File No: 61 37 89A
Document No: 1224198

14 September 2007

Tukairangi Valley Properties Ltd
C/O Truebridge Callender Beach
P O Box 1349
TAUPO 2730

Dear Sir/Madam

Resource Consent Application 116508

Your resource consent application has been considered in accordance with the provisions of the Resource Management Act 1991.

Please find enclosed the decision report and resource consent certificate.

You may lodge an objection to this decision by notifying Environment Waikato of your objection within 15 working days of notice of this decision being received, in accordance with Section 357 of the Resource Management Act and Regulations respectively.

You may lodge an appeal with the Environment Court if you wish. Further information on this option is available from Environment Waikato on request.

Important: If you decide to object to or appeal against this decision the enclosed consent certificate is null and void, and should be destroyed.

You should also be aware of the following general information regarding the holding of a resource consent:

Exercising the consent

Only the holder of the consent (or their agent) may exercise this consent, and then only for the purpose specifically authorised by the consent. Those exercising the consent must comply with the conditions of the consent at all times.

If the consent has not been exercised within five years from the commencement date of the consent, the consent will lapse unless approval has been obtained from Environment Waikato to extend the period.

Charges payable

The majority of consent holders will incur annual charges for holding consents, and may also incur costs associated with monitoring, inspecting and reporting on the exercise of this consent.

Annual charges are set every year as part of the Council's annual plan process. These charges will continue to be incurred by the holder of the consent until such time as the consent expires or is surrendered.

Surrender of the consent

If you no longer wish to perform the activities authorised by the consent you may wish to apply to surrender the consent (charges are payable even if you are not currently exercising the consent).

Expiry of the consent

If you re-apply within 6 months of the expiry date of your consent you may continue to carry out the activity while your replacement consent application is processed.

Sale of your property

If you sell the property or the operation to which this consent applies, you may wish to transfer the consent to the new owner (charges will continue to be incurred by the holder of the consent until such time as this is carried out).

Disclosure of information to third parties

The information you provided in your application (including personal information) is official information. It will be used to assist in the management of the region's natural and physical resources. Your application, the details of this consent and any ongoing communications between you and Environment Waikato will be held at the offices of Environment Waikato and may be accessed upon request by a third party.

Access to information held by Environment Waikato is administered in accordance with the Local Government Official Information and Meetings Act 1987 and the Privacy Act 1993. Your information may be disclosed in accordance with the terms of these Acts. This may include disclosure in response to an on-line request to access information through Environment Waikato's website (www.ew.govt.nz).

Environment Waikato may withhold access to information in certain circumstances. It is important that you advise Environment Waikato about any concern you may have about disclosure of any of the information you have provided in this application (e.g. protection of personal information, trade secrets, confidential information or information which, if released, may cause serious offence to tikanga Maori). While Environment Waikato may still have to disclose information under the above legislation, it can take into account any concern you wish to raise.

Please do not hesitate to contact staff on 0800 800 402 if you have any queries regarding the above advice.

Yours faithfully

Andrea Tainui
Administration Officer, Resource Use Group

Consent Evaluation Report

Applicant : Ltd	Tukairangi Valley Properties	**File Number:**	61 37 89A
Address of Site:	Tukairangi Rd - Taupo	**Project Code:**	RC7235
Consent Type(s):		**Application Number(s):**	
Water permit	Ground water take		116508

1 Introduction

Truebridge Callendar Beach Ltd has applied on the behalf of Tukairangi Valley Properties for resource consent to take groundwater for community water supply purposes (97 proposed lots). The well is located on a property described legally as Sec 35 Blk IV Tuhingamata East SD and will be located on proposed lot 73 of the subdivision, on Tukairangi Road, Taupo.

2 Background and Description of Proposal

2.1 Background

The applicant holds a current consent (no. 113807) to take groundwater up to 23.3 cubic metres per day for domestic supply for a rural subdivision. The applicant now wishes to subdivide further and subdivision consent is currently being sought from the Taupo District Council. It is intended that the property will be divided into 97 lots. To ensure a reliable supply the applicant applied to the Waikato Regional Council to drill two new bores in October 2006. The bore permit was granted and the wells were completed in December 2006. It is believed that the current consent will not be sufficient to supply the whole subdivision therefore the applicant has applied to supply from one of the new wells.

2.2 Proposal

2.2.1 Resource Consent Application 116508

The applicant has applied to take groundwater from Located well no. 72_3280 to supply a 97 lot rural residential subdivision. The water will be taken up to a rate of 4 L/sec up to a maximum of 233.89 m^3 per day. This volume has been based on 1.6 cubic metres per day of water for each dwelling and 0.19 cubic metres per hectare per day for stock watering purposes (taken from Taupo District Council's "Code of Practice for Development of Land").

The subdivision will consist of developing Lots 2, 6, 9 & 11 to 13 DP 359701, Lot 14 DP 368028, and Sec 35, Tuhingamata SD. It is intended that the development of the proposed lots will be undertaken in 7 stages therefore the full volume of water will not be required for some time. The applicant is applying for the full volume of water required for the subdivision as the Taupo District Council requires a supply is guaranteed prior to the subdivision consent being granted.

The applicant has indicated a water meter will be installed on the well and proposes to undertake water level monitoring in a nearby observation bore (Located no. 72_3279).

2.2.2 Production Well

Located no. 72_3280 has a diameter of 100 mm and was drilled in December 2006 by Boart Longyear Drillwell. The bore was drilled to a total depth of 272 metres below ground and cased to 238 metres. The well is screened for 20 metres from 250 to 270 metres in depth in what is described as the Waiora Ignimbrite overlain by Huka Formation sediments.

Located no. 72_3279 was drilled for observation purposes, to a total depth of 275 metres. Two 30 mm diameter wells were installed with 6 metre screens within this bore hole. The first being a deep well with the bottom at 260 metres and the second a shallow well with the bottom at 64 metres. This bore was designed so that water level could be measured both above and below the Huka Formation to determine hydraulic connectivity between the two formations.

