

1/10/2021

Sage Planning

By email: Janeen Kydd-Smith <janeen@sageplanning.co.nz>

Dear Janeen

**RE: TRANCHE 2 WATER PERMIT APPLICATIONS**

Thank you for providing the updated Tranche 2 application documents. An updated AEE was provided to us on 23 August 2021. This contains a series of technical reports, including the following:

- Aqualinc 2021 Groundwater Modelling Report
- Wetlands and surface Water effects Assessment
- Well Interference Assessment Report
- Shallow Groundwater Bores Assessment

The AEE also contains a set of proposed consent conditions.

We have previously been provided with a copy of Aqualinc's draft modelling report and our technical peer reviewers (PDP) have provided feedback on this. We have had PDP review the technical reports provided with the AEE, and their comments are attached in full for your reference.

This letter is to update you on the further information requirements, the consent process and likely costs associated with this.

**Summary**

The proposal involves abstraction of a relatively large volume of groundwater from the Ruataniwha Basin. While the modelling is helpful for understanding the effects on river flows resulting from abstraction and augmentation, it is not as useful for estimating effects occurring inside the Basin. There remains significant uncertainty over the scale of residual adverse effects resulting from Tranche 2 abstraction. We have concerns over the potential scale of adverse effects on wetlands, streams and wells across the Basin, but particularly in areas where there is already significant Tranche 1 abstraction occurring. We also still have concerns about how the Tranche 2 proposal will work in extreme years (worse than a 1 in 10 year event) and the scale of effects in these years when augmentation may not be able to continue. Furthermore, we have concerns over the impacts on water quality from farm system changes as a result of irrigation and note that a number of the properties are located in catchments where the instream nitrogen target is already significantly exceeded. Land use consent is already required for these properties and would not likely be granted to allow for any increase in nitrogen loss. We note that for dairy farms wishing to expand irrigation, land use and discharge consents are required under the NES FW and that a consent cannot be granted unless they are able to demonstrate that expansion will not lead to any increase in load or concentrations of contaminants in the catchment.

These matters are expanded on below and in the PDP memo.

**Further information**

The PDP review of the technical information provided is attached in full for your reference. The review considers each application specifically, and then considers some general matters. Questions from the PDP review on individual applications, and additional information that has been identified for each individual application are included in the table attached to this letter.

PDP consider that there are shortcomings in the methodology applied to the drawdown interference and wetland assessments. Ecological values are not considered in potentially affected waterways and in their view, assessments should be undertaken for these effects based on site specific testing. Specifically, for wetlands, PDP also note the simulated drawdown effects do not align with the main areas of abstraction, and that further explanation for this could be provided. PDP also noted that inaccurate estimates of well interference effects is likely to have occurred, and appropriate consideration of seasonal variation and cumulative drawdown effects has not been had.

### **Further applications**

Production land use (PLU) consents are already required for farms located within the Kahahakuri and Mangaonuku sub catchments. We consider that the best approach is to ensure that all applications that are required for the farm as it will operate with the extra Tranche 2 water are lodged and considered through the same process. This would also provide certainty that Tranche 2 consents, if issued, are able to exercised as proposed. This means that if a farm requires a PLU consent, an application specific to the farm system with Tranche 2 irrigation should be lodged so that it can be considered at the same time as the Tranche 2 application.

An exception to this would be if the PLU consent for the farm has been applied for (or obtained) and it can demonstrated that the use of Tranche 2 water will not change the farm system as set out in the application and associated Farm Environment Management Plan (FEMP). An example of this could be that the Tranche 2 water is only going to be used when surface water bans occur, and there will be no change in the stocking numbers or farming practices described in the FEMP.

There is information available on our website about the information requirements for PLU applications ([www.hbrc.govt.nz](http://www.hbrc.govt.nz) search: #tukituki).

The National Environmental Standards for Freshwater (NES-F) came into force in September last year. These have introduced other requirements for consent including for water takes and discharges within 100m of wetlands, and for agricultural intensification, including expansion of irrigation on dairy farms. For certainty and completeness, we will require that applications are lodged for any consents that are known to now be required under the NES-F.

