

**BEFORE INDEPENDENT HEARING COMMISSIONERS
AT NAPIER AND WAIPAWA**

**I MUA NGĀ KAIKŌMIHANA WHAKAWĀ MOTUHAKE
KI AHURIRI & WAIPAWA**

**IN THE MATTER
AND**

of the Resource Management Act 1991

IN THE MATTER

**of the hearing of submissions on applications for
take and use of Tranche 2 groundwater, Ruataniwha
Basin**

**STATEMENT OF SUPPLEMENTARY EVIDENCE OF GERARD MATTHEW WILLIS
ON BEHALF OF TRANCHE 2 APPLICANTS**

(PLANNING)

14 NOVEMBER 2022

RICHMOND
CHAMBERS

Counsel Instructed
B J Matheson
Richmond Chambers
PO Box 1008
Shortland Street
Auckland 1140
E. matheson@richmondchambers.co.nz

1. INTRODUCTION

1.1 My full name is Gerard Matthew Willis.

1.2 I have the qualifications and experience set out in my statement of primary evidence dated 31 October 2022.

Code of Conduct

1.3 Although this is a Council hearing, I have read the Environment Court's Code of Conduct and agree to comply with it. My qualifications as an expert are set out above. I confirm that the issues addressed in this statement of evidence are within my area of expertise.

Scope of Evidence

1.4 My supplementary evidence responds to the Supplementary 42A Report prepared by Mr Paul Barrett dated 4 November 2022 (**Supplementary Report**) and to technical submitter evidence received on the same date. It addresses:

- (a) The outstanding differences in planning opinion between myself and Mr Barrett.
- (b) A review of the critical planning provisions in relation to the outstanding issues and differences.
- (c) Proposed amendments to draft conditions of consent attached to my primary evidence to better address the matters raised by Mr Barrett with which I agree.

2. GENERAL CONCERNS

Uncertainty

2.1 I understand from the Supplementary Report that Mr Barrett continues to be concerned about the uncertainty as to whether certain effects may or may not occur. I note that in several places he refers to effects that 'could occur'. I understand the point that Mr Barrett makes, but when implementing a planning mechanism such as is provided for by Rule TT4 of the Hawke's Bay Regional

Resource Management Plan (**HBRMP**), an element of uncertainty is inevitable. The questions ought to be:

- (a) whether sufficient assessment work has been done to minimise uncertainty;
- (b) whether the risk associated with any uncertainty can be managed so that the risk is borne by the consent holder rather than to, in this case, the health of water bodies;
- (c) whether mechanisms can be put in place to enable Council to understand and respond to any unanticipated effects; and
- (d) whether unanticipated effects, should they occur, be reversible.

2.2 In response to those questions, I consider that the assessment work undertaken by the applicants is as much as is reasonably practicable for the applicants to undertake given the provision for the Tranche 2 allocation in the planning framework and the discretionary activity consent status. I have proposed conditions that require that the consent holders prepare a “a small stream monitoring plan” and a separate “groundwater review plan” that will assess impacts on stream levels and report twice over the duration of the consent on the concurrence between predicted (modelled) and measured groundwater level change. My expectation is that this would provide Council with the information it would need to review the consents under section 128-132 of the Act should that be necessary, and I have proposed an amendment to the proposed review condition to make this linkage clear. Mr Weir has confirmed that the hydraulic impacts of the Tranche 2 takes are reversible. I am also advised by Dr Keesing that any unanticipated effects on ecological health (such as greater than expected stream drying) would be reversible upon cessation or reduction of the Tranche 2 takes.

2.3 Perhaps most importantly, however, I have sought to design various consent conditions that make the taking of Tranche 2 water conditional on the consent holder demonstrating that current uncertainties do not present risk to water or to other existing water users. These include, for example:

- (a) A requirement to chemically test and have approved augmentation water prior to discharge (and therefore prior to being able to take water for irrigation). The consent holder would face the risk of drilling for augmentation water but not being able to use it because of the contaminant concentration. (Water Use Permit proposed **Conditions 13 and 14**).
- (b) A requirement to demonstrate the efficacy of the augmentation discharge in terms of making any discharge to shallow wells subject to testing by a suitably qualified expert and confirmation as to the connection to surface water. (Water Use Permit proposed **Conditions 13 and 14**).
- (c) A requirement that any discharge to an ephemeral or intermittent reach of a stream needs to be subject to an assessment by a suitably qualified person of any adverse ecological effects that might be expected to result from the discharge and any methods or practices (including alternative discharge locations) recommended by that person to minimise those adverse effects. Council would retain control of this (and the matters raised in (a) and (b) above) through certification of an 'augmentation discharge management plan'. (Water Use Permit proposed **Conditions 13 and 14**).
- (d) A requirement to address well interference beyond the 20% reduction in available head of any existing efficient well. Under the conditions, in the event of specified parameters being exceeded during the pump tests, I propose the consent holder will need to come to some arrangement with any such affected well owners before being able to take Tranche 2 water. (To the extent that these arrangements include management measures, for example limitations on the rate or timing of take, then these must be advised to Council and must be complied with for the duration of the consent.) Further, any risk to owners of domestic wells (whether efficient or inefficient) is proposed to be mitigated by a one-off payment to listed domestic well owners to enable installation of water tanks or potentially other measures such

as upgrading their pump or deepening the well. (Water take permit proposed **Conditions 5-14**).

- 2.4 These and other risk management mechanisms are provided for in the revised set of conditions set out in **Appendix 1**.
- 2.5 On that basis, while I acknowledge an element of uncertainty to some aspects of the proposal, I do not consider that itself justifies refusing the consent applications. To do so would, in my opinion, be to impose an approach to the implementation of Rule TT4 that is unrealistic and unreasonable given the inherent nature of groundwater management, the novel (and hence unavoidably uncertain) surface water augmentation mitigation requirement, and the risk management mechanisms proposed through the proposed conditions.

Reliance on management plans for future approval

- 2.6 The Supplementary Report notes a concern about relying too heavily on plans for future approval and that for these to work the key requirements that determine whether something is acceptable or not should be clearly defined.
- 2.7 In principle, I agree with the point made by Mr Barrett. I have sought to introduce further clarity into the conditions (for example by making clear that the 20% reduction in available head is the threshold of acceptable draw down effect). However, in some cases it is not possible to provide that clarity in the condition because relevant information is not available until, for example, augmentation and (receiving water) is tested. Some of the applicants, understandably, have not yet invested the considerable cost in drilling wells to access Tranche 2 water and will not do so until they know that consent will be forthcoming. Hence some detailed management requirements will have to be deferred to be managed through a management plan. That said, I would be happy to work with Council to refine conditions further so that any authority reserved with Council to determine whether a condition is satisfied can be made objectively, and so that such a decision would represent a “certification” rather than an approval.