A series of tests were undertaken on the production well, these consisted of an initial air lift test during the development of the well, a step drawdown test followed by a constant discharge test, using well no. 72_3279 to monitor water levels at the different depths. The well was pumped at a rate of 185 m^3/day with drawdown approximately 15 metres after 24 hours. Using the recovery data estimates of aquifer characteristics were obtained.

The well was pumped at 185 m^3 per day, not the applied for volume of 233.89 m^3 per day. It was stated that 185 m^3/day was chosen as this was representative of the largest capacity pump for the bore size at the time and the applicant did not wish to stress the well. Air lift testing was conducted for 9 hours at a rate of 7.1 L/sec when the screen was developed. This showed potential for the well to produce more than tested and suggested that the aquifer could yield more water that what has been applied for.

Water quality testing has been undertaken on the proposed bore. The results show that the water is generally suited for drinking water purposes, however iron, manganese and arsenic were over their respective guidelines. The applicant will be investigating the range of treatment options available.

3 Status of Activities under the Plans

Section 14 of the Resource Management Act, 1991 states that no person may take, use, dam or divert any water unless the taking, use, damming, or diversion is expressly allowed by a rule in a regional plan [and in any relevant proposed regional plan] or by a resource consent.

There are currently two regional plans controlling resource management in the Waikato Region. The Proposed Waikato Regional Plan (PRP) and the Transitional Regional Plan (TRP). I have assessed the applications against both plans below.

Proposed Waikato Regional Plan (PRP)
Under the Proposed Waikato Regional Plan (Variation 6), the activity meets the conditions of the *discretionary activity* rule for groundwater takes (Rule 3.3.4.17). However, Rule 3.3.4.17 is the not be fully operative due to the Variation 6 Water Allocation document being notified in October 2006. Consequently, any provisions in the Transitional Waikato Regional Plan (the operative plan at the time of writing this report) also apply.

Transitional Regional Plan (TRP)
General Authorisations 1, 2, 3, 4 & 5 of the TRP allows for the taking or use of up to 15 cubic metres of water per day for a variety of purposes. The domestic supply to no more than two other properties is permitted under the TRP under General Authorisation 3, however the applicant is supplying to 97 properties, up to a maximum of 233.89 m^3/day. The TRP remains silent on policy direction or rules for groundwater takes that exceed 15 m^3 and supply more than three properties. Therefore the proposed groundwater take is therefore considered on a ***discretionary basis*** under section 14 of the Resource Management Act, 1991. That is requires resource consent.

4 Consultation/Affected Party Approvals

4.1 Iwi

The applicant has not consulted with tangata whenua, which I consider is appropriate for the proposed activity because I do not consider tangata whenua to be an affected party due to the minor adverse effects of the proposed activity. The pumping rate is low and the effects on the aquifer resource are expected to be minor.

This is in accordance with the Waikato Regional Council's procedures for consulting with Iwi (which are set out in Resource Use Group Practice Note B7 'Iwi Consultation Principles and Practices').

4.2 Other Parties

The applicant has reported that the nearest bore to the proposed take is located approximately two kilometres away. This information was supplied by GNS Science, in the Mapara Valley Water Supply well report (GNS Consultancy Report 2007/10). Given this the applicant has not carried out consultation with regards to this application.

Council's database shows that there are four wells within one kilometre of the site. Two of these are owned by the applicant one being the observation bore, and the other for which consent is already held. The depth of the two remaining wells is not known. One of the wells was drilled in 1945, and the other no known information exists, given this it is expected that the wells are shallow in comparison to that of the applicant's therefore I do not consider that interference effects will be of concern. Therefore I do not consider that other parties need to be consulted in relation to this application.

4.3 Reasons for Non-notification

In a process separate to the preparation of this report, it was considered that the application proceed on a non-notified basis. The activity has been assessed and is concluded to have no more than minor effects on neighbouring users therefore no affected parties have been identified and no sustainability issues have been raised.

5 Process Matters

Resource consent application 116508 was received, reviewed and considered complete by the Waikato Regional Council (WRC) on the 18 May 2007. The application was placed on hold under s92 of the RMA on the 15 June 2007, and information was provided on the 9 July 2007. The statutory timeframes were extended under s37 (1) of the RMA on the 10 July 2007. Processing of the application was put on hold for a further information request on the 25 July 2007 of which the information was provided on the 30 July 2007. There are no other process matters to report.

6 Statutory Considerations

In considering this application I have had regard to section 104 of the RMA. I consider the actual or potential effects of the activity to be minor. In coming to this conclusion I have considered the following:

Subject to Part II, when considering an application for a resource consent and any submissions received, the consent authority shall have regard to -

a) any actual and potential effects on the environment of allowing the activity;
b) any relevant provisions of:
  i) a national policy statement
  ii) a New Zealand coastal policy statement
  iii) a regional policy statement or proposed regional policy statement

iv) a plan or proposed plan; and

c) any other matters the consent authority considers relevant and reasonably necessary to determine the application'.

As discussed previously the proposed activity is classified as a discretionary activity in the Proposed Waikato Regional Plan. However, the relevant rule in the Proposed Plan is currently not operative. Consequently any provisions in the Transitional Regional Plan apply. However the proposed activity is not provided for in the Transitional Regional Plan therefore the default classification of a discretionary activity applies and resource consent is required under section 14 of the Resource Management Act, 1991.

Section 104(B) of the Resource Management Act, 1991 states:

'After considering an application for a resource consent for a discretionary activity or non-complying activity, a consent authority –

a) may grant or refuse the application; and

b) if it grants the application, may impose conditions under section 108'.

6.1 Assessment of Environmental Effect

It is recognised that a potential adverse effect associated with groundwater takes is drawdown of the groundwater table or de-watering of groundwater resources, which in turn may lead to decreased water supplies for neighbouring groundwater users utilising the same aquifer resource.

Accordingly issues assessed with regard to groundwater takes are:

- Interference Effects on neighbouring groundwater users
- Aquifer Sustainability, and
- Stream depletion effects

Consideration shall also be given to water use efficiency.