The government recently released its response to a review of Overseer by an independent Science Advisory Panel (SAP)<sup>1</sup>. The SAP review and the Government's response to this have called into question the reliability of Overseer as an N-loss modelling tool, including its ability to adequately predict the impact of changes to practices on farms. This will impact on the information that is required to support land use and agricultural intensification consent applications.

### **Consent process**

We have requested further information and further applications under s92 and 91 of the RMA (see Appendix 1). In accordance with s92A, you must either provide the information with 15 working days, confirm that the information will be provided and suggest a date for this, or refuse to provide the information.

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<sup>1</sup> MFE, August 2021: 'Government response to the findings of the Overseer peer review report'.

<https://environment.govt.nz/publications/government-response-to-the-findings-of-the-overseer-peer-review-report/>



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As described in this letter, we have undertaken an assessment of the information available to date and acknowledge that additional information has been requested which will be considered before a decision on notification is made. We also need to consider the need for public notification due to special circumstances as required by s95A.

## **Costs**

An updated interim invoice will be sent to each applicant in the near future for the costs incurred for each application to date, minus any deposits or previous payments. The cost of processing these applications is expected to be relatively high because of their complexity and scale, and need for a high level of technical input. We will split costs that have been incurred to date working on the group of applications evenly across the group. Some applications, such as those that were lodged earlier and prior to the formation of the group have incurred additional costs based on work undertaken specifically on those individual applications.

The cost of processing the consent applications varies considerably. If public notification is required, costs will likely be significant, with costs for each individual notified applications often falling within the range of \$25,000 to \$50,000, depending mainly on the number and scope of any opposing submissions. In this case some cost efficiencies are expected to be gained by proceeding as a group.

We will be able to provide more accurate estimates of the likely cost after a decision on notification is made. Additional deposits are required for each application prior to notification and prior to a hearing (if required).

It would be worth meeting to discuss further once you have considered the above.

Yours faithfully



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**Appendix 1 – comments and questions on individual applications (\* indicates a request under s92 of the RMA. ^ indicates a request under s91 of the RMA).**

Applicant	App number	Comment	Information requirement
Te Awahohonu Forest Trust	APP-123563	<p>Land use – APP-126691 is lodged because the farm exceeds its individual LUC limit (based on Overseer modelling) and because the farm is located in the Mangaonuku sub-catchment. The Mangaonuku sub-catchment exceeds the instream DIN target.</p> <p>The FEMP indicates that addition of irrigation will reduce the area of winter grazing and reduce N loss.</p>	<p>Apply for a separate production land use consent with FEMP taking into account use of Tranche 2 water. As part of this application, provide additional information that demonstrates how irrigation will affect N loss^.</p> <p>Drawdown effects on shallow groundwater will likely increase rates of loss of flow and prolong the length of time that they are dry and length of reach that is dry. This effect is not assessed. Provide a site specific assessment of effects on the stream*.</p>
Springhill Dairy Partnership	APP-123991	<p>90%ile indicates 3.4 million m3/yr for 702 ha. Irrigation sought is approx. 600,000 m3/year, and the existing consent provides 3.02 million m3/yr for 680 ha irrigation area. The FEMP for the farm indicates a current irrigation area of 586.4 ha.</p> <p>The Tranche 2 proposal would see irrigation area increase by 115 ha.</p> <p>In accordance with Regulations 21 and 24 of the NES-FW, consent is required for expansion of irrigation on a dairy farm. Consent can only be granted if the consent authority is satisfied that the activity will not increase contaminant loads or concentrations in the catchment (compared to those as of 2 Sept 2020).</p> <p>The farm exceeds its individual LUC limit (based on previous Overseer modelling). It is also located in the Waipawa and Mangaonuku sub-catchments. The Mangaonuku exceeds the</p>	<p>Provide clear plan showing the current irrigated and proposed irrigated areas*.</p> <p>Demonstrate a reasonable need for the water, taking into account the water available under WP140564T*.</p> <p>Apply for consent under NES FW, or confirm that the additional irrigation area will not be dairy farm land. Apply for a separate production land use consent with FEMP taking into account use of Tranche 2 water. Provide information that demonstrates how irrigation will affect N loss^.</p> <p>There is a wetland close to well no. 4593 (&lt;150 m). The effects on this wetland are not assessed. The extent of the wetland should be checked to ensure that the water take or discharge will not occur within 100 m of the wetland. Effects on nearby wetlands considered 'negligible' but insufficient evidence provided to support this. Provide additional information assessing the effect on wetlands in this area*.</p>