2.8 I comment further in some of these issues in the sections that follow.

3. SPECIFIC OUTSTANDING ISSUES

3.1 At paragraph 8 of the Supplementary Report, Mr Barrett summarises the issues that remain outstanding following the exchange of evidence and expert conferencing. Broadly these relate to¹:

- (a) Adequacy/accuracy of the *well interference* assessment and the proposed means of mitigating effects.
- (b) Efficacy of *augmentation*.
- (c) Adverse effects on *small streams*.

3.2 I acknowledge that the issues summarised above reflect the advice from Council's technical advisers, Mr Thomas, Ms Lough, and Ms Drummond as set out in the PDP memo dated 4 November 2022 and broadly agree with Mr Barrett's summary of remaining contested points.

3.3 I do not review the technical evidence here. I understand that witnesses for the applicants will respond to the Council's latest technical advice at the hearing. I do, however, note several points in the following sections.

4. WELL INTERFERENCE

4.1 Further work has been undertaken by Ms Rabbitte for the applicants. This work identified 4 groups of potentially affected wells (where "affected" is defined as having a predicted reduction in available head of >20%):

- (a) Efficient wells within 2 km of any applicant's bore(s). Effects on this group will be assessed by pump testing at the time new wells are drilled or when existing wells are used for T2 water abstraction. Mitigation will be determined by private agreement between parties on the basis that the affected party will need to provide written

¹ I note that Mr Barrett also commented that the effects on cultural values remains a significant unknown at this stage.

approval when the impact exceeds 20% of available head. This provides the basis for side agreements to be negotiated. I have noted Mr Barrett's point that a side agreement to cease pumping in order to protect a well's head may not be possible if the take is for augmentation. I agree with that and that will limit the 'offer' that can be made by any Tranche 2 abstractor. The risk here though falls on the Tranche 2 abstractor, not the environment. (The effect on neighbouring wells may also be able to be addressed by other measures, such as the timing or rate of any takes, rather than a complete cessation.)

- (b) Efficient wells outside of the 2km radius as identified by modelling/use of the assessment methodology set out by Ms Rabbitte². To the extent that any disruption to reliability of supply to these wells can be readily addressed by enhancing infrastructure, owners of these wells will be eligible to a \$5000 dollars mitigation package (aimed at funding a submersible pump or storage tank, and possible well deepening). To extent that any well in this category is used to supply water for irrigation the pump/tank mitigation is unlikely to assist. That being the case, those affected wells would fall to be managed by private agreement as per the wells discussed in (a) above. To ensure that a very small exceedance does not trigger a disproportionate obligation (particularly when there is only a small existing available head), it is proposed that an additional trigger, being a 200mm available head reduction, apply to irrigation wells.
- (c) Inefficient wells critical to domestic water supply. Although Policies 28 and 77 of the HBRRMP only protect existing lawful 'efficient' takes, the applicants propose to offer mitigation (\$5000) to affected domestic wells even where they are inefficient.
- (d) Inefficient wells used for commercial purposes. These receive no policy protection by the HBRRMP and no mitigation is proposed.

² Including the 20% reduction in available head threshold.

- 4.2 The planning context for this approach to managing effects is provided by:
- (a) Policy 28 of the RPS which refers to ‘*significant*’ effects needing to be avoided, remedied or mitigated. Clearly that policy does not contemplate *no effects* on existing efficient groundwater takes; and
 - (b) Policy 77 of the Regional Plan which refers to efficient takes ‘*not being disadvantaged*’. Again, that policy wording does not suggest that groundwater takes must have no effect on available head³. I interpret that policy to say the level of impacts must not be so great as to impose unreasonable additional costs or operational constraints on the existing users.
- 4.3 I consider that the regime proposed above addresses the concerns expressed by Mr Barrett at paragraph 56 of the Supplementary Report.
- 4.4 I also have noted Mr Barrett’s concern that there is a remaining disagreement about the extent to which the full potential T1 take has been factored into the well assessment methodology. I understand the witnesses for the applicants consider that it is unrealistic to assume the full use of consented T1 water because many T1 consent holders are unable to access their full consented volumes. While I accept Mr Barrett’s concern about this matter, it seems to me that this uncertainty can be managed by further developing the monitoring conditions and enabling consent review, if necessary, based on that monitoring information. I discuss this matter further below.

Proposed solution to identified well interference issues and uncertainties

- 4.5 As indicated above, I consider that a modified version of the well interference conditions (**Attachment 1** – Water Take permit proposed conditions 5-14), plus an additional requirement for long term monitoring and reporting of water levels, will manage effects consistent with HBRRMP requirements.

³ There may be some difference here with the position of Mr Barrett who at paragraph 55 of the Supplementary report suggests that new takes should not ‘adversely affect’ existing efficient takes. I consider the language (ie. ‘disadvantaged’) used in POL 77 to be less absolute than that.

5. AUGMENTATION

Very dry years

- 5.1 At paragraph 20 of the Supplementary Report Mr Barrett discusses the issue (raised in the initial 42A report) regarding the ability of the Tranche 2 applicants to augment sufficiently in years that are drier than the 1 in 10-year season (as I understand it, that means that the augmentation volume may be exhausted before flows are restored above trigger levels, on average, once every ten years).
- 5.2 While that matter is not contested, I do not agree that augmentation needs to fully support flows under all infrequent and extreme seasons. It seems to me that, in terms of reliability of augmentation water (as for a take for any other purpose), a 'line must be drawn' somewhere. Currently it is drawn at the 1 in 10-year dry season. It could be drawn at the 1 in 20-year dry season or the 1 in 30-year dry season, but whatever level of reliability of used, there will still be seasons when augmentation volumes will be insufficient to extend over the full dry period. To apply a regime when there must be sufficient water whatever the dryness of the season would risk making the Tranche 2 allocation regime unworkable.
- 5.3 The HBRRMP does not specify what level of reliability must apply to the availability of augmentation water. POL TT8 refers to river flows needing to be augmented:
- “to maintain the relevant minimum flows specified in Table 5.9.3 commensurate to the scale and effect of the Tranche 2 groundwater take.”
- 5.4 I do not read that to suggest that the flows need to be maintained commensurate with the scale of drought or effect of climate change. I would also point out that, statistically over the 20-year (requested) life of the consent, augmentation volumes will be used up while low flows remain triggered in only 1 or 2 years. Mr Weir advises me that his modelling of the full 15Mm³ take indicates that over his 40-year modelling period there only 5 years and (on

average) 26 days in each of those 5 years when augmentation water may be used before low flows are restored⁴.