6.1.1 Interference Effects

6.1.1.1 Flow test

In order to determine the interference effects on neighbouring ground water supplies, the applicant contracted Terra Aqua Consultants Ltd and Boart Longyear NZ Ltd to undertake a constant rate pump test on the production bore. During the test ground water was abstracted at a rate of 185 cubic metres per day (the consent application is for 233.89 cubic metres per day) for 24 hours during which water levels in the applicant's bore (Located well no. 72.3280) and the observation bore (Located well no. 72.3279) were monitored (Note. Bore hole 72.3279 has been constructed with two wells in the one bore hole for measuring water at different depths). Recovery levels were monitored for half an hour in the production bore once pumping had ceased.

Of the two monitoring wells only the deep well reacted to the pumping. It was determined that there was no hydraulic connection between the Huka Formation and the Wairoa Formation from which the applicant is taking water. Aquifer parameters of transmissivity and storativity were derived from the test using the results of the water level reductions in both the production well and the deep observation well. Transmissivity was determined to be 18.5 m^2/day with a storativity of 0.00058.

Using these parameters Environment Waikato hydrogeologists have modelled results of the test to determine drawdown in neighbouring groundwater users (Docs # 1185692). Council's database showed that within one kilometre of the site there are two wells (excluding the applicant's wells) that are registered in the Environment Waikato system. The nearest well is reported to be 680 metres from the site and using the parameters derived from the pump test and the applied for volume of 233.89 m^3/day drawdown was estimated to be 5.3 metres after a year of continuous pumping. As discussed previously it is unlikely that the two wells as indicated in Council's database are drawing water from the deeper Waiora aquifer.

6.1.2 Aquifer Sustainability

Technical comment (Docs # 1185692) advised that there is no current indication of groundwater resources in the area being stressed, therefore the proposed take was considered sustainable with respect to recharge.

It has also been shown through initial air lift and step tests conducted on the production well, that a yield far greater than what the applicant is applying for is achievable from the aquifer. Therefore in considering this I do not consider than sustainability issues are of concern.

6.1.3 Stream Depletion Effects

Policy 5 of the WRP (Variation 6: Water Allocation document) requires that groundwater takes that have the potential to impact on surface water bodies be classified as both a surface water take and a groundwater take. The applicant's well is screened from 250 to 270 metres deep. Given the depth of the well I do not consider that pumping induced stream depletion is of concern. Given this the application can be assessed solely against groundwater policies, rules and objectives.

6.1.4 Water Use Efficiency

It is also recognised that when assessing applications that the volume of water requested is consistent with actual water requirements and that the take is deemed to promote the efficient use of water. Encouraging more efficient use of water provides for more economic benefit to both the applicant and, the region by allowing for economic growth in the area.

The daily water requirement has been based on the Taupo District Council Code of Practice for the Development of Land which requires rural water supplies to provide for:

Domestic demand of 1600 litres per site per day for household use, and
Other rural activities at the minimum rate of:

- 190 litres/hectare/day for site up to 10 hectares area
- 190 litres/hectare/day for dairy uses and
- 130 litres/hectare/day for other farm use.

Consequently, as detailed above, the daily water requirement for 97 properties with 97 dwellings with a combined area of approximately 428.76 hectares has been calculated to be 233.89 cubic metres. It is considered that this volume of water is appropriate in terms of intended use.

6.2 Policy Statements and Plans

Section 14 of the Resource Management Act 1991 (RMA) places restrictions relating to water. Specifically no person may take, use, dam, or divert any water unless expressly allowed by a rule in a regional plan and in any relevant proposed regional plan or resource consent. Section 104 of the RMA also requires consideration of any regional plans and regional policy statements, in this case the Waikato Regional Policy Statement, the Transitional Regional Plan and the Proposed Waikato Regional Plan.

6.2.1 The Regional Policy Statement

The Regional Policy Statement (RPS) promotes the maintenance of groundwater levels, recognising that groundwater resources are an integral part of the water cycle and that effects on this resource will have an effect on other parts of the cycle. Sections of the RPS that are most relevant to this proposal are as follows:

- **Section 3.4.5 Water Quality**

Objective: *Net improvement of water quality across the Region.*

- **Section 3.4.6 Flow Regimes**

  Objective: *The range of uses of water reliant on the characteristics of flow regimes maintained or enhanced.*

  Policy Two: Modification of Flow Regimes
  Allow changes to existing flow regimes while avoiding, remedying and mitigating adverse effects on the environment.

- **Section 3.4.7 Efficient Use of Water**

  Objective: *The efficient use of water that is available to be taken from water bodies.*

  Policy One: Efficient Use of Water
  Ensure that the water which is available to be taken from water bodies is used efficiently.

I consider that the proposed activity does not compromise the objectives of the RPS relating to groundwater resources. In particular I consider that the applicant is efficiently using water therefore not adversely affecting the groundwater resource. The environmental effects assessment indicates that groundwater resources in the area are not stressed, in my opinion the proposed activity is likely to be sustainable and is consistent with the RPS.

6.2.2 The Transitional Regional Plan

General Authorisations 1, 2 and 3 of the Transitional Regional Plan authorises up to 15 cubic metres of water to be taken for a variety of purposes. This plan does however remain silent on policy direction or rules for takes exceeding this volume and the proposed water take is therefore not provided for under this plan and resource consent is required in accordance with section 14 of the Resource Management Act.

6.2.3 Regional Plans

The Waikato Proposed Regional Plan recognises that ground water takes can cause drawdown effects that affect the ability of other users to access the resource, and may reduce the sustainable yield of the resource. Accordingly, the Plan encourages that ground water takes be managed to ensure sustainable yield and to ensure continued use of ground water by future generations.

