

### **Man-made Structures and bank Stability**

- 3.16 The section 42A report also identified that the applicants had not assessed whether there were any man-made structures that might be affected by the installation of the infrastructure. The report also questioned whether bank stability may be impacted on.<sup>32</sup>
- 3.17 Mr McIndoe addressed this point in his evidence when he stated that the pipeline would need to cross over the canal road and as such, permission should, and would be, sought from Meridian to undertake this crossing.<sup>33</sup> Essentially, the works cannot proceed without Meridian consent which will involve detailed construction engineering design which will be approved by Meridian. Mr McIndoe also makes it clear that any damage done to the banks of the river during the construction phase will be restored to a state consistent with the surrounding environment.<sup>34</sup>
- 3.18 It should be noted that the reporting officer has now suggested that this issue could be dealt with by way of conditions. In particular she has suggested that a condition to require the applicants to notify Meridian would be appropriate, as would a condition requiring the applicants to ensure the stability of the roadway

<sup>29</sup> Yvette Rodrigo, addendum report, pg 23, para 102A.

<sup>30</sup> Ian McIndoe, pg 58, para 365.

<sup>31</sup> Yvette Rodrigo, addendum report, para 103.

<sup>32</sup> Yvette Rodrigo, addendum report, pg 23, para 102B.

<sup>33</sup> Ian McIndoe, pgs 57 and 58, paras 350–352, 364 and 365.

<sup>34</sup> *Ibid*, pg 58, para 365.

and river bank after construction<sup>35</sup>. If considered necessary, the Applicants would agree to such a condition.

### **Riparian Vegetation**

- 3.19 The reporting officer noted that the issue of the effects on the vegetation on the banks of the lower Ohau River during installation of the pipeline has not been dealt with by the applicants during the hearing.
- 3.20 The Applicants have discussed the effects of the initial installation with DoC and have agreed not to undertake works at times of the year when birds nesting could be disturbed. Beyond this it is submitted that the issue of potential adverse effects occurring, in terms of damage to the vegetation on the banks of the river, can be addressed by the conditions proposed by the Applicants<sup>36</sup>.

### **Consent to Divert**

- 3.21 Finally, the reporting officer has suggested that the minor diversion of water from the Ruataniwha Wetlands required during the installation of the pipeline could require a separate consent<sup>37</sup>.
- 3.22 The *temporary* diversion mentioned is only very minor (no more than 50m) and involves returning the water back to the same watercourse it was originally part of. In his evidence Mr McIndoe described it accordingly: *"The diversion will only be temporary in nature for the purpose of installing and maintaining the pipeline. Additionally, the diversion will only be over a minimal bed width as the stream is small. The diversion will not impede fish passage or cause the stranding of fish in pools or channels"*.<sup>38</sup>
- 3.23 It is my submission that the diversion was implicit – obvious – in the original documentation and as such, an additional consent should not be required.

## **4 ISSUES RAISED BY SUBMITTERS**

### **Landscape**

- 4.1 The evidence of Ms Lucas and Ms Walker on behalf of the McKenzie Guardians directed criticism towards the potential adverse landscape effects of the Rosehip applications. Ms Lucas specifically states: *"The existing development has disrupted the outwash landscape unit. Expansion across the proposed site would*

<sup>35</sup> Conditions Land Use Conditions, Conditions 6-19.

<sup>36</sup> Land Use Conditions, Condition 18.

<sup>37</sup> Yvette Rodrigo, addendum report, pg 24, paras 108-110.

<sup>38</sup> Ian McIndoe, pg 59, para 371.

*exacerbate the effects. Mr Glasson recommends buffering to the rivers, the terrace risers and the delta. In my opinion the buffering would not provide adequately for the protection of the integrity of the natural landscape values. The existing irrigation within the landscape unit is a legible disruption which, with expansion, would threaten the integrity of the natural landscape values.*<sup>39</sup>

- 4.2 Mike Steven will give reply evidence today in relation to landscape values and will build on his earlier evidence which clearly concluded that any landscape changes would be less than minor and included the conclusion that *"the effects of irrigation on the landscape character and naturalness of the application properties will vary according to the baseline level of agricultural development: the RONZ application site has been subject to varying degrees of agricultural development over a long period. Most recently a significant part of the site has been developed for centre pivot irrigation for the production of fodder crops (lucerne and triticale). Part of the site has been subject to an unsuccessful attempt to establish a production orchard of sweet briar rose (Rosa Rubignosa). The larger part of the application site remains in a degraded state, characterised by depleted pasture, Hieracium infestation and bare soil.*

*The landscape character of the application site will be transformed by irrigation from a barren, arid wasteland to a productive pasture and cropland. In my opinion, objections to this change are based on a particular landscape aesthetic, and uniformed notions of the level of naturalness that prevail within the site.*<sup>40</sup>