- 5.5 The reference to “commensurate” in Pol TT8 also supports an approach where there should be a degree of consistency as between the reliability of both the taking for irrigation and the discharge of augmentation. In other words, the augmentation should not “under” or “over” mitigate the situation that would otherwise exist without the Tranche 2 taking.
- 5.6 Providing greater security for supply for augmentation means making more water available for that purpose. There are very limited options to do that within the 13Mm³ cap now sought by the applicants. Essentially there would need to be a rebalancing between the irrigation volume and the augmentation volume. That would mean that the irrigation volume would be insufficient for crop water requirement with a 1 in 10-year reliability (as is provided for by Policy POL32 of the HBRRMP). The full augmentation volume would likely be needed once every ten years only. In the other nine years it would need to be essentially held in reserve – being consented for taking but unable to be used for irrigation and not needed for augmentation. That would in itself be inefficient when the flow benefit would accrue (on average) only once every ten years over a 4 week period).
- 5.7 For those reasons, and the other reasons set out in my primary evidence, I do not consider that providing security of augmentation for greater than 1 in ten years is necessary or appropriate.

Red Bridge

- 5.8 At paragraph 24 of the Supplementary Report, Mr Barrett expresses continued support for the use of a flow trigger site at Red Bridge (near the bottom of the Tukituki Catchment).

⁴ In one of those years, augmentation could not occur on only 1 day when it would have otherwise been needed. These numbers include using Red Bridge as a trigger site and are based on the full 15Mm³/yr take rather than the lesser 13Mm³/yr now sought for applicant use.

5.9 This matter is addressed in the evidence of Mr Weir. Based on that evidence it is not clear to me that including Red Bridge as a trigger is necessary or appropriate given:

- (a) the minimal difference it appears to make to low flows at Red Bridge;
- (b) the potential for flows between the Basin outlet and Red Bridge to be affected by downstream abstractors (rather than Tranche 2 abstractions); and
- (c) the potential for less water to be available for augmentation of within-Basin effects.

5.10 Nevertheless, I understand that the applicants have agreed to include the Red Bridge trigger and I have accordingly added it into the relevant conditions. To avoid the issue in (c) above, I understand that the proposal is to supply the additional augmentation water required by reducing the irrigation take volume. This will make a marginal difference to the ability to provide the 1 in ten year irrigation security of supply. Those reductions are not currently shown in the Attachment 1.

6. ADVERSE EFFECTS ON SMALL STREAMS

6.1 The Supplementary Report expresses the opinion that adverse effects on small streams remain likely. I do not think there is much doubt that the water levels in some small streams will decline and that the drying of some naturally ephemeral end intermittent streams may occur a little earlier and/or continue a little longer as a result of Tranche 2 takes. There are clearly technical issues about the magnitude of these changes, and whether such a change necessarily translates to an adverse ecological effect. I do not review those arguments here. From a planning perspective, a key issue is whether the plan anticipates changes in water levels in the Tukituki catchment.

6.2 My interpretation of the RMRRP provisions collectively (including POL 77), is that they anticipate and provide for the taking of groundwater in the Tukituki River catchment to result in some reduction of flows and levels in surface water.

6.3 In my opinion, those provisions are realistic in that sense that where there is high connectivity between groundwater and surface water it is not possible to take groundwater without having some impact on surface water flows. POL TT8 provides for Tranche 1 and Tranche 2 groundwater allocations and therefore some effect on surface water flows must be anticipated by the plan. The taking of the ‘tranche allocations’ is not conditional on there being no reduction in surface water flows. The planning question to be addressed is not whether there will be surface water flow reductions but whether those reductions would result in the significant values of those surface water bodies being maintained. In that regard the evidence of Dr Keesing is instructive.

7. IRRIGATED AREA

7.1 At paragraph 46 of the Supplementary Report Mr Barrett comments that “water use should be tied to a maximum irrigated area if expansion of the irrigation area and associated water demand beyond the modelled area makes a difference to the modelled assumptions”.

7.2 Mr Weir’s modelling was based on the irrigation of pasture being the plant with greatest seasonal water demand. However, as previously discussed, in reality most applicant farms plan to use some or all of the Tranche 2 water for irrigating crops of various types. This means the area irrigated may be larger than modelled by Mr Weir, while maintaining the same maximum seasonal water volume. Mr Allen’s evidence sets out those ‘likely case’ irrigated areas and that is shown in Table 3 of my primary evidence. My understanding is that the slightly larger area does not affect Mr Weir’s modelling assumptions. Nevertheless, I accept that it is common practice for the area to be irrigated to be controlled through the consenting framework in some fashion. I do not support placing a condition on the take/use consents given that the precise areas will depend on the area of irrigated crop (versus pasture) and the type of crops grown (which have variable water needs). While applicants have expressed a most likely case, there remains some uncertainty about the ultimate land use configurations at this point and I understand the applicants desire to maintain an element of flexibility.

7.3 For that reason, I propose that the irrigated area be recorded and limited through each property's mandatory Farm Environment Management Plan (required in accordance with Policy TT4 and Rule TT1 the HBRRMP). I have included a condition to that affect in Attachment 1 as Water Use Permit, Condition 3).

8. SUBMITTER EVIDENCE

8.1 I have reviewed the submitter evidence of Mr John Smith, Mr Gary Williams and Mr Shade Smith and Mr Maurice Black . To the extent that the matters raised by those experts are within my area of expertise I believe I have addressed the points raised either in my primary evidence or in this evidence.