Sections 3.3 and 3.4 of the PRP were withdrawn on the notification of the PRP Variation 6 (Water allocation) document. Variation 6 outlines implementation methods to assist compliance with relevant objectives and policies. In particular rule 3.3.4.17, defines the proposed activity as a *discretionary activity* (requiring resource consent) as discussed previously. However, this rule is not operative due to its recent notification. Nevertheless it does give an indication of the future direction that is likely to be taken by Council with respect to ground water takes of this size, and requires consideration as directed by section 104 of the RMA. I have therefore considered the rules and policies of Variation 6 of the PRP, in my assessment of this consent application and in proposing conditions.

6.2.3.1 Rules relevant to this application

Chapter 3.3 - Take

3.3.4.17 Discretionary Activity Rule – Ground Water Takes
The taking of ground water that, when assessed in combination with all other authorised takes from the same aquifer:
*a) Does not comply with **Rules 3.3.4.8**, **3.3.4.10** or **3.3.4.11**; or*
b) Does not exceed the Tier 2 sustainable yield in Table 3-6; or
c) Is from an aquifer that is not listed in Table 3-6
*d) is a **discretionary activity** (requiring resource consent).*

The taking of groundwater does not comply with Rule 3.3.4.8 as it exceeds the permitted activity volume of 15 m^3 of water, therefore has to be considered under rule 3.3.4.17 and is classified as a discretionary activity requiring resource consent.

3.4.5.3 Permitted Activity Rule – Use of Water
*Except as restricted by **Rules 3.4.5.4**, **3.4.5.5** and **3.4.5.6** the use (as restricted by s14 of the RMA) of water is a **permitted activity** subject to the following conditions:*
a) The use of water shall comply with the water management class standards in section 3.2.4 of this Plan.
b) The activity shall not cause any flooding on neighbouring properties.
c) Any erosion occurring as a result of the activity shall be remedied as soon as practicable.

The use of water for stock and domestic purposes is a permitted activity, therefore no resource consent is required for the use of water.

6.2.3.2 Policies relevant to this application

Chapter 3.3 - Take

Policy 9: Consent Application Assessment Criteria – Ground Water
When assessing resource consent applications for ground water takes and/or any associated water use, the Council shall:
a) Have particular regard to the following matters:
- *i) Whether the applicant has established a need for the volume and rate of water sought and has identified and proposed appropriate water efficiency measures including an assessment of measures to be taken to reduce take and use during water shortage restrictions as defined in Policy 12*
- *ii) The need to ensure that ground water is available for reasonable domestic and municipal needs, stock drinking water requirements, and fire fighting purposes*
- *iii) .....*
- *iv) .....*
- *v) .....*
- *vi) Adoption of improvements in water take and use infrastructure and adequate metering and data collection,*
- *vii) effects on tangata whenua uses and values*
- *viii) sustainable yield of the aquifer*
- *ix) .....*
- *x) .....*
- *xi) potential for loss of recharge to other aquifers*
- *xii) potential for aquifer compaction and ground surface subsidence*
- *xiii) .....*
- *xiv) potential for interference effects on neighbouring bores to the extent the neighbouring bore owner is prevented from obtaining their lawfully established water requirements. This will not apply in the following circumstances:*
  - *Where it is practicable to locate the pump intake within the affected bore at a greater depth; or*
  - *Where it can be demonstrated the affected bore accesses, or could access, the resource at a deeper level within the same aquifer if drilled or cased to a greater depth;*
  - *Where either of the actions in the two preceding bullet points will not result in a reduction in the quality or quantity of the abstracted water to the extent that it is no longer suitable for the intended purpose;*
  - *Where an alternative water source can be provided and agreed to by all affected parties.*

xv) *The proposed bore is capable of extracting the quantity applied for*
xvi) .....
xvii) *Possible monitoring methods that will be used for monitoring of a type and scale appropriate for the activity, including but not limited to measurement and recording of water use, measurement and recording of levels, sampling and assessment of water quality and freshwater biota.*
b) .....

In assessing this application I believe the points above have been adequately considered in assessing the potential effects of the proposed take.

Policy 10: Common Expiry Date for the Taking of Water
a) *The Waikato Regional Council shall establish and implement common expiry dates for all resource consents for the take of surface and ground water as detailed in Table 3-3.*
b) *All consents granted after the date on which this chapter of the Waikato Regional Plan was publicly notified shall have a term no longer than the period to the next common expiry date specified for the relevant catchment in Table 3-3, except those consents:*
   i) *for municipal / domestic supply*
   ii) *for the primary purpose of electricity generation.*
c) *Those consents provided for in part b) (i and ii) of this policy shall include review dates which coincide with the common expiry dates for the relevant catchments listed in Table 3-3.*

Table 3-3 recommends a common expiry to be 1 July 2016 for all takes in the Lake Taupo Catchment. This would give the consent a term of 9 years. Given that this application is for domestic supply, it is in my opinion that this take can be granted to expire on the next common expiry date in 2031. This would give the consent a term of 24 years. It is recommended that a review be set in alignment with the first expiry to allow for a catchment wide assessment of allocation in the area.

Policy 11: Water Take and Use Recording and Reporting
As a means of assessing compliance with consents for the taking and use of water, the Waikato Regional Council will require resource consent holders, through conditions to:
a) *Install a tamper-proof water-measuring device to manufacturer's specifications with:*
   i) *a pulse output; and*
   ii) *a minimum accuracy of +/- 5 percent under field conditions*
b) *Provide an "as built" plan of the installed water-measuring device prior to giving effect to any consent to take water*
c) .....
d) *Record and report water take and use data on a daily basis for all consented ground water takes (the method of recording, and the reporting frequency will be determined by the Waikato Regional Council as appropriate for the circumstances of the particular take and specified in the consent conditions),*
e) *Complete a calibration(s) of the water measuring device and a water use audit(s) during the term of the consent at a frequency and to the standard specified in the consent conditions.*

The applicant has indicated that a water measuring device will be installed therefore will comply with this policy. Given that water will be used for domestic supply it is considered appropriate that water use is recorded on a weekly basis. It is expected that the taking of water will be less variable to that of an irrigation take therefore requiring record keeping to be on a weekly basis is considered adequate. Review periods will be set to allow for any changes to the monitoring proposed if during the term of the consent it is considered that daily record keeping be required.

