Gore District Council Decisions

NOTIFICATION UNDER s95A AND s95B AND DETERMINATION UNDER s104

S127 Change to conditions of consent
Resource Management Act 1991

Application reference	LU 2018.387.2
Applicant	Tararua Wind Power Limited
Proposal	Application under Section 127 of the Resource Management Act 1991 (RMA) to amend conditions 1, 12, 16 and 19 of LU2007.17 to increase the maximum turbine height from 145m to 165m and to reduce the maximum number of wind turbines from 83 to 66.
Location	Kaiwera Downs – 32 Properties
Legal Description	Multiple, refer to application
Activity Status	Discretionary
Decision Date	18 July 2023

SUMMARY OF DECISIONS

1. Pursuant to sections 95A-95F of the Resource Management Act 1991 (**RMA**), the application will be processed on a **non-notified** basis given the findings of Section 5 of the Section 95A and 95B report. This decision is made by Werner Murray on 18 July 2023 under delegated authority pursuant to Section 34A of the RMA.

2. Pursuant to Section 104 and Section 104B of the RMA, consent is **GRANTED**. An updated set of conditions of LU 2007.17 is provided in Appendix 1 of this decision. This consent can only be implemented if the conditions in this report are complied with by the consent holder. The decision to grant consent was considered by Werner Murray on 18 July 2023, under delegated authority pursuant to Section 34A of the RMA.

1. THE PROPOSAL

Resource consent LU 2007.17 was granted on 13 May 2009 to construct, operate and maintain a windfarm. The original consent provided for the construction of a maximum of 83 wind turbines, with a maximum tip height of 145m, within a project envelope over the Kaiwera Downs along with a 220Kv transmission line connecting to Transpower's North Makarewa to Three Mile Hill Line. LU2018.387 provided for additional time to the original consent to extend the lapse period for an additional five years to 13 May 2024. This is considered to be the existing environment.

The applicant, being Tararua Wind Power Limited, is undertaking stage one of the Kaiwera Downs wind farm, and is in the process of establishing the first 10 wind turbines at the maximum height of 145m. The applicant is now seeking to vary the balance of the proposed wind farm and has requested changes to the conditions of land use consent 2007.17 to allow for an increase in maximum height from 145m to 165m and a reduction in the total number of wind turbines from 83 to 66. Noting that only the remining proposed 53 turbines would be constructed at the maximum height of 165m.

Since the original consent, wind turbine technology has improved, meaning larger wind turbines can now be established being able to generate more electricity than earlier, smaller models. The proposed increase in height is to maximise the efficient generation of electricity from wind and enable a reduction in the total wind turbines required, while keeping within the maximum electricity generation of 240MW. The proposed amendment will allow the wind farm to produce the same amount of energy, whilst reducing the total number of turbines and associated ancillary works across Kaiwera Downs.

The below figure shows the project envelope of the wind farm along with the 145m high wind turbines of stage one, alongside the proposed 165m wind turbines.

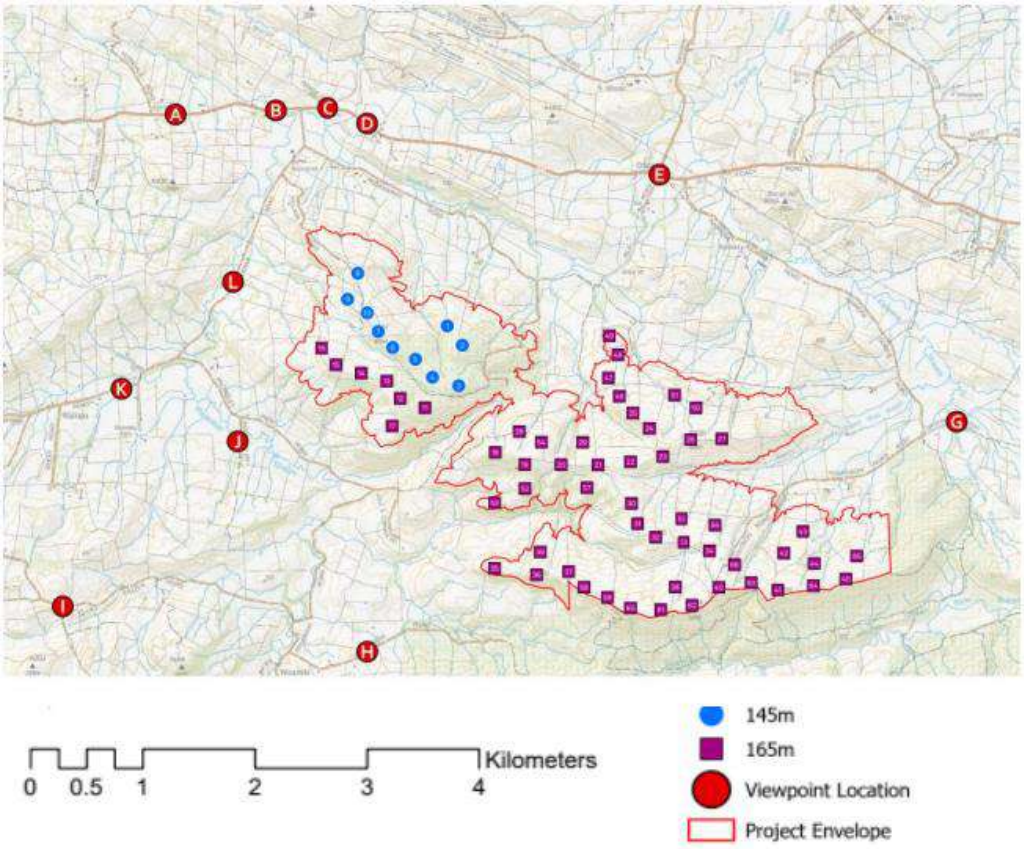


Figure 1: Indicative Turbine Layout

The original consent LU 2007.17 was granted, subject to an extensive list of conditions. In order to amend the proposal, to increase to tip height of the wind turbines and reduce the number of turbines, conditions 1, 12, 16 and 19 are required to be varied. No other conditions of consent are proposed to change, and with the exception of the proposed amendments all original conditions will still apply to the proposed wind farm.

The Applicant seeks changes to condition 1, 12, 16 and 19 of resource consent LU 2007.17, as follows, (deletions in ~~strikethrough~~, added text **bold** and **underlined**):

1. The consent holder shall undertake all activities authorised by this consent in gneral accordance with**:**

    i. **T**he plans and information submitted with the resource consent application dated 5 November 2007 and numbered LU 2007/17 by the Gore District Council, and any other documentation relevant to the application including requests for further information**;**

    and

    ii. **The plans and information submitted with the variation application under section 127 of the Resource Management Act 1991 dated 12 May 2023;**

    except where inconsistent with these conditions. Any request to change or cancel a consent condition must be made in accordance with Section 127 of the Resource Management Act 1991.