Gerard Matthew Willis

15 November 2022



RESOURCE CONSENT

Water Permit (water take)

In accordance with the provisions of the Resource Management Act 1991 (**RMA**), and subject to the attached conditions, the Hawke's Bay Regional Council (the **Council**) grants a resource consent for a discretionary activity to take Tranche 2 groundwater to the persons set out in Schedule 1 (collectively referred to as the “**consent holder**”):

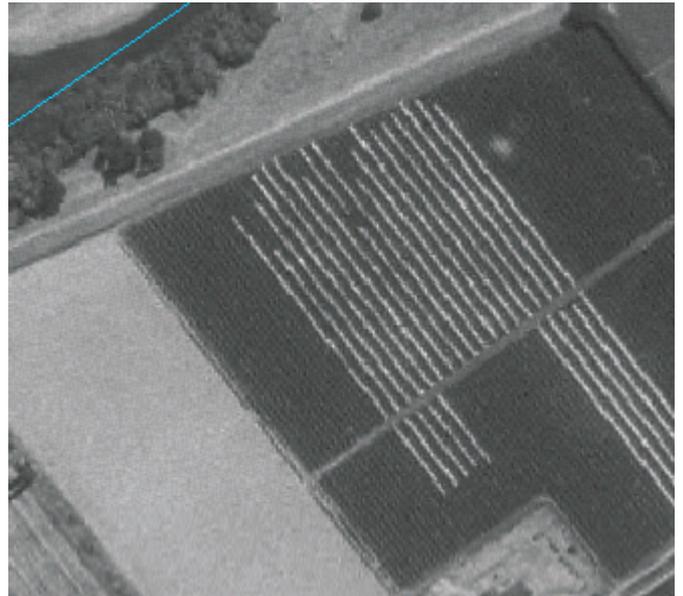
LOCATION

Address of site
[*address*]

Site Map (must be entered in Gismo!)

Legal description

Site of use: [*legal*]
and as illustrated on the Site Map adjacent



Lapsing of Consent

This consent shall lapse in accordance with section 125 of the RMA on [*date*] if it is not given effect to before that date.

CONSENT DURATION

This consent is granted for a period of 20 years commencing on 1 June [202X] and expiring on [*date*].

Malcolm Miller
Manager Consents
REGULATION GROUP

Under authority delegated by Hawke's Bay Regional Council
[Date]

Conditions

Location of take

1. The site of the take shall be from Well no(s) [insert] at map reference NZMG [easting / northing] and [legal description of sites of existing wells] or, if no suitable well currently exists, elsewhere on the landholdings described in Schedule 1.

Authorised rate of take and volumes

2. The volume and rate of take of Tranche 2 groundwater shall not exceed the following limits for each component landholding, provided that the volume of 15,000,000 m³ is subject to a requirement to transfer 2,006,541m³ to Manawhenua in accordance with condition 15 below:

Landholding	Rate of take of water to be used for irrigation (from all wells in combination) (L/s daily average)	Rate of take of water to be used for augmentation (from all wells in combination) (L/s daily average)	Total rate of take (from all wells in combination) (L/s daily average)	Total volume of take from all wells in combination within any 12-month consecutive calendar year (m ³)
Te Awahohonu Forest Trust	343	182	525	4,914,920
Papawai Partnership	127	41	168	1,475,517
Tuki Tuki Awa	95	30	125	952,400
Plantation Road Dairies	282	117	399	3,751,225
Springhill Dairies (formerly Ingleton Farms)	86	37	123	1,005,213
I & P Farming (formerly Abernethy Partnership)	116	25	141	1,200,010
Buchanan Trust No.2	92	31	123	1,145,794
Purunui Trust	43	16	59	554,921
Total	-	-	-	15,000,000

Restrictions on use

3. The consent holder shall only take Tranche 2 groundwater if, at the time of taking, the use of that groundwater is expressly authorised by the Council by way of water permit.
4. The taking of Tranche 2 groundwater for irrigation by Tuki Tuki Awa shall only occur when its existing surface water take (Consent No. WP XXX) is restricted due to low flow bans on the Tukituki River.

Mitigation of potential Well Interference effects

5. The consent holder is required to mitigate the potential well interference effects that may arise from the taking of the Tranche 2 water in accordance with the following conditions:
 - a. For all wells used predominantly for domestic supply – condition 8 (**Domestic Supply Wells**).
 - b. For all efficient wells within 2km of a Tranche 2 take used for stock water and/or irrigation – condition 11 (**Proximate Efficient Wells**);
 - c. For all efficient wells that are between 2km and 4km of a Tranche 2 take and that used for stock water and/or irrigation – condition 13 (**Distant Efficient Wells**);
6. For the avoidance of doubt, the consent holder is not required to provide mitigation for inefficient wells that are used for any purposes other than domestic supply.
7. In respect of this part of the conditions (ie conditions 5 to 14):
 - a. The meaning of “date of request” is the date at which a well owner makes a request of a consent holder under these conditions.
 - b. All wells must have existed prior to 19 August 2021 and still be in use as at the date of request.
 - c. The definition of “predominantly for domestic supply” is that at least 75% of the water taken from the well within the previous 12 months of the date of request is for domestic use.
 - d. The definition of “existing large domestic water tanks” is water tanks connected to an affected well(s) that, collectively, have a capacity of 25,000 litres or more
 - e. The definition of “efficient well” is:

A bore which penetrates the aquifer from which water is being drawn at a depth sufficient to enable water to be drawn all year (i.e. the bore depth is below the range of seasonal fluctuations in groundwater level), with the bore being adequately maintained, of sufficient diameter and is screened to minimise drawdown, with a pump capable of drawing water from the base of the bore to the land surface.

Any well that is not efficient is deemed to be inefficient.
 - f. The definition of “mitigation payment” is a single payment of \$5,000 to the owner of an affected well.
 - g. All sums of money referred to are inclusive of GST if any.

- h. All requests for any mitigation payment made by, or on behalf of well owners, must be made within 5 years of the date of commencement of this consent (being *insert date when known*).
- i. The consent holder is not responsible for any additional costs beyond the mitigation payment noted, and the consent holder is not responsible for ensuring how the mitigation payment is used by the recipient.

Domestic Supply Wells

- 8. The consent holder shall, if requested to do so, make a mitigation payment, subject to the following matters (all of which are to be to the consent holder's satisfaction):
 - a. The well is predominantly for domestic supply.
 - b. The well is not connected or able to be connected to on site existing large domestic water tanks.
 - c. The well is on the list of wells at Appendix 1A (being efficient and inefficient domestic wells outside of 2km), or on the list of wells in Appendix 1B (being efficient and inefficient domestic wells inside of 2km) provided that for those wells in Appendix 1B a pump test has demonstrated a drawdown of greater than 20% of available head.
- 9. A record of all payments made under this consent shall be provided to Council on an annual basis.
- 10. Conditions 8-10 cease to have effect from the date that is 5 years and 1 day from the commencement of this consent.