A requirement of this policy is also to provide an 'as built' plan of the water measuring device. A condition to provide this has been included in the attached schedule.

Chapter 3.4 - Use

Policy 1: Manage the Use of Water
Manage, through permitted activities and resource consents, the use of water, any associated discharge of water onto or into land and any associated use of land in a manner that ensures that:
a) *Water quality is maintained and/or enhanced in accordance with the policies in Chapter 3.2 of this Plan,*
b) *Any adverse changes to natural flow regimes are avoided as far as practicable and otherwise mitigated,*
c) *Adverse effects on the relationship tangata whenua as Kaitiaki have with water are avoided, remedied or mitigated,*

d) .....
e) .....
f) .....
g) Adverse effects on ground water quality are avoided as far as practicable and otherwise mitigated.
h) Does not result in an adverse effect relating to the objectives in Chapter 5.2 of this plan.

Policy 2: Efficient Use of Water

Promote the efficient use of water by:
a) Requiring the amount of water taken and used to be reasonable and justifiable with regard to the intended use and justified by way of a water management plan.
b) Requiring consideration of water conservation and minimisation methods as integral parts of water take and use consent applications to ensure no significant wastage of water resources.
c) .....
d) .....
e) .....

The applicant has applied to take 233.89 m^3 per day for stock and domestic purposes in a rural-residential subdivision proposal. The volume of water is based on Taupo District Council's guidelines. I believe that the volume applied for is adequate in terms of intended use.

6.3 Other Matters

6.3.1 Wastewater

Consideration has been given to the Proposed Waikato Regional Plan Variation 5 – Lake Taupo Catchment with regards to wastewater discharges for the proposed subdivision site. The proposed sites are not within the Lake Taupo near shore zone, therefore the relevant near shore rules do not apply. New onsite wastewater systems are permitted under the Variation for properties 4 hectares and larger provided that the permitted land use rule 3.10.5.1 is satisfied (this is in relation to stocking limits), or the land use is consented under rules 3.10.5.3, 3.10.5.4 or 3.10.5.5.

The properties are four hectares in size and as long as the stocking limits are observed, and new onsite wastewater systems are installed, I consider that a wastewater discharge consent is not required.

For the existing properties the use of existing onsite wastewater systems outside the near shore zone is permitted under rule 3.10.6.2.

6.3.2 Iwi Management Plans

Other matters which are relevant and necessary for Environment Waikato to consider in respect of this application is the Ngati Tuwharetoa Environment Iwi Management Plan (2003).

The Iwi Management Plan established Ngati Tuwharetoa environmental baselines and provides tools to help hapu/whanau and the tribe as a whole to achieve and protect those baselines.

I have reviewed the Environmental Iwi Management Plan and I consider that this proposal is not inconsistent with any goals, issues, policies or baselines that are detailed within the plan.

6.3.3 Other relevant plans

Consideration has also been given to the draft Acacia Heights Catchment Management Plan which has recently been notified by Taupo District Council. The proposed development site is not within the Acacia Heights Catchment area therefore any provisions highlighted within this plan are not required to be considered when assessing this proposal.

6.4 Relevant Part II Considerations

All resource consent application must be considered subject to Part II (sections 5 to 8) of the Resource Management Act, 1991. Section 5 outlines the purpose of the RMA as shown below.

Section 5: Purpose

1. *The purpose of this Act is to promote the sustainable management of natural and physical resources.*
2. *In this Act, sustainable management means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well-being and for their health and safety while –*
   (a) sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and
   (b) safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and
   (c) avoiding, remedying, or mitigating any adverse effects of activities on the environment.

Of sections 6 - 8 the following are relevant to this application:

- Section 6: Matters of national importance
  - (e) the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga
- Section 7: Other matters
  - (b) the efficient use and development of natural and physical resources
  - (f) maintenance and enhancement of the quality of the environment
  - (g) any finite characteristics of natural and physical resources
- Section 8: Treaty of Waitangi

The proposed activity has been considered in relation to the matters outlined in Part II of the Resource Management Act, 1991 and in my opinion the proposal is not contrary to any of the matters identified.

7 Discussion/Conclusions

The applicant has applied for a groundwater take, for up to 233.89 cubic metres of groundwater per day, at a rate not exceeding 4 L/s, for domestic and stock purposes in the vicinity of Tukairangi Road, Kinloch. Significant adverse effects are not expected as a result of groundwater abstraction from the applicant's well.

Proposed in Policy 10 of the water module variation to the PRP (notified in October 2006) all surface water and groundwater takes in the Lake Taupo Catchment will have a common expiry date of 1st July 2016. As highlighted previously as this take is for community supply purposes it is recommended that a consent term no longer that the next common expiry in 2031 is appropriate for this proposal.

I am satisfied that the applicant's proposal, if carried out in accordance with the attached conditions will not have any significantly adverse effects on the surrounding groundwater resource.

8 Monitoring

The WRC is responsible for managing and monitoring the cumulative effects of water takes on ground water aquifers in the Region. Measuring water use is an important part of this responsibility, and therefore a standard requirement of most resource consents to take ground water requires that water intakes are fitted with a water measuring device capable of recording cumulative water use. The applicant has advised a water meter will be installed. Nevertheless a condition requiring a water measuring device to record water use has been recommended.

The WRC further requires holders of water take consents to record actual water use and hours of pumping and to submit these records to the WRC by 01 June of each year. Because of the nature of intended use, I have recommended weekly water use recording.

In order to fulfil obligations under the Resource Management Act, 1991, WRC staff will monitor the activity authorised by this consent. Such monitoring inspections are likely to occur on an annual basis initially and if good compliance is achieved, may then be reduced to a biannual or triannual basis. All costs associated with monitoring are recovered from the consent holder on a reasonable and actual basis.