12. The maximum number of turbines in the Kaiwera Downs Wind Farm shall not exceed ~~83~~ **66**

16. The maximum turbine height to the tip of the blade shall not exceed ~~145~~ **165** metres at finished ground height.

19. All turbines used within the wind farm site shall be similar in ~~size and~~ appearance

No other change to the proposal consented under reference LU 2007/17 is sought. Appendix 1 of this report outlines the full revised consent conditions for LU2007/17.

2. SITE DESCRIPTION

Section 2 of the Applicant's AEE gives a detailed account of the existing environment and description of the Project envelope or "subject site"; this assessment is adopted for the purpose of this decision, however for clarity a summary of the site description is provided below:

The project envelope is located within the boundaries of 32 properties, owned by 12 different practices and encompasses approximately 2,568 hectares of land. The Kaiwera Downs Wind Farm is located approximately 15km southwest of Gore and 10km east of Mataura. The property and surrounding area can be characterised as undulating pastural farmland. Is bordered by Old Coach Road (SH 93), Kaiwera Downs Road, Davidson Road West, Tinker Road, Waikana Road and Knowsley Park Road.

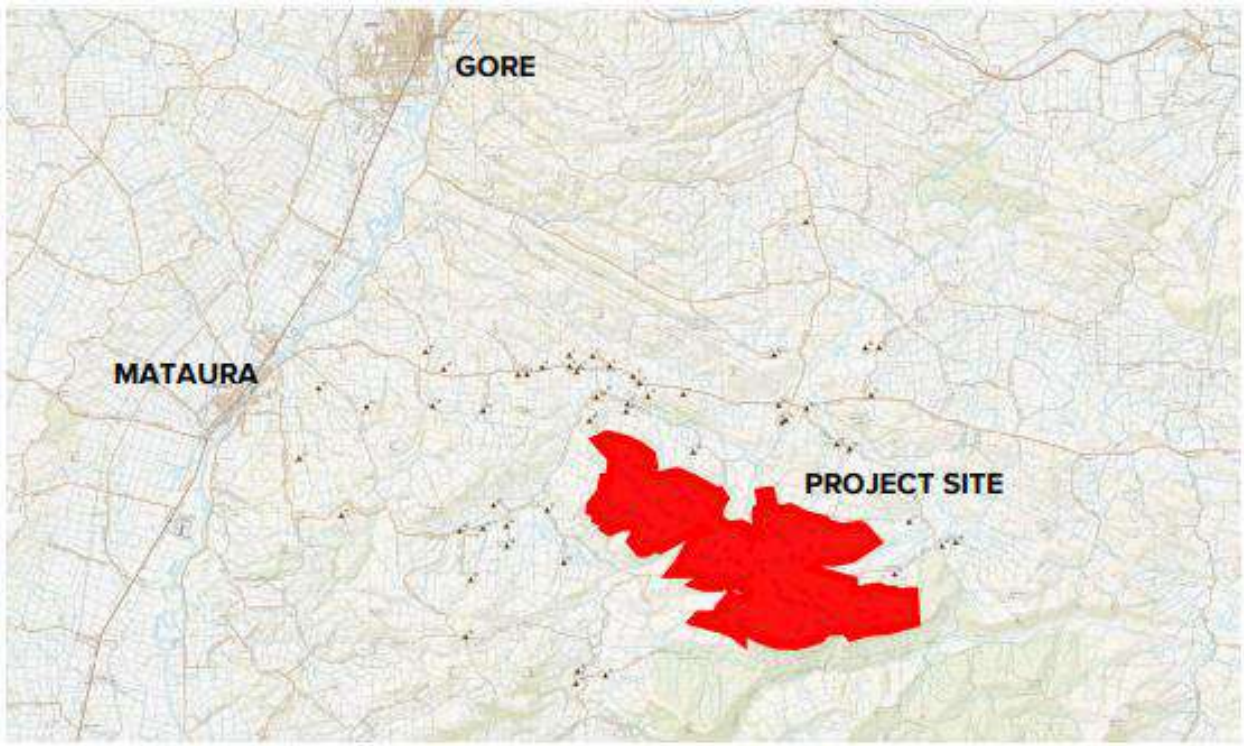


Figure 2: Project Envelope in Red (Source: Applicants AEE)

3. ACTIVITY STATUS

3.1 Resource Management Act 1991

It is proposed to change conditions 1, 12, 16 and 19 of the land use consent LU 2007/17. A **discretionary** activity consent is required pursuant to section 127(3)(a) of the RMA, which deems any application to change consent conditions to be a discretionary activity.

4. NOTIFICATION ASSESSMENT

Sections 95A – 95F (inclusive) of the Resource Management Act 1991 ('RMA') set out the steps the Council is required to take in determining whether or not to publicly notify an application or notify on a limited basis.

4.1 Public notification – Section 95A

In accordance with section 95A, the following steps have been followed to determine whether to publicly notify the resource consent application:

Step 1 – Mandatory public notification

Mandatory public notification is not required because:

- The applicant has not requested public notification.
- Public notification is not required as a result of a refusal by the applicant to provide further information or refusal of the commissioning of a report under section 92(2)(b) of the RMA.

- The application does not involve exchange to recreational reserve land under section 15AA of the Reserves Act 1977.

Step 2 – Public notification is precluded

Public notification is not precluded as follows:

- There are no rules in a plan or National Environmental Standard that preclude notification.
- The application is not:
  - a controlled activity; or
  - a boundary activity as defined by section 87AAB that is restricted discretionary, discretionary or non-complying.

Step 3 – Public notification is required in certain circumstances

- There are no rules in a plan or National Environmental Standard that require notification.

- A consent authority must publicly notify an application if notification is not precluded by Step 2 and the consent authority decides, in accordance with s95D, that the proposed activity will have or is likely to have adverse effects on the environment that are more than minor. An assessment in this respect is undertaken as follows:

The following effects must be disregarded:

- Effects on the owners or occupiers of land on which the activity will occur and on adjacent land.
- Trade competition and the effects of trade competition.
- Any persons that have provided their written approval and as such adverse effects on these parties have been disregarded.

The following effects may be disregarded:

- An adverse effect of the activity if a rule or national environmental standard permits an activity with that effect – referred to as the "permitted baseline". The relevance of a permitted baseline to this application is as follows:

Permitted Baseline

The consent authority **may** disregard an adverse effect of the activity if a rule or national environmental standard permits an activity with that effect. In this case, as any change of conditions is a discretionary activity, there is not considered to be any relevant permitted baseline.

The applicant has provided an assessment of effects on the environment within the Section 4 of the AEE, this assessment is adopted for the purpose of this decision with the following summary added for clarity.