Proximate efficient wells

- 11. The consent holder shall, and subject to the owner of the Proximate Efficient Well providing the necessary access rights to monitor that well during the pump tests and agreeing to comply with the necessary protocols for pump testing, provide a report to Council that includes the following information:
 - a. Details of the well from which the Tranche 2 water is to be taken, including its depth, location, screening and static water level;
 - b. Results of a pump test that demonstrates that the well can sustain the intended rate of take;
 - c. An assessment of potential adverse (well interference) effects of take(s) on any Proximate Efficient Well; and
 - d. Based on (a) - (c) above, confirmation that either:
 - i. the drawdown of the available head of any Proximate Efficient Well will not exceed 20% and, if management measures are required to achieve that, a description of what those management measures are; or

- ii. that the owner of the Proximate Efficient Well has provided a written approval acknowledging that there is an effect of more than 20% drawdown of available head, with a copy of such written approval to be included within the report.
12. The consent holder shall continue to comply with any management measures required by condition d i above and not take any Tranche 2 water from any bore (either new or existing) until the Council has certified that the report provided includes the above information.

Distant Efficient Wells

13. The consent holder shall, and subject to the owner of the Distant Efficient Well providing the necessary access rights to monitor that well during the pump tests and agreeing to comply with the necessary protocols for pump testing, provide a report to Council that includes the following information:
- a. Details of the well from which the Tranche 2 water is to be taken, including its depth, location, screening and static water level;
 - b. Results of a pump test that demonstrates that the well can sustain the intended rate of take;
 - c. An assessment of potential adverse (well interference) effects of take(s) from any Distant Efficient Well; and
 - d. If the drawdown the available head of any Distant Efficient Well will exceed 20% and the drawdown at the Distant Efficient Well caused by the pump test exceeds 200mm, the report shall include a written approval from the owner of that Distant Efficient Well agreeing to those effects. If management measures are required to not exceed either threshold above, those management measures shall be described in the report.
14. The consent holder shall comply with any management measures described in 13 d above and not take any Tranche 2 water from any bore (either new or existing) until the Council has certified that the report provided includes the above information.

Mandatory transfer of volume to Manawhenua

15. The consent holder shall, under section 136 (4) of the Act, apply to the Council to transfer part of this permit, being for an annual volume of 2,006,541 Mm³ ('the specified volume'), to the [*nominated Manawhenua entity*] within 6 months of a written request by the [*nominated Manawhenua entity*] for any such transfer being received by the applicant provided that:
- a. The consent holder may make an application to transfer the permit in part for a lesser annual volume than the specified volume if a lesser annual volume is requested by the [*nominated Manawhenua entity*]
 - b. The condition does not prohibit multiple applications to transfer part of the specified volume to the [*nominated Manawhenua entity*] except that this condition does not require the total annual volume to be transferred to exceed the specified volume.

16. Any written request for a transfer of this permit in part from the [*nominated Manawhenua entity*] received by the consent holder, shall be forwarded by the consent holder to the Council (Manager Compliance) within 15 working days of receipt.
17. It will be a condition of any transfer under this condition that the transferee agrees that they are responsible for obtaining any necessary consents to use the water transferred and that, in using any water, the transferee will comply with the requirement to supply water for augmentation consistent with the conditions of their consent to use the water.

Small Stream Enhancement Plan

18. The consent holder shall develop and, once certified by Council in accordance with condition 19, implement within 12 months of certification, a *Small Stream Enhancement Plan* that includes the following attributes:
 - a. A commitment to restore through stock exclusion and riparian revegetation a suitable stream reach within the Ruataniwha Basin to a value of up to \$50,000, inclusive of GST if any.
 - b. The stream reach selected must be one that:
 - i. is perennial or has a low level of intermittency; and
 - ii. has ecological values that can be enhanced such as spawning habitat or at-risk species migration pathways; and/or
 - iii. provides important habitat for taonga species.
 - c. Details of the restoration plan (including the location, length and width of riparian planting, and species composition of planting, timing of staged implementation) will be developed by the consent holder having regard to any feedback received by the Council, Manawhenua and any affected landowners.
19. The Small Stream Enhancement Plan shall be provided to Council for certification against the requirements of condition 18(a)-(b) within 6 months of the commencement of consent.
20. No taking of Tranche 2 groundwater shall occur prior to the Small Stream Enhancement Plan being certified by Council.

Small Stream Monitoring Plan

21. The consent holder shall commission a suitably qualified independent expert to develop, and, once certified by Council in accordance with condition 22, implement within 12 months of certification, a Small Stream Monitoring Plan that includes the following components:
 - a. Regular monitoring of water levels in key indicator streams within the predicted Tranche 2 drawdown zone.

- b. Incorporation of any baseline monitoring record prior to any Tranche 2 water being abstracted for irrigation.
 - c. Maintaining the programme for a period of time that is sufficient to confirm the reliability of the groundwater predictive modelling on which the assessment of effects of the Tranche 2 take has been based.
 - d. Agreed process for reporting on any monitoring results to Council.
22. The consent holder will seek feedback from Manawhenua and will have regard to any feedback received in developing the Small Stream Monitoring Plan that is to be submitted for certification. That plan shall be provided to Council for certification against the requirements of condition 21(a)-(d) within 6 months of the commencement of consent.
23. No taking of Tranche 2 groundwater shall occur prior to the Small Stream Monitoring Plan being certified by Council.

Groundwater Review Plan

24. The consent holder shall commission a suitably qualified independent expert to develop, and, once certified by Council in accordance with condition 25, implement within 12 months of certification, a Groundwater Review Plan that includes the following components:
- a. Reviewing the measured groundwater levels in representative monitoring wells across the Ruataniwha Basin and comparing those measured levels to the modelled predictions generated by the Aqualinc model; and
 - b. Undertaking and reporting on the task described in 1 above for the periods to 1 January 2030, 1 January 2037 and 1 January 2042.
25. The Groundwater Review Plan shall be provided to Council for certification against the requirements of condition 24(a)-(b) within 6 months of the commencement of consent.
26. No taking of Tranche 2 groundwater shall occur prior to the Groundwater Review Plan being certified by Council.

General monitoring and reporting of take

27. The take of water is logged, monitored and reported as specified in the applicable consent to use the Tranche 2 groundwater on the landholding within which the well is located.

Review of Consent Conditions by the Council

The Council may review conditions of this consent pursuant to sections 128, 129, 130, 131 and 132 of the RMA. The actual and reasonable costs of any review undertaken will be charged to the consent holder (unless specified otherwise), in accordance with section 36 of the RMA.