		instream DIN target. An application has been lodged for PLU consent, but this does not take into account Tranche 2 water use.	
Tukituki Awa Ltd	APP-123541	<p>Have applied for 822,800 m<sup>3</sup>/yr of water for irrigation. The 90%ile figure is 612,000 m<sup>3</sup>/yr for 136 ha of pasture. Some water is likely to be available each year from the existing surface water consent.</p> <p>Current irrigation is estimated at 122 ha. The farm is partly located in the Tukipo sub-catchment, which exceeds its instream DIN target.</p>	<p>The AEE indicates that 952,400 m<sup>3</sup>/yr has been applied for. This comprises of 882,800 m<sup>3</sup>/yr for irrigation and 129,600 m<sup>3</sup>/yr for augmentation. The Aqualinc report indicates an augmentation volume of 29,600 m<sup>3</sup>/yr and a total requirement under Scenario 4 of 707,700 m<sup>3</sup>/yr. It indicates that if only used to provide security during low flow periods, based on past patterns, only 258,400 m<sup>3</sup> is required. As the volume sought significantly exceeds the 90%ile estimate, demonstrate a reasonable need for the water, also taking into account the water that is available under the existing surface water consent*.</p> <p>As the expansion in irrigation area of dairy farm land will exceed 10 ha, Regulations 21 and 24 of the NES-FW apply. Apply for consent under NES FW and demonstrate the effect of increased irrigation on N loss<sup>^</sup>. Or confirm that the irrigation area will not increase*.</p> <p>As the Tukipo sub-catchment exceeds its DIN target, apply for production land use consent with FEMP taking into account use of Tranche 2 water. As part of this application provide information that demonstrates how irrigation will affect N loss<sup>^</sup>.</p>
Plantation Rd Dairies Ltd	APP-123547	<p>Have sought 2.4 million m<sup>3</sup>/yr for irrigation. This is to irrigate 459 ha of pasture, with potential change to horticultural crops over 5 – 10 yrs.</p> <p>The existing consents for the farm provide for significant volumes of surface and ground water to irrigate an existing irrigation area of 415 ha (according to the FEMP for the property).</p> <p>It appears that the proposed area and existing area overlap by approximately 144 ha. The new area totals approximately 315 ha. At a 90%ile demand of 600 mm/yr, this new area would require 1.89 million m<sup>3</sup>.</p>	<p>Provide an accurate plan showing existing irrigation areas and new/proposed irrigation areas*.</p> <p>Demonstrate a reasonable need for the water, taking into account the water available under the existing groundwater surface water consent*.</p> <p>Confirm use of the proposed new irrigation area*. Regulations 21 and 24 of the NES-FW may apply. Apply for consent under NES FW and demonstrate the effects of increased irrigation on N loss<sup>^</sup>.</p>