Visual and Landscape Effects

The applicant has provided a landscape assessment from Isthmus of the potential visual and landscape effects of the proposed variation, along with a comparison of the visual effects associated with the

consented wind farm and that of the proposed variation.

The Isthmus Landscape Assessment provides an assessment that the increase in turbine height from 145m to 165m will be less apparent than the 14% increase would otherwise suggest, largely due to the absence of any scalable references. When viewed with the context of before and after photo stimulations the 20 metre difference in height is perceptible, however in practice with no prominent nearby structures to give context to the increase in height, along with the undulating topography and the corresponding variation in appeared turbine height, it is unlikely that this increase will be perceptible and the corresponding effects on landscape values, visual dominance aesthetic coherence, rural character and amenity values would result in effects that are more than minor. Additionally, the impact of the proposed 20% reduction in turbines will likely have positive effects, resulting in reduced effects on spaciousness and visual clutter.

The Isthmus assessment provides the following conclusion:

"*While the difference in height of the proposed Stage 2 wind turbines will be perceptible compared to the consented height from some locations, it will have (at most) 'very low' (negligible or less than minor) adverse effects on landscape values including such aspects as visual dominance, scale relationship to the landscape, aesthetic coherence, and rural character and amenity values.*

At the same time there will be positive effects from 20% fewer wind turbines compared to the consented wind farm (66 compared to 83) and the resultant slightly more spacious and less cluttered appearance - more so for the western part of the indicative wind farm layout. The overall result of taller and fewer wind turbines is likely to be positive effects to a 'low' or 'very low' degree."

This landscape assessment has been peer reviewed by Mike Moore, Landscape Architect, who has provided an assessment of the methodology, consideration of the relevant statutory provisions, description and evaluation of the landscape character and values, analysis of landscape effects and overall findings and recommendations. This peer review concluded that the assessments provided, and the overall conclusion reached are credible.

Overall, it is considered the proposed variation of 145m maximum height to 165m maximum height is likely to have no more than minor visual and landscape effects and the proposed reduction from 83 turbines to 66 turbines is likely to result in positive visual effects when compared with the consented environment.

Ecological Effects

The applicant has provided an Ecological Assessment from Boffa Miskell of the ecological effects of the proposed variation, focusing on the impacts on avifauna (birds) generally and the New Zealand Falcon specifically. The assessment addresses the collision risk from the proposed variation.

Impacts on Kereru are considered to be unchanged from the original application. Ecological setbacks from indigenous forest areas (Kereru habitat) were incorporated into the project envelope in order to reduce the impact on Kereru. No changes are propped to these setback requirements and as such effects are unchanged.

Impacts on falcons are likely limited to collision risk from the proposed turbine. Evidence from other windfarms indicates that the average maximum flight height is 23 metres, which indicates that the majority of the falcon flight range occurs within the consented wind turbines range. Based on this the increase in height is unlikely to increase the collision risk of falcons. Additionally, the Boffa Miskell ecological assessment modelled the collision risk from the proposed variation and found that due to

the proposed reduction in wind turbines the risk of collision drops by approximately 17% based on the indicative turbine layout. The assessment concludes that the proposed increase in height and the reduction in turbine number will not increase the risk to falcons and is likely to reduce risk overall.

This ecological assessment has been peer reviewed by e3 Scientific. This peer review concluded that the assessments provided, and the overall conclusion reached are credible, however note for clarity that the correct threat status of the New Zealand Falcon is "Threatened, Nationally Increasing" rather than "At-Risk, Recovering" as stated within the ecological assessment, it is noted that this correction does not impact the conclusion of the assessment.

Overall, it is considered the proposed variation of 145m maximum height to 165m maximum height is likely to have no more than minor ecological effects and the proposed reduction from 83 turbines to 66 turbines is likely to result in positive ecological effects when compared with this consented environment.

Acoustic Effects

The applicant has provided an acoustic assessment from Marshall Day Acoustics of the potential acoustic effects of the proposed variation and the ability to comply with the relevant consent conditions. Acoustic effects are considered to be limited to adjoining neighbours, specifically neighbours within 4km of the project envelope. Effects beyond this radius are considered to be imperceptible and as the proposed variation will not result in noise effects that are more than minor.

Overall, it is considered the proposed variation of 145m maximum height to 165m maximum height together with the proposed reduction from 83 turbines to 66 turbines is likely to result in no more than minor noise effects when compared with this consented environment.

Shadow flicker effects

The applicant has provided a Shadow Flicker assessment from DNV Australia Pty Limited of the proposed variation. The assessment modelled the shadow flicker scenarios for dwellings within a 10-rotor diameter distance, being 1,560m from the project envelope. Effects beyond this 1,560m radius are considered to be experienced by the wider environment. While shadow flicker can be observed from many kilometres away, effects are anticipated to decrease as the distance from the turbines increases and are considered to be below the level of annoyance for most people.

Overall wider environmental shadow flicker effects are not proposed to result in any perceptible change from the consented environment, the relevant conditions can still be complied with, and effects are considered to be no more than minor.

Traffic Effects

The proposal is not proposed to vary the conditions managing traffic and therefore these still apply to the proposal. In particular an updated base condition report along with the construction traffic management plan is still required for stage two of the development, and will address any factors which may be altered, including site access routes, any changes to turbine component dimensions and mass, and the impact on road structures such as bridges and culverts. Certification of any new transporters for altered turbine components will also need to be covered. These updated documents are required to be provided for the approval of council prior to works commencing.

Based on the above adverse traffic effects on the wider environment are considered to be no more than minor.

Conclusions: Effects on the Environment

Overall effects on the environment from the proposed variation are likely to be no more than minor for the proposed increase and height, and likely to result positive effects when compared with this consented environment from the reduction in turbine numbers.

Step 4 – Public Notification in Special Circumstances

- There are no special circumstances that warrant public notification.

4.2 Limited notification – Section 95B

In accordance with section 95B, the following steps have been followed to determine whether to give limited notification of the application:

Step 1 – Certain affected groups or persons must be notified

- There are no protected customary rights groups or customary marine title groups affected by the proposed activity.
- The proposal is not on or directly adjacent to, and will not affect, land that is the subject of a statutory acknowledgment. The Mataura River is subject to a statutory acknowledgement, the scale of the variation is unlikely to adversely impact this feature, however the applicant has consulted with the Hokonui Rūnanga and Te Ao Marama, however received no response.

Step 2 – Limited notification precluded

- The activity is not subject to a rule or National Environmental Standard that precludes limited notification.
- The application is not for a controlled activity under a district plan.

Step 3 – Certain other affected persons must be notified

- Under Step 3, if the proposal is a boundary activity, only the owner/occupier of the infringed boundary can be considered. The activity is not a boundary activity.
- For any other activity, a consent authority must notify an application on any person, if notification is not precluded by Step 2, and the consent authority decides, in accordance with s95E, that the proposed activity will have or is likely to have adverse effects on that person that are minor or more than minor.