Times of service of notice of any review: During the month of May, in any year.

- Purposes of review:
- To deal with any adverse effect on the environment which may arise from the exercise of this consent, which it is appropriate to deal with at that time or which became evident after the date of issue;
 - To require that the installation and reading of the water-measuring device or water meter data reporting system is consistent with any policies or rules in a regional plan, a National Environmental Standard;
 - To respond to the findings of the Groundwater Review Plan;
 - To modify any monitoring programme, or to require additional monitoring if there is evidence that current monitoring requirements are inappropriate, inaccurate or inadequate;
 - To ensure that the rate and volume of water authorised by the consent is consistent with actual water needs for an efficient take and is physically able to be taken;
 - To modify or add any condition to ensure that water is allocated in accordance with an operative plan;
 - To modify and/or add conditions of consent in order to ensure that it is consistent with the operative provisions of a regional plan. This shall include (but not be limited to) conditions specifying any maximum or minimum levels, minimum flows and associated implementation timeframes, and/or abstraction rates or volumes (including allocation limits) (see Advice Note).

[Standard council advice notes and administrative matters omitted]

SCHEDULE 1

Individual persons collectively granted consent and collectively responsible for meeting all consent conditions

Name	Address	Legal description
Te Awahohonu Forest Trust		
Papawai Partnership		
Tuki Tuki Awa		
Plantation Road Dairies		
Springhill Dairies		
I & P Farming		
Buchanan Trust No.2		
Purunui Trust		



RESOURCE CONSENT

Water Permit (use of water)

In accordance with the provisions of the Resource Management Act 1991 (RMA), and subject to the attached conditions, the Hawke's Bay Regional Council (the Council) grants a resource consent for a discretionary activity to:

[Individual applicant NAME]
[Address]

to use Tranche 2 groundwater to irrigate production land and to augment surface water stream flows

LOCATION

Address of site
 [address]

Legal description

Site of use: [legal]
 and as illustrated on the Site Map adjacent

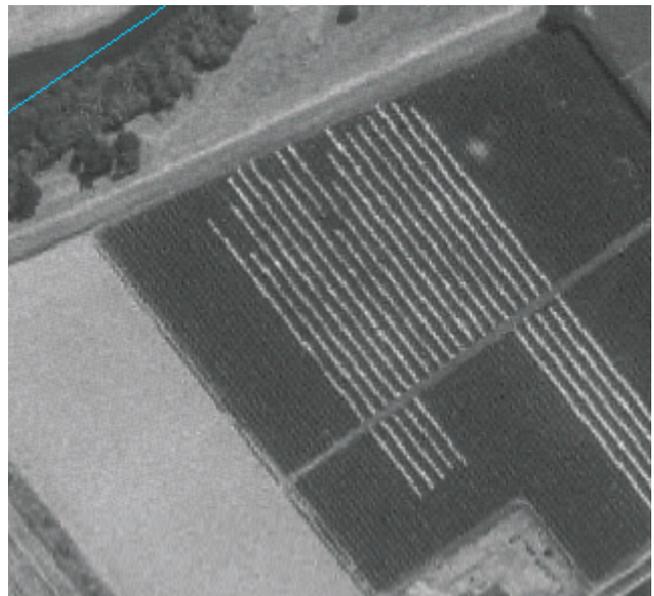
LAPSING OF CONSENT

This consent shall lapse in accordance with section 125 of the RMA on [date] if it is not given effect to before that date.

CONSENT DURATION

This consent is granted for a period of 20 years commencing on 1 June [202X], and expiring on [date].

Site Map (must be entered in Gismo!)



Malcolm Miller
Manager Consents
 REGULATION GROUP

Under authority delegated by Hawke's Bay Regional Council
 [Date]

Conditions

Authorised volume for irrigation

1. The volume used for irrigation of production land shall not exceed:
 - a) *[insert relevant volume from the table below]* m³ within a 12-month period (1 October to 30 September in consecutive calendar years).
 - b) *[insert relevant volume from the table below]* m³ within any 28-day period.

	Volume for irrigation – from all wells in combination	Total volume for irrigation from all wells in combination in any 28-day period (m ³)
Te Awahohonu Forest Trust	2,841,220	829,786
Papawai Partnership	1,010,817	306,513
Tuki Tuki Awa	607,000	228,614
Plantation Rd Dairies	1,645,279	462,309
Springhill Dairies	497,652	176,118
I & P Farming	916,010	281,111
Buchanan Trust No.2	550,960	152,410
Purunui	370,321	104,993

2. Water must only be used for irrigation when in conjunction with the use of water for stream augmentation in accordance with conditions 4 to 11 below.
3. No use of Tranche 2 groundwater shall occur except in accordance with the conditions set out in a land use consent and/or associated farm environment management plan authorising the use of land in conjunction with irrigation of Tranche 2 groundwater as may be required by the Hawke's Bay Regional Resource Management Plan or its successor. Note that for the purpose of this condition, the farm environment management plan must specify *[insert from table below]* hectares as the maximum irrigated area.

Consent Holder Name	Maximum irrigated area (ha)
Te Awahohonu Forest Trust	820
Papawai Partnership	260
Tuki Tuki Awa	116
Plantation Road Dairies	847

Consent Holder Name	Maximum irrigated area (ha)
Springhill Dairies	158
I & P Farming	288
Buchanan Trust No.2	206
Purunui Trust	117

Use of water for augmentation

4. The volume used for augmentation shall not exceed [*insert relevant volume from the table below*] m³ within the 12-month period (1 November to 31 October in consecutive calendar years) and shall be not less than that volume within that 12-month period except:
- when in accordance with condition 9; or
 - if conditions 5, 7 and 8 of this consent have been fully complied with.

	Volume for augmentation – from all wells in combination
Te Awahohonu Forest Trust	2,065,900
Papawai Partnership	459,400
Tuki Tuki Awa	67,900
Plantation Rd Dairies	900,400
Springhill Dairies	351,000
I & P Farming	283,000
Buchanan Trust No.2	245,200
Purunui	181,400

5. The consent holder shall commence the discharge of augmentation water (sourced from Tranche 2 groundwater taken in accordance with this consent) when the Council provides notification that the low flow rate at any of the following river sites is triggered:

River	Low Flow Rate (L/s)
Waipawa River at RDS/State Highway 2	2,730
Tukituki River at Tapairu Road	2,425

River	Low Flow Rate (L/s)
Tukipo River at State Highway 50	155
Tukipo River at Ashcott	1,065
Mangaonuku River at Upstream of the Waipawa River Confluence	1,315
Redbridge	5,200

Augmentation shall be undertaken regardless of whether the consent holder is irrigating at the time, using Tranche 2 groundwater authorised by this consent.