		The farm is in the Waipawa and Kahahakuri sub-catchments. The Kahahakuri significantly exceeds the instream DIN target set by the plan. An application for PLU consent not yet lodged.	Interference effects may be underestimated and are potentially large. Effects on local streams and wetlands considered 'negligible' but insufficient evidence provided to support this*.  Apply for production land use consent with FEMP taking into account use of Tranche 2 water. As part of this application provide information that demonstrates how irrigation will affect N loss^.  Augmentation directly adjacent to the augmentation bore may not be feasible. Consider and assess how effectively the discharge will augment flows in the Kahahakuri Stream*.
Papawai Partnership	APP-123565 APP-124498	This farm is located entirely within the Waipawa sub-catchment, which does not exceed the DIN limit. The farm exceeds its LUC limit based on Overseer modelling.  The 90%ile water requirement is 1.8 million m <sup>3</sup> /yr for 320 ha of pasture and crops. The current groundwater consent provides 557,212 m <sup>3</sup> /yr for irrigation of 320 ha. The total sought for irrigation across the two applications is 1.01 million m <sup>3</sup> /yr.  The FEMP and application already cover the full irrigation area. An update to the FEMP will be required to review best practices across the irrigated block if more water is available (e.g soil moisture monitoring should be required).	Augmentation through a shallow bore 600 m from the river may not be feasible or may cause mounding effects. Consider and assess how effectively the discharge will augment flows in the Waipawa River*.  Interference effects may be underestimated. Effects on local streams and wetlands considered 'negligible' but insufficient evidence provided to support this. A specific assessment of effects on local wetlands should be provided*.
I&P Farming Limited	APP-123566 APP-124500	Have sought a total of 916,00 m <sup>3</sup> /yr for irrigation. The estimated 90%ile volume is 913,000 m <sup>3</sup> /yr for irrigation of 184 ha of pasture.  Located in the Upper Tukituki and Kahahakuri sub-catchments. Have already applied for a land use consent (APP-125282) for current farm. An Overseer scenario provided with this application based on irrigation of crops shows an increase in N loss from ~18kgN/ha/yr to 30 kgN/ha/yr, but this is based on Overseer modelling only.	Apply for separate production land use consent with FEMP taking into account use of Tranche 2 water. As part of this application provide information that demonstrates how irrigation will affect N loss^.  Interference effects may be underestimated. Effects on local streams and wetlands considered 'no more than minor' but insufficient evidence provided to support this. Undertake a site specific well interference drawdown assessment*.
Purunui Trust	APP-125281	Have applied for 1,050,000 m <sup>3</sup> /yr to irrigate 175 ha of pasture. The estimated 90%ile volume is 1,050,000 m <sup>3</sup> /yr.	Confirm that the property will not be used as dairy or dairy support, as defined by NES FW*. If it will be used for dairy support, confirm current



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		<p>Currently leased by Plantation Rd Dairies. No separate FEMP or application provided for land use.</p> <p>Located in Kahahakuri sub-catchment, which exceeds the DIN target.</p>	<p>and proposed areas of dairy support land, noting that consent may be required if it has not previously been used for this purpose in the reference period under Regulation 23.</p> <p>Provide information that demonstrates how irrigation will affect N loss. Apply for production land use consent with FEMP taking into account use of Tranche 2 water<sup>^</sup>.</p> <p>Interference effects may be underestimated. Effects on local streams and wetlands considered 'negligible' but insufficient evidence provided to support this. A specific assessment of effects on local wetlands should be provided*.</p>
Buchanan Trust	APP-123456	<p>Have applied for 915,894 m<sup>3</sup>/yr to irrigate 153 ha of pasture and crops. The estimated 90%ile volume is 918,420 m<sup>3</sup>/yr.</p> <p>The farm is located in the Kahahakuri sub-catchment. An application for land use consent is not yet lodged but an updated FEMP has been submitted.</p> <p>An existing consent is held for irrigation (AUTH-121586-02) to irrigate 69 ha of crops and pasture. It authorises abstraction of 218,420 m<sup>3</sup>/yr. The proposed irrigation area overlaps with the existing area.</p>	<p>Provide an accurate plan showing existing irrigation areas and new/proposed irrigation areas*.</p> <p>Demonstrate a reasonable need for the water, taking into account the water available under the existing groundwater consent*.</p> <p>Apply for production land use consent with FEMP taking into account use of Tranche 2 water. As part of this application provide information that demonstrates how irrigation will affect N loss<sup>^</sup>.</p> <p>Interference effects may be underestimated, and effects may be large. A site-specific interference assessment should be provided. The assessment considers effects on shallow water table and wetlands as 'negligible'. There may be wetlands in this area and effects on them should be specifically considered*.</p>



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