An assessment in this respect is therefore undertaken as follows:

Considerations in assessing adverse effects on persons under s95E

a) The consent authority **may** disregard an adverse effect of the activity on a person if a rule or national environmental standard permits an activity with that effect (a "permitted baseline"). The relevance of the permitted baseline to this application is outlined in the above s95D assessment of environment effects.

b) The consent authority **must** disregard an adverse effect of the activity on the person if the effect does not relate to a matter for which a rule or a national environmental standard reserves control or restricts discretion; and

c) The consent authority **must** have regard to every relevant statutory acknowledgement specified in Schedule 11.

d) The consent authority **must** disregard effects on those parties who have provided written approval.

Assessment: Effects on Persons

Taking into account the exclusions in sections 95E, the following outlines an assessment as to whether the activity will have or is likely to have adverse effects on persons that are minor or more than minor. The persons considered potentially affected are those that submitted on the original application along with those located within 4km from the project envelope.

The applicant has provided an assessment of effects on persons within Section 6.3 of the AEE, this is assessment is adopted for the purpose of this decision with the following summary added for clarity.

Visual and Landscape

Section 4.39 of the Landscape assessment provides an assessment of visual and landscape effects on houses within 4km of the project envelope, along with all neighbouring properties that submitted on the original application and provides a site-specific assessment for each property. This assessment is adopted for the purpose of this decision. A visual representation of this is included below:

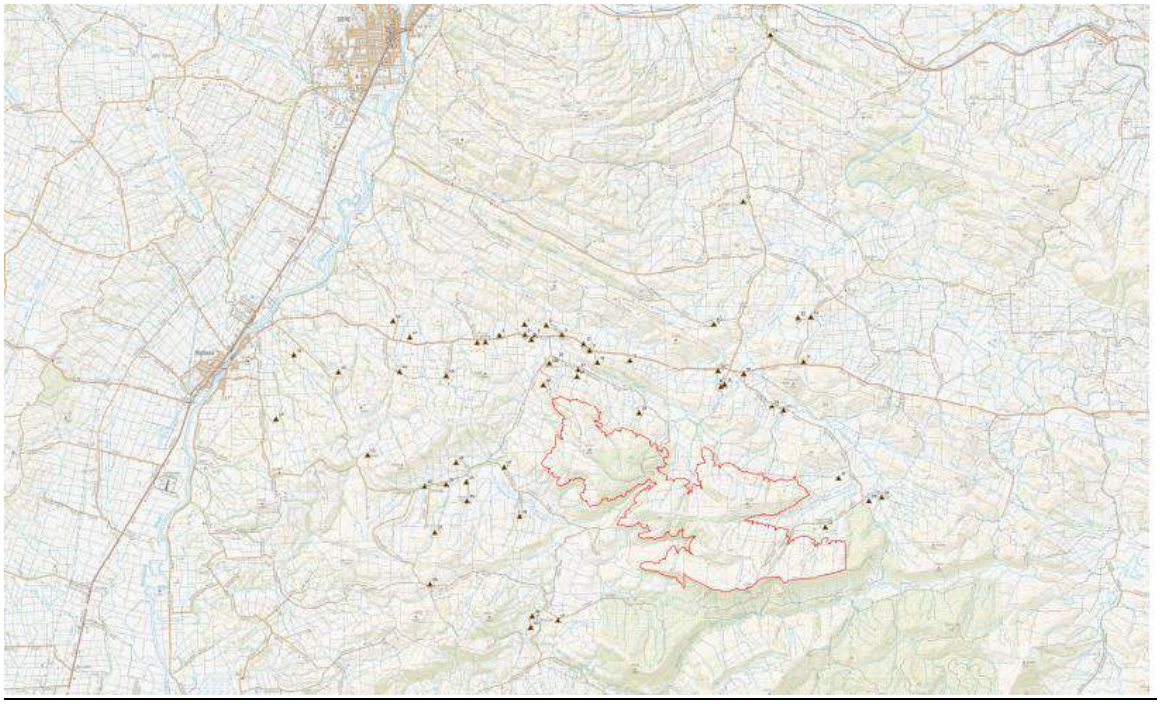


Figure 3: Identified Dwellings (Source: Isthmus Assessment)

The Isthmus Landscape Assessment provides an assessment that the increase in turbine height from 145m to 165m will be less apparent than the 14% increase would otherwise suggest, largely due to the absence of any scalable references. When viewed from some private dwellings the increase in height may be perceptible however as concluded within the landscape assessment and peer reviewed by Mike

Moore Landscape Architect, this is likely to have a very low and less than minor adverse effect on landscape values such as visual dominance scale relationship, aesthetic coherence and rural character and amenity values. Additionally, the impact of the proposed 20% reduction in turbines will likely have positive effects, resulting in reduced effects on spaciousness and visual clutter.

Overall, it is considered the proposed variation of 145m maximum height to 165m maximum height is likely to have less than minor visual and landscape effects on people and the proposed reduction from 83 turbines to 66 turbines is likely to result in positive visual effects when compared with this consented environment.

Acoustic

Acoustic effects are considered to be limited to adjoining neighbours, specifically neighbours within 4km of the project envelope. The acoustic assessment has taken a conservative approach and only assessed the increase in height from 145 to 165m and has not factored in the reduced number of turbines now proposed. The assessment concludes that the increase in maximum tip height will not have a noticeable impact on either the measured or the perceived noise level of the windfarm with the difference between the 145m turbine and the 165m turbine measured below the "*just noticeable difference*" limit. With the reduced number of turbines proposed and advances in turbine technology the report predicts an overall reduction in the noise footprint of the wind farm when comparted with the consented environment. The assessment concludes that *"an increase in tip height to 165m and a reduction in turbines from 83 to 66 will not prevent Mercury from complying with these consent conditions".*

This acoustic assessment has been peer reviewed by William Reeve of Acoustic Engineering Services, and this peer review concluded that the assessments provided, and the overall conclusion reached, are credible. The peer review did query whether condition 38 would apply to dwellings constructed after that date of the original decision, being 13 May 2009.

38. *Wind turbine sound levels when measured at the national boundary of dwellings existing at the date of this consent (or a dwelling that replaces any existing dwelling in the same location) shall not exceed the appropriate regression curve of the A-weighted background sound level (L95) by more than 5 dBA, or a level of 40 dBA L95, whichever is the greater.*

    When the background sound conditions between the hours of 10 pm and 7 am the following day are at or below 25 dBA L95 determined from the appropriate regression curve without the interference of the wind farm, and when the mean wind speed at a representative location for the dwelling is less than 1.5m/sec measured at a height of nominally 3 metres above ground level, then noise from the wind farm shall not exceed 35 dBA L95 within the notional boundary of 16 Davidson Road East, being Lot 1 DP 15306 as described in CFR SL12B/80; and 57 Davidson Road East, being Section 17 Block II Slopedown Survey District, as described in CFRSLA4/ 151.