6. Augmentation water shall be discharged at [*insert location as per the table below*] or such other location as may be approved in accordance with Condition 11.

Consent Holder Name	Augmentation Discharge Location
Te Awahohonu Forest Trust	Mangaonuku Stream
Papawai Partnership	Discharge to shallow groundwater well adjacent to the Waipawa River
Tuki Tuki Awa	Tukituki River
Plantation Road Dairies	Kahahakuri Stream
Springhill Dairies (formerly Ingleton Farms)	Mangaonuku Stream
I & P Farming (formerly Abernethy Partnership)	Discharge to unnamed stream, tributary of the Tukituki River
Buchanan Trust No.2	Ongaonga Stream
Purunui Trust	Waipawa River via existing unused large diameter shallow bore

7. Augmentation under Conditions 4-6 shall be discharged at the minimum rates of [*insert from table below*]

Consent Holder Name	Minimum Rate of Augmentation Discharge (L/s daily average)
Te Awahohonu Forest Trust	182
Papawai Partnership	41
Tuki Tuki Awa	6
Plantation Road Dairies	80
Springhill Dairies	31

I & P Farming	25
Buchanan Trust No.2	22
Purunui Trust	16

8. The consent holder shall cease augmentation when either:
- the flow rates at all river sites exceed the low flow rates identified under Condition 5; and/or
 - the volume of augmentation has reached the maximum volume of take for augmentation for the relevant 12-month period allowed under Condition 4.

Augmentation in the transition period

Conditions 9 and 10 shall apply until such time as the entire consented volume under this consent has been developed for irrigation and the maximum seasonal volume of consented Tranche 2 groundwater can be taken and used for irrigation.

9. Prior to 1 September each year, the consent holder shall notify Council (Manager Compliance) in writing the percentage of:
- the total consented Tranche 2 groundwater volume that has been committed to irrigation in the following year (1 October to 30 September); and
 - what the maximum potential augmentation volume and minimum discharge rate, calculated in accordance with Condition 10, will be over the following year (1 November to 31 October).
10. For the purpose of Condition 9:
- the augmentation volume shall be calculated on a *pro rata* basis by calculating the required annual augmentation volume as [insert relevant percent from table below] percent of the volume committed to irrigation as notified to the Council in accordance with Condition 9; and

Consent Holder Name	Augmentation as percent irrigation volume (%)
Te Awahohonu Forest Trust	73
Papawai Partnership	45
Tuki Tuki Awa	11
Plantation Road Dairies	55
Springhill Dairies	71
I & P Farming	31
Buchanan Trust No.2	45

Purunui Trust	49
---------------	----

- b) The minimum rate of discharge shall be calculated on a *pro rata* basis by calculating the required rate of discharge as follows

Required rate of discharge = $a \times b/c$, where

a = the rate specified in Condition 7

b = augmentation volume calculated in accordance with a)

c = the volume specified in Condition 4

Augmentation discharge management plan

11. The consent holder shall commission a suitably qualified independent expert to develop, and, once certified by Council in accordance with Condition 12, implement within 12 months of certification, an Augmentation Discharge Management Plan that includes the following components:
- a) A map of the location and description of the method of discharge;
 - b) A description of any structure in any stream bed that is proposed to enable the discharge;
 - c) The contaminants that will be tested before the augmentation water is discharged and the concentrations of those contaminants in the receiving water that will not be exceeded by the augmentation discharge;
 - d) Any proposed methods to treat augmentation water before it is discharged;
 - e) If the discharge is not into a perennially flowing stream, an assessment by a suitably qualified person of any adverse ecological effects that might be expected to result from the discharge and any methods or practices recommended by that person to minimise those adverse effects;
 - f) If the discharge is to a shallow well, an assessment by a suitably qualified person that demonstrates that the connection between the well and the nearest surface water body is sufficiently direct that the benefits to stream flows are not materially different to that that would that would arise from a discharge of augmentation water directly to that nearest surface water body.
12. The Augmentation Discharge Management Plan shall be provided to Council for certification against the requirements of condition 10(a) - (f) within 3 months prior to any augmentation occurring.
13. No taking of Tranche 2 groundwater shall occur prior to the Augmentation Discharge Management Plan being certified by Council.

Discharge of augmentation water

14. No water shall be discharged for augmentation under this consent until:

- a) The Augmentation Discharge Management Plan referred to in Condition 11 has been certified by the Council (Manager Compliance) (or nominee)
- b) The groundwater to be taken for augmentation has been tested by an accredited water testing laboratory for the presence of the contaminants listed in the consent holders' Augmentation Discharge Management Plan
- c) The testing referred to in a) demonstrates that the concentration of contaminants in the augmentation water are equal to, or less than, the concentration thresholds specified in the consent holders' Augmentation Management Plan
- d) The results of the testing required by a) above have been provided to the Council (Manager Compliance) (or nominee); and
- e) Any consent to discharge contaminants to water, or into or onto land in circumstances which may result a contaminant entering water, as may be required by the Resource Management Act 1991 or the Hawke's Bay Regional Resource Management Plan (or its successor), has been granted by the Council.

Take and use monitoring and reporting conditions

- 15. A water meter with a data logger and telemetry unit(s) compatible with the Council's telemetry system shall be installed on each well used for irrigation and/or augmentation prior to the use of the well for those purposes, and be operated and maintained to measure the volume of water taken to an accuracy of +/- 5%. If a well is used for the abstraction of both irrigation and augmentation water, there must be two flow meters (i.e. one on the augmentation line and one on the irrigation line)
- 16. The device(s) required by Condition 15 shall be installed and maintained in accordance with the Council's "*Technical Specifications and Installation Requirements for Flow Meters*" (February 2010) (See Advice Note I).
- 17. Water take and use data supplied to the Council in accordance with conditions of this consent shall be collected by a water measuring device or system that has been verified by a suitably qualified person to be accurate to within +/-5% at that point of take within the following time periods:
 - a) For existing devices or systems: within the previous 5 water years (water year is 1 October - 30th September); or,
 - b) For new devices or systems: before the end of the first water year (ending 30 September) for that water permit.
- 18. All water measuring devices or systems shall be re-verified by a suitably qualified person as accurate to within +/-5% within a maximum of 5 years from the date of the previous verification.
- 19. Where a portable pump is used to take water as authorised by this consent, both the water meter and telemetry devices must be installed, operated and maintained in accordance with the Council's Technical Publication "HBRCs Requirements for the use of Portable pumps used to report water use" (February 2013) (see Advice Note I).