9 Recommended Decision

I recommend that in accordance with s104B resource consent application 116508 be granted in accordance with the duration and conditions prescribed in the attached Resource Consent Certificate for the following reasons:

- The activity will have no more than minor actual or potential adverse effects on the environment
- The activity is not contrary to any relevant plans or policies
- The activity is consistent with the purpose and principles of the Resource Management Act 1991

Virginia Comer **Date**
Resource Officer, Rural Services Programme

10 Decision

That the resource consent application is granted in accordance with the above recommendations.

Mark Davenport **Date**
Programme Manager, Rural Services Programme

Acting under authority delegated subject to the provisions of the Resource Management Act 1991 which at the time of decision had not been revoked.

Bore Report

Construction Details

Bore Id:	72.3280		
Driller:	Boart Longyear Drillwell		
Date Completed:	18/12/2006		
Map Reference:	U18:723-774	**Accuracy:**	
Observed WQ:		**Geothermal:**	N
Casing:	Steel	**Screen:**	
Bore Depth:	272 m	**Bore Diameter:**	100 mm
Casing Depth:	238 m	**Casing Diameter:**	100 mm
Screen Interval:	250 to 270 m	**Slot Size:**	
Purpose:	Construct two wells for test bore development purposes		
Comments:	Drillin method HQ Coring/mud rotary.Screen blank 238 - 250, then 250 - 270 screen.Bore cement grouted in.		

Sample Results

Sample	Date	Parameter	Result	Detection Limit
90970	21/12/2006 12:00:00 PM	Bore Drawdown (max) (pump test) Maximum Bore drawdown as determined by a proper pump test. Used by Located	14.68 m	
90970	21/12/2006 12:00:00 PM	Bore Pumping Rate (pump test) Bore Pumping Rate as determined by a proper pump test. Used by Located	185 m3/day	
90970	21/12/2006 12:00:00 PM	Hydraulic Conductivity Hydraulic conductivity. Used by Located.	.0012 m/day	
90970	21/12/2006 12:00:00 PM	No. of observation wells	2 count	0
90970	21/12/2006 12:00:00 PM	No. of reacting observation wells No. of reacting observation wells associated with tested well/bore	1 count	0
90970	21/12/2006 12:00:00 PM	Pump Test Recovery Duration (pump test) Bore or Well Pump Test Duration as determined by a proper pump test. Used by Located	.5 hours	0
90970	21/12/2006 12:00:00 PM	Pumping Test Duration (pump test) Bore or Well Pump Test Duration as determined by a proper pump test. Used by Located	24 hours	0
90970	21/12/2006 12:00:00 PM	Static Bore Water Level (pump test) The static bore or well water level as determined by a proper pump test. Used by Located	71.69 m	
90970	21/12/2006 12:00:00 PM	Transmissivity Bore/aquifer Transmissivity. Used by Located.	30 m2/day	

Sample Comments

Sample 90991: Sample taken by Caroline Meihac, Institute of Geological & Nuclear Sciences, Wairakei Research Centre, Privat Bag 2000, Taupo. Analysed by Hill Laboratories.

Stratigraphic Log

Depth (m)	Primary Lithology	Secondary Lithology	Description
0 - 0.1	Soil		Dark brown soil
0.1 - 2	Sands		Pale brown sand
2 - 18	Sands	Gravels	White pale grey sand and gravel
18 - 24	Sands	Gravels	Brown sands and gravels increasing charcoal fragments
24 - 44	Silt	Sands	Redisah brown sandy silt trace gravel
44 - 57	Silt	Sands	Pale brown sandy silt
57 - 60	Gravels		Pale brown gravel & cobbles
60 - 61	Sands		Light brown sand well sorted
61 - 80	Sands	Gravels	Reddish brown sand and fine gravel red clay matrix
80 - 100.3	Sands	Gravels	Brown sand gravel poorly sorted red clay matrix
100.3 - 101.6	Sands	Gravels	Brown sand gravel some clay redish grey clay
101.6 - 103.2	Sands	Gravels	Brown sands gravel fine to coarse sand, fine to coarse gravel
103.2 - 105.4	Mud	Silt	Dark brown silty mud
105.4 - 107.3	Sands	Gravels	Grey sand and gravel
107.3 - 107.5	Mud		Light greenish grey mud
107.5 - 107.8	Sands		Grey fine to coarse sand
107.8 - 109	Mud		Light greenish grey mud
109 - 112.5	Sands		Light greenish grey fine to medium sand
112.5 - 113.7	Sands	Gravels	Light greenish grey sand and gravel poorly sorted
113.7 - 114.5	Mudstone		Light greenish grey rhyolite clasts in mudstone
114.5 - 120	Mud	Silt	Light greenish grey fine silty mud weakly laminated
120 - 130.6	Mudstone	Pumice	Light greenish grey mudstone trace white pumice fragments
130.6 - 131	Sandstone		Light grey sandstone
131 - 140	Mudstone		Greyish green sandy mudstone
140 - 142.7	Mudstone	Sands	Mudstone with sand
142.7 - 143.5	Sands		White fine sand
143.5 - 148.3	Mudstone		Dark brown mudstone
148.3 - 149	Sands		Dark brown coarse sand poorly sorted
149 - 154.7	Sandstone		White and pale green sandstone and fine sand and silt
154.7 - 156.5	Mudstone		Dark brown mudstone
156.5 - 158.1	Sands		Black sand
158.1 - 159.7	Mudstone		Dark brown mudstone
159.7 - 161.4	Sands		Black sand
161.4 - 163.1	Mudstone		Dark brown mudstone 2cm white pumice
163.1 - 164.3	Mudstone		Greenish brown mudstone
164.3 - 168	Sands		Black fine sands well sorted
168 - 168.9	Sandstone	Mudstone	Light brown fine to medium sandstone mudstone bottom 0.1m
168.9 - 179.6	Sands		Black sand becoming muddy at 175.5 m
179.6 - 191.6	Mudstone		Dark brown mudstone
191.6 - 196	Sands	Mudstone	Black sands fine 0.4 thick laminated mudstone 194.2m
196 - 198.8	Mudstone		Dark brown mudstone
198.8 - 200	Mudstone	Sands	Dark brown sandy mudstone
200 - 202.7	Mudstone		Dark brown mudstone
202.7 - 203	Sands		Fine sand
203 - 218.4	Mudstone		Mudstone
218.4 - 218.6	Sands		Fine sand
218.6 - 220	Mudstone		Mudstone
220 - 231.2	Mudstone		Dark brown mudstone black organics
231.2 - 232.2	Sandstone		Greenish grey med to coarse sandstone
232.2 - 238	Mudstone	Sands	Greenish grey mudstone white fine sands
238 - 239.8	Mudstone	Sands	Dark olive grey mudstone with several thin fine to coarse sand seams
239.8 - 241	Sands	Silt	Grey fine to coarse silty sand
241 - 242	Sands	Clay	Grey clayey sand
242 - 243	Mudstone		Dark olive grey mudstone
243 - 245	Mudstone	Sands	Dark olive grey mudstone trace sand
245 - 245.5	Sands	Silt	Grey clayey silty sand
245.5 - 250	Sands	Silt	Light grey silty sand trace clay
250 - 251	Sands	Gravels	Light grey becoming light olive grey poorly sorted sand with silt and gravel
251 - 253.5	Sands	Silt	Light olive grey to light grey poorly sorted