    This condition does not apply to any dwelling where the consent holder has reached agreement with the landowner, and such agreement is lodged with the Chief Executive Officer of the Gore District Council.

    The wind farm sound level shall be measured and assessed using NZS 6808: 1998 Acoustics - The Assessment and Measurement of Sound from Wind Turbine Generators. Where requirements of these conditions differ from NZS 6808: 1998 then these requirements shall prevail.

From review of this condition, it is considered that this condition does not apply to any dwellings constructed after 13 May 2009. However, given the conclusions of the Marshall Day Acoustics assessment that the *"The reduction in the number of turbines, and advances in wind turbine technology*

will reduce the overall noise footprint of the wind farm, compared with what was considered in the original consent application, such that compliance with the existing noise limits in the conditions is achievable." This conclusion is still considered to stand regardless of whether the consent condition applies to new dwellings. Any dwellings constructed after the 13 May 2009 did so within the consented environment, being an approved windfarm, and are not located any closer to the wind farm than existing dwellings. While there are no proposed changes to condition 38 to include new dwellings, practically these dwellings will not experience effects beyond that controlled by condition 38. And will not experience any noticeable noise effects when considering the consented environment.

The assessments conclude that there may be some change to noise receptors based on changes to layout but is not considered relevant in this instance. Flexibility was provided for within the original consent, in terms of the exact location of turbines within the project envelope. This flexibility is not proposed to change and as such this variation in noise reception is considered to be appropriate.

Overall, it is considered the proposed variation is likely to have less than minor acoustic effects on people and the proposed reduction in turbines is likely to result in positive acoustic effects when compared with this consented environment.

Shadow Flicker

The applicant has provided a Shadow Flicker assessment from DNV Australia Pty Limited of the proposed variation. The assessment modelled the shadow flicker scenarios for dwellings within a 10-rotor diameter distance, being 1,560m from the project envelope. This modelling has been based on flat terrain (which neglects potential obstruction from terrain features) in order to produce a "worst case scenario" where shadow flicker could theoretically be experienced. Effects beyond this 1,560m radius are considered to be experienced by the wider environment

The below figure shows the proposed wind farm along with an indicative modelling of possible shadow flicker comparing the consented environment to the proposed variation.

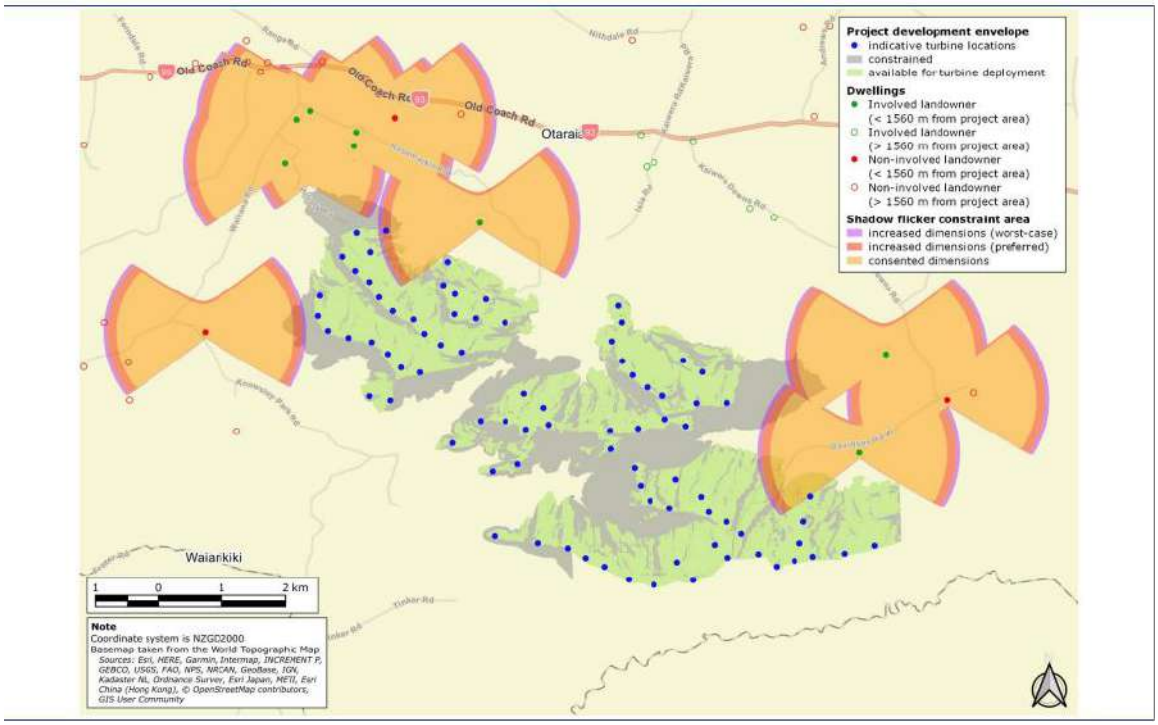


Figure 4: Project development envelope and indicative shadow flicker constrained areas

Based on this assessment the only dwellings likely to experience an increase in effect from the proposed variation are those owned by involved landowners, being properties within the subject site, and therefore these effects can be disregarded.

The DNV assessment advises that it remains possible for the applicant to comply with condition 24 of the original decision, noting this condition requires further shadow flicker assessment following the completion of each stage of the project.

Despite some of the dwellings above belonging to involved landowners, overall shadow and flicker effects on people from the proposed variation are anticipated to be less than minor for the proposed increase in height and the proposed reduction in turbines is likely to result in positive shadow and flicker effects when compared with this consented environment.

Traffic

The proposal is not proposed to vary the conditions managing traffic and therefore these still apply to the proposal. In particular an updated base condition report along with the construction traffic management plan is still required for stage two of the development, and will address any factors which may be altering, including site access routes, any changes to turbine component dimensions and mass and the impact on road structures such as bridges and culverts. Certification of any new transporters for altered turbine components will also need to be covered. These updated documents are required to be provided for the approval of council prior to works commencing. Adverse traffic effects on people from the variation are likely to be less than minor from the increase in height, and likely positive from the reduction in turbines, with less traffic movements required.

Overall transport effects on people from the proposed variation are anticipated to be less than minor for the proposed increase in height and the proposed reduction in turbines is likely to result in positive transport effects when compared with this consented environment.

Conclusions: Effects on Persons

In terms of section 95E of the RMA, and on the basis of the above assessment, no person is considered to be adversely affected.

Step 4 – Special Circumstances for Limited Notification

- There are no special circumstances that warrant limited notification of the application.

5. DECISION PURSUANT TO S95A AND S95B OF THE RMA

For the reasons set out above, under s95A and s95B of the RMA, the application is to be processed on a non-notified basis.