20. The telemetry unit(s) shall record the rate and volume of take every 15 minutes. Each 15 minute interval of data shall be date and time stamped with the New Zealand Standard Time at the end of the 15 minute interval.
21. Data shall be transmitted to the Council's telemetry system at least once per day.
22. The telemetry unit(s) shall be installed so as to provide an accurate record of the flow meter data by a suitably qualified person. A record of installation shall be provided to the Council (Manager Compliance) in writing using the Council's "Telemetry Installation Form" within one week of installation of the new or reinstalled unit(s) having occurred (see Advice Note I).
23. A manual water meter reading shall be taken during the month of September each year. The water meter reading and the date and time the reading was taken shall be provided in writing to the Council (Manager Compliance) prior to 10 October each year.

Advice note: It is recommended that a photograph of the meter, with the meter reading clearly visible, is also provided at the same time as the reading required by condition 15.

24. Where the telemetry equipment fails, the consent holder shall notify the Council (Manager Compliance) of the failure within 3 working days, shall read the water meter at daily intervals and shall provide the Council with a record of the following:
 - a) The meter reading (in cubic metres); and,
 - b) The daily volume of water taken (in cubic metres); and,
 - c) The date and time of each reading.

This information shall be supplied no later than 7 days after the end of each calendar month. Where the telemetry equipment is returned to full operation, the information shall instead be supplied within 7 days of this return to full operation occurring.

25. All works and structures relating to this resource consent shall be designed and constructed to conform to best engineering practices and at all times maintained to a safe and serviceable standard.
26. The consent holder shall undertake all operations in accordance with any drawings, specifications, statements of intent and other information supplied as part of the application for this resource consent. In the event that there is conflict between the information supplied with the application and any consent condition(s), the condition(s) shall prevail.
27. Where spray filling and/or fertigation or injection of agrichemicals into the irrigation system (chemigation) is to occur, the consent holder shall ensure that the irrigation system is designed, constructed and maintained in accordance with the Irrigation New Zealand "*New Zealand Guideline for the Safe Management of Irrigation Systems with Effluent, Fertiliser and/or Agrichemical Injection*" (28/02/14) (see Advice Note VI) and to prevent the movement of contaminants into groundwater or surface water. The consent holder shall provide the details and specifications of the back flow prevention device/system at the request of the Council (Manager Compliance).

28. If an event occurs on-site that may lead to contamination of groundwater or surface water the Consent Holder shall notify the <insert name of registered drinking water supply> and the Hawke's Bay Regional Council (Manager Compliance) of the event as soon as reasonably practicable after the event occurs.

Advice Note: Such an event might include for example a chemical or effluent spill. The <name of registered drinking water supply> can be contacted on <insert phone number>. The Regional Council 24 hour Pollution Hotline should also be contacted on 0800 108 838.

Review of Consent Conditions by the Council

The Council may review conditions of this consent pursuant to sections 128, 129, 130, 131 and 132 of the RMA. The actual and reasonable costs of any review undertaken will be charged to the consent holder (unless specified otherwise), in accordance with section 36 of the RMA.

Times of service of notice of any review: During the month of May, in any year.

- Purposes of review:
- To deal with any adverse effect on the environment which may arise from the exercise of this consent, which it is appropriate to deal with at that time or which became evident after the date of issue;
 - To require that the installation and reading of the water-measuring device or water meter data reporting system is consistent with any policies or rules in a regional plan, a National Environmental Standard;
 - To modify any monitoring programme, or to require additional monitoring if there is evidence that current monitoring requirements are inappropriate, inaccurate or inadequate;
 - To ensure that the rate and volume of water authorised by the consent is consistent with actual water needs for an efficient take and is physically able to be taken;
 - To modify or add any condition to ensure that water is allocated in accordance with an operative plan;
 - To modify and/or add conditions of consent in order to ensure that it is consistent with the operative provisions of a regional plan. This shall include (but not be limited to) conditions specifying any maximum or minimum levels, minimum flows and associated implementation timeframes, and/or abstraction rates or volumes (including allocation limits) (see Advice Note)

DRAFT – TO BE CONFIRMED**Appendix 1A - Domestic wells further than 2km from a proposed Tranche 2 well**

Well number	Address
1	10938 Ashley Clinton, Rd1, Takapau
2	2310 109 Oruawharo Road, Takapau
3	1357 Te Heka Argyll, 1579 Argyll Rd
4	4398 Salisbury Road, Maraekakaho
5	1839 Paget Rd, Takapau
6	4188 1137 Pagets Road, Rd 2, Takapau
7	10955 Ashley Clinton
8	16331 161 Ashley Clinton Road, Takapau
9	10943 Paget Road, Takapau
10	3615 SH 50 Rd 1 Takapau
11	2135 Cnr Phillips & Murchison Sts, Tikokino
12	5393 190 Argyll East Road, Argyll
13	10946 Tara Block, Waipukurau
14	10973 Waipawa - Tikokino Road
15	16097 2505 State Highway 50, Takapau

DRAFT – TO BE CONFIRMED**Appendix 1B - Domestic wells within 2km of a proposed Tranche 2 well**

	Well number	Address
1	2309	Phillips Street, Tikikino
2	2775	Bridge Street, Onga Onga
3	3690	11 Argyle East Rd, Waipawa
4	15362	Fairfield Road, Ongaonga
5	16454	703 Pettit Valley Rad, Onga Onga
6	2030	Stockade Rd / Ruataniwha
7	2773	Waipawa-Onga Onga Road, Waipawa
8	2902	Te Onepu Road, Argyll
9	2926	Oruawharo Rd, Maharakeke
10	15719	Tukituki Road
11	15866	5122 SH2 Takapau
12	1719	S.H. 50, Tikokino
13	2548	Phillips Street, Tikokino
14	5048	Unknown
15	15669	Ngaruroro Road
16	15671	Makaroro Road
17	15674	Burnside Road CHBDC
18	15676	233 Tukituki Rd, CHBDC
19	15932	406 Plantation Road
20	16053	406 Tikituki Road, Takapau
21	16660	1046 Burnside Road, Central Hawke's Bay
22	16661	852 Burnside Road, Central Hawke's Bay
23	16662	Burnside Road