Sample Results

Sample	Date	Parameter	Result	Detection Limit
90991	21/12/2006 12:00:00 PM	Alkalinity Total Potentiometric autotitration to pH 4.5. APHA 2320B.	65 g/m3-CaCO3	1
90991	21/12/2006 12:00:00 PM	Aluminium Dissolved Filtered, ICP-MS APHA 3125B	<.003 g/m3	0.0006
90991	21/12/2006 12:00:00 PM	Ammoniacal Nitrogen Filtered Sample. Colorimetry, Phenolhypochlorite. Discrete Analyser. APHA Method 4500-NH3 F (modified from manual analysis) (NH4-N = NH4-N + NH3-N).	.53 g/m3-N	0.01
90991	21/12/2006 12:00:00 PM	Arsenic Dissolved Filtered, ICP-MS APHA 3125B	.031 g/m3	0.001
90991	21/12/2006 12:00:00 PM	Bicarbonate Bicarbonate Calculation from alkalinity & pH (APHA 1989.Method 4500-CO2D)	78 g/m3-HCO3	1
90991	21/12/2006 12:00:00 PM	Boron Dissolved Filtered, ICP-OES	.013 g/m3	0.005
90991	21/12/2006 12:00:00 PM	Calcium Dissolved Filtered, ICP-MS. APHA Method 3125B.	12 g/m3	0.05
90991	21/12/2006 12:00:00 PM	Chloride Dissolved Filtered Sample.Ferric thiocyanide colorimetry. Discrete Analyser. APHA 4110 - CL E (modified from continuous flow analysis).	4.4 g/m3	0.5
90991	21/12/2006 12:00:00 PM	Conductivity - Lab Meter Measured in lab by meter @ 25"C. APHA Method 2510B	16.3 mS/m @25"C	0.1
90991	21/12/2006 12:00:00 PM	Copper Dissolved Filtered, ICP-MS APHA 3125B	<.0005 g/m3	0.0002
90991	21/12/2006 12:00:00 PM	Iron Dissolved Filtered, ICP-MS APHA 3125B	.22 g/m3	0.005
90991	21/12/2006 12:00:00 PM	Magnesium Dissolved Filtered, ICP-MS.APHA Method 3125B.	1.84 g/m3	0.02
90991	21/12/2006 12:00:00 PM	Manganese Dissolved Filtered, ICP-MS APHA 3125B	.908 g/m3	0.0002
90991	21/12/2006 12:00:00 PM	Nitrate Nitrogen Calculation Calculation: (Nitrate-N + Nitrite-N) - Nitrite-N.	<.002 g/m3-N	0.002
90991	21/12/2006 12:00:00 PM	Nitrate+Nitrite Nitrogen FIA Total Oxidised Nitrogen. Automated cadmium reduction, flow injection analyser. APHA 4500 NO3 I (proposed). NO2 plus NO3.	<.002 g/m3-N	0.002
90991	21/12/2006 12:00:00 PM	Nitrite Nitrogen FIA Automated azo dye colorimetry. Segmented flow analyser. APHA 4500-NO2 I.	<.002 g/m3-N	0.002
90991	21/12/2006 12:00:00 PM	Potassium Dissolved Filtered, ICP-MS. APHA Method 3125B.	.55 g/m3	0.05
90991	21/12/2006 12:00:00 PM	Sodium Dissolved Filtered, ICP-MS. APHA Method 3125B.	16.2 g/m3	0.02
90991	21/12/2006 12:00:00 PM	Sulphate Dissolved Filtered sample.Ion chromotography APHA 4110B	11.4 g/m3	0.2
90991	21/12/2006 12:00:00 PM	Total Non Purgeable Organic Carbon Acidification, purging to remove inorganic C, catalytic oxidation, IR detection. APHA 5310 B (modified).	3.7 g/m3	0.3
90991	21/12/2006 12:00:00 PM	Total Kjeldahl Nitrogen Sulphuric Acid digestion with copper sulphate catalyst, phenol/hypochlorite colorimetry (discrete analyser). APHA 4500-Norg C (modified), 4500-NH3 F.	.6 g/m3-N	0.05
90991	21/12/2006 12:00:00 PM	Total Nitrogen - Sum TKN + NO2 + NO3 Calculation: TKN + NO2 + NO3	.6 g/m3-N	0.05
90991	21/12/2006 12:00:00 PM	Total Phosphorus Acid Persulphate digestion, ascorbic acid colorimetry. Discrete analyser. APHA 4500-P E (modified from manual analysis).	.297 g/m3-P	0.004
90991	21/12/2006 12:00:00 PM	Turbidity - HACH 2100N Nephelometry. Hach 2100N meter. APHA Method 2130B	.23 NTU	0.05
90991	21/12/2006 12:00:00 PM	Zinc Dissolved Filtered, ICP-MS APHA 3125B	.007 g/m3	0.0005
90991	21/12/2006 12:00:00 PM	pH - Lab Meter Measured in lab by meter. APHA Method 4500-H+ B.	8 pH	1