6. SECTION 104 ASSESSMENT

6.1 Matters for consideration

This application must be considered in terms of Section 104 of the RMA.

Subject to Part 2 of the RMA, Section 104 sets out those matters to be considered by the consent authority when considering a resource consent application. Considerations of relevance to this application are:

(a) any actual and potential effects on the environment of allowing the activity; and

(ab) any measure proposed or agreed to by the applicant for the purpose of ensuring positive effects on the environment to offset or compensate for any adverse effects on the environment that will or may result from allowing the activity; and

(b) any relevant provisions of:

- *(i) A national environmental standard;*
- *(ii) other regulations;*
- *(iii) a national policy statement;*
- *(iv) a New Zealand coastal policy statement;*
- *(v) a regional policy statement or proposed regional policy statement;*
- *(vi) a plan or proposed plan; and*

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

6.2 Effects on the Environment

Actual and potential effects on the environment have been outlined in the section 95 report and within the Applicants AEE and supporting reports. These have been adopted for the purpose of this assessment. No new conditions of consent are required to avoid, remedy or mitigate adverse effects.

6.3 Relevant Provisions

The applicant has provided an assessment of the following relevant statutory provisions, This assessment is considered accurate and complete and has been adopted for the purpose of this decision.

- National Policy Statement for Renewable Electricity Generation
- National Policy Statement for Highly Productive Land
- Southland Regional Policy Statement
- Gore District Plan - Objectives and Policies

7. PART 2 OF THE RMA

The purpose of the RMA is to promote the sustainable management of natural and physical resources. Sections 6, 7 and 8 of the Act identify the matters of national importance that must be recognised and provided for, and other matters that must be given regard to or considered.

The potential adverse effects on the environment can be appropriately avoided, remedied or mitigated. This site does not contain any outstanding natural features or landscapes, nor any area of significant indigenous vegetation.

The amenity of the land and surrounding area, which is rural in nature, will be maintained, and the proposal will not have adverse effects on the quality of the environment. This site is not within any known heritage sites or statutory acknowledgement areas and therefore, this recommendation is not inconsistent with the principles of the Treaty of Waitangi.

The changes sought through this variation will facilitate national targets for renewable energy generation and promote the sustainable management of natural and physical resources.

Overall, the proposal is considered to meet the purpose and principles of the RMA.

8. DECISION ON RESOURCE CONSENT

Pursuant to Section 104B of the RMA, consent is granted for the application by Tararua Wind Power Limited to change conditions of LU 2017/17 to increase the maximum height of wind turbines and to reduce the overall number of wind turbines at the Kaiwera Wind Farm, as follows (deleted text ~~struck-through~~, added text **bold** and **underlined**):

1. The consent holder shall undertake all activities authorised by this consent in gneral accordance with**:**

   iii. **T**he plans and information submitted with the resource consent application dated 5 November 2007 and numbered LU 2007/17 by the Gore District Council, and any other documentation relevant to the application including requests for further information**:**

   and

   iv. **The plans and information submitted with the variation application under section 127 of the Resource Management Act 1991 dated 12 May 2023;**

   except where inconsistent with these conditions. Any request to change or cancel a consent condition must be made in accordance with Section 127 of the Resource Management Act 1991.

13. The maximum number of turbines in the Kaiwera Downs Wind Farm shall not exceed ~~83~~ **66**

17. The maximum turbine height to the tip of the blade shall not exceed ~~145~~ **165** metres at finished ground height.

20. All turbines used within the wind farm site shall ber similar in ~~size and~~ appearance

Advice note:

All other conditions of consent LU 2017/17 shall continue to apply.

Administrative Matters

The costs of processing the application are currently being assessed and you will be advised under separate cover whether further costs have been incurred.

The Council will contact you in due course to arrange the required monitoring. The Monitoring Officers time will be charged to the consent holder. It is suggested that you contact the Council if you intend to delay implementation of this consent or if all conditions have been met.

This resource consent is not a building consent granted under the Building Act 2004. A building consent must be obtained before construction can begin.

This resource consent must be exercised within five years from the date of this decision subject to the provisions of section 125 of the RMA.

If you have any enquiries, please contact the duty planner on phone (03) 209 0330 or email planning@goredc.govt.nz.

Prepared by

Mishka Banhidi
Consultant Planner

Decision made by

Werner Murray
Delegate

Appendices

Appendix A: Updated Consent Conditions of LU 2017/17

Appendix B: Applicant's AEE and Associated Reports, "Tararua Wind Power Limited Kaiwera Downs Wind Farm Application to Change Consent Conditions and Assessment of Environmental Effects" - May 2023.

APPENDIX A – Updated Consent Conditions of LU 2017/17

GENERAL CONDITIONS OF CONSENT:

1. The consent holder shall undertake all activities authorised by this consent in gneral accordance with;

   i. The plans and information submitted with the resource consent application dated 5 November 2007 and numbered LU 2007/17 by the Gore District Council, and any other documentation relevant to the application including requests for further information;

   ii. The plans and information submitted with the variation application under section 127 of the Resource Management Act 1991 dated 12 May 2023;

   except where inconsistent with these conditions. Any request to change or cancel a consent condition must be made in accordance with Section 127 of the Resource Management Act 1991.

2. The consent holder shall notify the Chief Executive Officer, Gore District Council, at least fifteen (15) working days in advance of the date of the commencement of works associated with this consent.

3. Unless it is otherwise specified in the conditions of this consent, compliance with any monitoring requirement imposed by these conditions shall be at the consent holder's expense.

4. Where conditions of this consent require the provision of further information such as reports or management plans by the consent holder, these reports or management plans shall be submitted to the Chief Executive Officer of the Gore District Council for certification. These reports or plans include but are not limited to a Site Development Plan and an Environmental Construction Management Plan which is comprised of an Earthworks Management Plan, a Rehabilitation Plan, an Ecological Monitoring and Management Plan, a Fire Management Plan, a Construction Noise Management Plan, a Construction Traffic Management Plan, a Shadow Flicker report and an Accidental Discovery Protocol. As a part of this certification process, the Gore District Council may commission a peer review of this information to certify its accuracy and compliance with conditions of consent. This peer review shall be at the consent holder's expense. No work shall commence on the site until the plans referred to in this condition have been certified as giving effect to the requirements of Condition 1 above.

5. The consent holder shall supply any agent or contractor working under this consent with a copy of the consent conditions on-site so that these conditions can be presented to an officer of the consent authority upon request.

6. Any works carried out during the life of the wind farm, whether maintenance, decommissioning or otherwise, shall be consistent with the conditions attached to

this consent.