- 4.3 In his evidence in reply Mr Steven will address Ms Lucas' evidence and correct some factual inaccuracies.<sup>41</sup> He will reiterate that the proposed irrigation is, at the very closest, 1.5km from State Highway 8 and that visibility of the irrigated areas from the road will, for the most part, be completely obscured.<sup>42</sup>
- 4.4 Mr Steven will also address Ms Lucas' comments that the proposed irrigation on the High Country site is to take place in an area that is currently uncultivated. That is not so.<sup>43</sup>
- 4.5 While, in Mr Steven's opinion, it was not necessary to include a buffer between the irrigated areas and the Twizel and lower Ohau rivers, the applicants have altered the proposed location of the centre pivots and are now only proposing to

<sup>39</sup> Di Lucas, pg 31, para 134.

<sup>40</sup> Mike Steven, pg 32, paras 134 and 135.

<sup>41</sup> Mike Steven, evidence in reply, 22 April 2010, pg 2, para 4.

<sup>42</sup> Mike Steven, evidence in reply, pg 2, para 5.

<sup>43</sup> Mike Steven, evidence in reply, pg 2, para 4.

irrigate the middle/lower terrace rather than the areas directly bordering the rivers (Rosehip Orchards) or State Highway 8 (High Country).<sup>44</sup>

- 4.6 Mr Chris Glasson has indicated in his addendum report that if the above mentioned buffers are instigated as mitigation he believes the effects of the applications will be less than minor. He states, *"It is my opinion that if these measures are undertaken then the landscape and visual values of the site can be retained"*.<sup>45</sup>

#### **Cultural Issues**

- 4.7 The evidence of Paul Horgan states that Ngai Tahu are specifically opposed to the Rosehip applications as part of a group of applicants whose activities may have adverse affects on the Tekapo River and Haldon Arm of Lake Benmore.<sup>46</sup>
- 4.8 Ngāi Tahu's concerns are principally centred on the potential degradation of the surface water bodies in the area, particularly where they include habitats where mahinga kai was traditionally gathered<sup>47</sup>. These applicants have agreed to include the full suite of MWRL conditions, including the adoption of a staged implementation of their irrigation developments, as suggested by Mr Horgan in his submissions. I submit that these steps will be significant in ensuring that these properties will not adversely affect the resources that Ngāi Tahu is concerned about.

#### **Hydrological Issues**

- 4.9 Mr Callander for Meridian, has set out his conclusions made in relation to whether, or how much, of the groundwater from the Rosehip properties ends up in the Twizel or lower Ohau rivers. He points out that *"Mr McIndoe acknowledges gains in flow in the Twizel river and lower Ohau river, and accepts there is uncertainty as to how much groundwater contribution there might be (para 283). He relies on the GHD assessment to conclude that the effects are likely to be minor. However, in recognising the lack of data described in paragraph 283, this is not a conservative conclusion."*<sup>48</sup>
- 4.10 In terms of this issue Mr McIndoe's position was that, as concluded by GHD, the largest proportion of the water that drains from the Rosehip properties is likely to go to deep ground water, under the Twizel and lower Ohau rivers and into Lake

<sup>44</sup> Peter Glasson, pg 6, paras 26 and 27.

<sup>45</sup> Chris Glasson, addendum report, pg 13, para 54.

<sup>46</sup> Paul Horgan, pg 7, para 18B.

<sup>47</sup> Ibid, pg 7, para 19.

<sup>48</sup> Peter Callander, evidence on individual applications, pg 13, para 48.

Benmore.<sup>49</sup> There is acknowledged uncertainty about this issue, as Mr McIndoe stated: *“Without further data, I cannot rule out the possibility that groundwater could recharge the lower Twizel and Ohau rivers from groundwater moving from Rosehip Orchards or High Country Orchards. However the GHD modelling and the additional fieldwork carried out for the Tekapo River reach indicates little groundwater contribution to flows in the rivers close to Lake Benmore. On that basis, it is possible that there is little gain from groundwater in this area and that Lake Benmore is the main receiving environment.”*<sup>50</sup>

- 4.11 To address any uncertainty on this point the applicants propose that the full suite of (yet to be finalised) MWRL conditions be attached to any consents. These conditions ensure that should nutrient levels at any of the property monitoring points, or sub-catchment nodal monitoring points show evidence of ground water from the Rosehip properties entering the Twizel or Ohau Rivers a range of mitigation and remedial action options will be implemented by the Applicants.<sup>51</sup>

**DATED** at Christchurch this 23<sup>rd</sup> day of April 2010.



**K G Reid / H G Marks**  
Counsel for the following Applicants:

Rosehip Orchards New Zealand Limited  
High Country Rosehip Orchards Limited

<sup>49</sup> Ian McIndoe, pg 48, para 277.

<sup>50</sup> Ian McIndoe, pg 48, para 283.

<sup>51</sup> Water Use Conditions, Conditions 4-18, pgs 15-20.