Resource Consent Certificate

Resource Consent: 116508

Consent Type: Water permit

Consent Subtype: Ground water take

Pursuant to the Resource Management Act 1991, the Waikato Regional Council hereby grants consent to:

Tukairangi Valley Properties Ltd
C/O Truebridge Callender Beach
P O Box 1349
TAUPO 2730

(hereinafter referred to as the Consent Holder)

Activity authorised: Take up to 233.89 cubic metres per day of groundwater (at a rate of up to 4 L/s) for rural community domestic and stockwatering purposes in association with a rural subdivision (97 lots)

Location: Tukairangi Rd - Taupo

Map Reference: NZMS 260 U18:723-774

Consent Duration: This consent will commence on the date of decision notification and expire on 1 July 2031

Subject to the conditions overleaf:

1) The abstraction of groundwater shall be performed as specified in the resource consent conditions below and in accordance with the application for this resource consent lodged 18 May 2007 and any documentation supporting the application.

2) This resource consent is granted by the Waikato Regional Council subject to its officers or agents being permitted access to the property at all reasonable times for the purpose of carrying out inspections, surveys, investigations, tests, measurements or taking samples.

Operational Limits

3) The maximum volume of water taken from the production well (no. 72.3280, map reference U18: 723-774) shall not exceed **233.89 cubic metres in any 24 hour period**.

4) The maximum rate of abstraction shall not exceed **4.0 litres per second**.

Metering, Monitoring and Reporting

5) A water measuring device shall be installed to record the quantity of water taken on a cumulative basis from the production well (no. 72_3280). The meter shall have a reliable calibration to water flow which shall be maintained to an accuracy of +/- 5%. Access to the meter shall be provided to Waikato Regional Council staff at all reasonable times.

6) Calibration of the water measuring device shall be undertaken by the consent holder, at the request of Waikato Regional Council, if during the term of this consent the accuracy is determined to be less than that required by condition 5. The calibration shall be undertaken by an independent qualified person and evidence documenting the calibration shall be forwarded to the Waikato Regional Council within one month of the calibration being completed.

7) The consent holder shall maintain a record of:
   - weekly pumping hours (the actual number and period of hours over which water was taken), and
   - weekly water usage (total weekly volume).

   These records shall be made available to the Waikato Regional Council at all reasonable times. These records shall be forwarded to the Waikato Regional Council by 1 June for each year that the consent is current.

8) The consent holder shall provide to the Waikato Regional Council an 'as built' plan of the water measuring device prior to the exercise of this consent.

9) Electronic metering equipment shall be installed to record water use if directed by the Waikato Regional Council if record keeping is not undertaken as required by condition 7 of this resource consent.

10) The consent holder shall measure and record the water level of the deep oberservation bore (no. 72_3279, map reference U18:723-774) on a monthly basis. These records shall be made available at all reasonable times and each year these records shall be forwarded to the Waikato Regional Council by 1 June for each year that the consent is current.

11) Access to the bore to perform pumping tests, and for the measurement of static water levels and water quality sampling, shall be provided to the staff and agents of the Waikato Regional Council at all times.

Review

12) The Waikato Regional Council may in the three month period from July to September in 2010 and 2014, serve notice on the consent holder under section 128 (1) of the Resource Management Act 1991, of its intention to review the conditions of this resource consent for the following purposes:

- to review the effectiveness of the conditions of this resource consent in avoiding or mitigating any adverse effects on the environment from the exercise of this resource consent and if necessary to avoid, remedy or mitigate such effects by way of further or amended conditions; or
- to review the adequacy of and the necessity for monitoring undertaken by the consent holder; or
- to take into account any changes to the Waikato Regional Council's plans or policies.

Note: Costs associated with any review of the conditions of this resource consent will be recovered from the consent holder in accordance with the provisions of section 36 of the Resource Management Act 1991.

Administration

13) The consent holder shall pay to the Waikato Regional Council any administrative charge fixed in accordance with section 36 of the Resource Management Act 1991, or any charge prescribed in accordance with regulations made under section 360 of the Resource Management Act.

For and on behalf of the
Waikato Regional Council

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Advice notes

Regulatory Advice Notes

1) In accordance with section 125 RMA, this consent shall lapse five (5) years after the date on which it was granted unless it has been given effect to before the end of that period.
2) Where a resource consent has been issued in relation to any type of construction (e.g. dam, bridge, jetty) this consent does not constitute authority to build and it may be necessary to apply for a Building Consent from the relevant territorial authority.
3) This resource consent does not give any right of access over private or public property. Arrangements for access must be made between the consent holder and the property owner.
4) This resource consent is transferable to another owner or occupier of the land concerned, upon application, on the same conditions and for the same use as originally granted (s.134-137 RMA).
5) The consent holder may apply to change the conditions of the resource consent under s.127 RMA.
6) The reasonable costs incurred by Waikato Regional Council arising from supervision and monitoring of this/these consents will be charged to the consent holder. This may include but not be limited to routine inspection of the site by Waikato Regional Council officers or agents, liaison with the consent holder, responding to complaints or enquiries relating to the site, and review and assessment of compliance with the conditions of consents.

Technical Advice Notes

7) Water meter installation

   Fittings required on well headworks such as water meters require straight lengths of pipe either side in order to function properly. Please refer to the manufacturer's specifications for the specific dimensions necessary for each device before any modifications are made to the well headworks.

8) Water Level Monitoring

   Where water level monitoring is required, the measurements of water level should be taken when water level is static preferably before pumping occurs. A good test of this is to take three replicate measurements over ten minutes and if there is no change the level is static.