7. The consent holder shall pay to Gore District Council all required administration costs and charges fixed by the Council pursuant to Section 36 of the Act in relation to any:

i. Administration, reviewing, assessing, monitoring, certifying and inspection relating to this consent;

ii. Preparatory work and attendance at meetings of the Consultative Group, referred to in Condition 71, by those persons representing the Gore District Council as listed in Condition 7 4(iii); and

iii. Charges authorised by regulations.

8. In accordance with Section 128 of the Resource Management Act 1991 (and in addition to any more **specific** monitoring conditions attached), the Gore District Council may, at two years after the commencement of this consent and at two yearly intervals thereafter, after giving not less than one month's notice in writing, serve notice on the consent holder of its intention to review any of the conditions of this consent for either of the following purposes:

i. To deal with any adverse effect on the environment that may arise from the exercise of this consent, including noise, and which it is appropriate to deal with at a later stage.

ii. To require the consent holder to adopt the best practicable option to avoid, mitigate or remedy any adverse effect on the environment.

9. Upon completion of construction of the wind farm, the consent holder shall advise the Chief Executive Officer, Gore District Council, in writing that all conditions of this consent have been complied with.

10. The consent holder shall ensure that copies of all Management Plans submitted to the Gore District Council are supplied to the Compliance Manager, Southland Regional Council within ten working days of their submission to the Gore District Council.

SPECIFIC CONDITIONS OF CONSENT:

General

11. The maximum installed generation capacity of the Kaiwera Downs Wind Farm shall not exceed 240 MW.

12. The maximum number of turbines in the Kaiwera Downs Wind Farm shall not exceed 66

13. All turbines and all associated structures shall be contained within the turbine envelope and all transmission infrastructure shall be contained within the transmission envelope.

14. If the wind farm ceases operation for a continuous 18-month period, or is decommissioned for any other reason, then all turbines and other above ground structures shall be removed and turbine footings covered and re-vegetated in accordance with the Rehabilitation Management Plan required under Condition 28(v).

15. (i) Any refuelling, lubrication or mechanical repairs shall be undertaken in such a manner as to ensure that no spillages of hazardous substances occur onto the land surface or into water.

(ii) If a fuel or oil spillage occurs in excess of 10 litres to land that does not enter water, the consent holder shall:

(a) Immediately take such action or execute such work as may be necessary to stop and/ or contain such escape; and

(b) Take all reasonable steps to remedy or mitigate any adverse effects on the environment resulting from the escape; and

(c) Inform the Chief Executive Officer, Gore District Council, within 24 hours of its occurrence and the steps taken, or being taken, to clean up the spill, remedy any adverse effects, and prevent any recurrence of such escape.

(iii) In the event of any spillage to water, the consent holder shall immediately notify the Environment Southland Compliance Manager and remedy or mitigate the effects of contamination of the site without undue delay.

Turbine Construction

16. The maximum turbine height to the tip of the blade shall not exceed 165 metres at finished ground height.

17. The wind turbine structures shall all be finished in the same neutral off-white or light grey, matt non-reflective colour system.

18. Lattice pylons shall not be used for the wind turbine structures.

19. All turbines used within the wind farm site shall be similar in appearance.

20. The consent holder shall consult with the Civil Aviation Authority (CAA) in order to ensure that the wind farm complies with CAA standards and guidelines.

21. The consent holder will forward information regarding the turbine locations and heights to the CAA once those details are confirmed.

22. All navigational lights required on the turbines or meteorological masts by the CAA shall be shielded to screen downward light spill as far as is practicable.

23. The consent holder shall provide a copy of all correspondence to and from the CAA to the Chief Executive Officer, Gore District Council, within five working days of sending or receiving such correspondence.

Turbine Operation

24. The consent holder shall assess the extent of shadow flicker beyond the boundaries of those properties which are a part of the turbine envelope.

In consultation with adjoining property owners and the Consultative Group referred to in Condition 71, the consent holder shall identify specific locations (for example houses, cattle yards and barns) from which to model the potential impact of any shadow flicker. The number and location of the specific sites shall be approved by the Chief Executive Officer of the Gore District Council.

Within twelve months following the completion of construction of each stage of the project, the consent holder shall submit a Shadow Flicker report to the Chief Executive Officer, Gore District Council:

i. advising of the results of the modelling

ii. assessing the accuracy of that modelling

iii. advising of any complaints received at the sites modelled, or any other site, together with an assessment of those complaints

iv. outlining the procedures that are proposed to be adopted, and when they would be instigated, where it is established that shadow flicker occurs."

25. Where the wind turbines are shown to affect television reception, as assessed by a suitably qualified and experienced radio engineer, at dwellings existing at the date of this consent, the consent holder shall provide an alternative television reception arrangement (at no cost to the occupier) to those dwellings such that television reception is no worse than that present before the construction of the wind farm.

Construction Conditions

26. The consent holder shall avoid undertaking construction activities in areas of high ecological value including streams and wetlands. Such areas are generally described and identified in the Ecological Assessment that forms Appendix 5 in Volume 3 of the application documentation. Implementation measures amongst others, which are to be undertaken to achieve avoidance of such values, include:

i. All potential areas of high ecological value including streams and wetlands are to be identified by an appropriately qualified ecological expert during the detailed design stage. The location of these sites shall be accurately located on the detailed Site Development Plan referred to in Condition 28. Construction activity within these areas is to be avoided.

ii. Appropriate buffer zones that relate to the values being protected within avoidance areas are to be established as recommended by the ecological expert. The size of any buffer zone shall be assessed having regard to the ecological value of the area in question.

iii. High ecological value areas and associated buffer zones will be separated from the defined construction zone and clearly marked as such for the duration of the construction period.

27. In addition to Condition 26, in relation to spoil disposal in gullies, the following criteria must also be met:

i. Fill disposal must not result in significant or long-term siltation of high-quality streams or wetland vegetation.

ii. Fill disposal shall not occur in areas defined as KD 1, KD2 orKD3 as defined in the evidence of Dr. Bishop.

28. In terms of Condition 4, the consent holder shall submit to the Chief Executive Officer of the Gore District Council a detailed Site Development Plan that provides the information listed below. Subsequent amendments shall be submitted to and certified as complying with the conditions of this consent by the Chief Executive Officer of the Gore District Council prior to their taking effect.

i. The final location of all facilities and infrastructure to be built, including, but not limited to:

a) All turbines

b) All access tracks

c) All lay down sites

d) All fill sites

e) The substation site

f) The operations and maintenance building and associated waste and water services, and construction site office and depot

g) The transmission line

h) The concrete batching area and associated stockpiles

i) The internal transmission system

j) Meteorological masts and equipment

k) Any other areas of land disturbance

ii. A joint report from a qualified and independent landscape architect and a qualified and independent engineer certifying that:

a) The earthworks associated with the construction of the access tracks and how they will be contoured to blend the roads with the surrounding landscape;

b) The areas of fill disposal and how they will be contoured to blend with the surrounding landform;

c) The design and appearance of the substation and operations building including colour schemes to illustrate how these buildings will blend with the environment; and

d) The earthworks associated with the construction of the turbine, hard stand areas and any other landing and lay-by sites and how they will be contoured to blend with the surrounding landform.

iii. A report from a qualified and experienced ecologist that details the ecological values of the sites affected by the development of the infrastructure identified in Condition 28(i) above. This report shall include detail of how the site work and construction activity will comply with the requirements of Conditions 26 and 27.

iv. A comprehensive Environmental Construction Management Plan (ECMP) prepared by a suitably qualified and experienced person in accordance with Appendix 14 of the application documentation entitled Kaiwera Downs Wind Farm Draft Environmental Construction Management Plan, prepared by Golder Associates (NZ) Ltd.

a) The purpose of the ECMP is to detail how any adverse potential effects on the environment associated with construction of the Kaiwera Downs Wind Farm will be avoided, remedied or mitigated. As a minimum, the ECMP will contain the following:

- A goal based on achieving appropriate mitigation of the effects associated with the construction of the Kaiwera Downs Wind Farm.
- Individual management plans including, but not limited to Site Development Plan and an Environmental Construction Management Plan which is comprised of an Earthworks Management Plan, a Rehabilitation Plan, an Ecological Monitoring and Management Plan, a Fire Management Plan, a Construction Noise Management Plan, a Construction Traffic Management Plan, and an Accidental Discovery Protocol.
- An explanation of the how the ECMP is to work, including how it will be implemented and associated implementation responsibilities.
- Management procedures for the establishment, activity and rehabilitation phases of the activity, where appropriate. The management procedures will aim to ensure compliance with relevant resource consent conditions.

b) The consent holder shall ensure that the construction of the Kaiwera Downs Wind Farm is undertaken in accordance with the requirements of the ECMP.

v. A Rehabilitation Management Plan prepared by a suitably qualified and experienced person. The Rehabilitation Management Plan shall define the scope and methodology for rehabilitation of the areas affected by the construction activities and the ongoing maintenance of the rehabilitation work. The Rehabilitation Management Plan shall contain closure criteria that, when met, will show that rehabilitation has succeeded. The provisions of the Rehabilitation Management Plan shall be implemented under the supervision of a suitably qualified and experienced person. The Rehabilitation Plan shall form a part of the ECMP required under Condition 28(iv).

vi. An Ecological Monitoring and Management Plan prepared by a suitably qualified and experienced person in accordance with Part B of Appendix 14 Volume 4 of the application documentation and Appendix 2 of the Kaiwera Downs Wind Farm Assessment Of Terrestrial Ecological Effects prepared by Golder Associates (NZ) Ltd (Appendix 5 Volume 3 of application documentation). The Ecological Monitoring and Management Plan shall form part of the ECMP required under Condition 28(iv). The Ecological Monitoring and Management Plan shall include detail of how the site work and construction activity will comply with the requirements of Conditions 26 and 27 and also make provision for the following:

a) Monitoring, and associated reporting, in relation to bird strike, any effects on New Zealand Falcon (Falco novaseelandiae), and any increase in invasive weeds that has arisen as a result of construction activities as required by Conditions 29 - 31.

b) All vehicles shall, as far as is practicable, be confined to formed access routes and the active construction zone.

c) As far as practicable, construction vehicles must be cleaned of adhering soil before entering the site.

d) The consent holder shall use its reasonable endeavours to source weed free aggregate for all construction, operational and maintenance related requirements.

vii. The consent holder shall manage all earthworks in accordance with the following conditions:

a) The consent holder shall take appropriate steps to control and/or mitigate any dust, sediment run-off and contamination of stormwater that may occur. These measures shall be implemented prior to the commencement of any earthworks and shall remain in place, and operating effectively, throughout the duration of the site earthworks.

b) The consent holder shall prepare an Earthworks Management Plan for all earthworks associated with the construction of the Kaiwera Downs Wind Farm. The Earthworks Management Plan shall be part of the ECMP required under Condition 28(iv).

c) The Earthworks Management Plan shall generally comply with the requirements of Auckland Regional Council's "Erosion and Sediment Control Guidelines for Land Disturbing Activities" (Technical Publication No. 90). As a minimum, the Earthworks Management Plan will contain the following:

- Identification of the purpose of the Earthworks Management Plan, which shall include ensuring that earthworks do not adversely affect water bodies within the site and adjoining landowners and that adverse visual effects are minimised.
- Management procedures, for the establishment, activity and rehabilitation phases of the activity, where appropriate. The management procedures will aim to achieve the goal of the ECMP, the Earthworks Management Plan, and reflect the relevant resource consent conditions. Matters to be provided for by the management procedures include, but are not limited to, relevant matters contained within Part C -Earthworks Management Plan of the draft ECMP which formed Appendix 14 of Volume 4 of the resource consent application documentation.

d) The consent holder shall ensure that all earthworks associated with the construction of the Kaiwera Downs Wind Farm are undertaken in accordance with the requirements of the Earthworks Management Plan.

viii. A Fire Management Plan prepared by a suitably qualified and experienced person in accordance with the following conditions:

a) The purpose of the Fire Management Plan shall be to establish management procedures to ensure that the fire risk associated with the Kaiwera Downs Wind Farm is minimised and, should fires occur, that immediate and appropriate action is instigated. The Fire Management

Plan shall be part of the ECMP required under Condition 28(iv).

b) The Fire Management Plan shall be structured in general accordance with the Forest and Rural Fire Act 1977.

c) The consent holder shall comply with the requirements of the Fire Management Plan.

Advice Note:

The Southern Rural Fire Authority and Clutha District Council, as parties responsible for the management of rural fires, are to be consulted during the development of the Fire Management Plan.

Ecological Monitoring

29. The consent holder shall monitor the instances of bird strike at the wind farm as follows:

    i. For the first two years of operation, retrieval of any carcasses will be on a monthly basis. Thereafter, carcass retrieval will be associated with the routine maintenance at each turbine with increased surveillance for bird carcasses during the breeding season (spring and early summer) if considered necessary as a result of the first two years of monitoring.

    ii. Bird Strike Monitoring

        a) During the first two years of the operation of the Kaiwera Downs Wind Farm, all retrieved bird carcasses will be assessed by identifying the species, gender, age class (i.e. juvenile or adult) and where possible, the cause of death, location of the carcass in relation to turbines, and antecedent weather conditions. This assessment is to be undertaken in association with a qualified avifauna expert.

        b) Following the first two years of operation, the consent holder shall, annually and by 1 March, submit a report to the Chief Executive Officer, Gore District Council, detailing all bird fatalities, known or likely cause of death, species and seasonal or spatial patterns. A copy of this report shall also be supplied to the Department of Conservation. `

        c) If the monitoring undertaken in accordance with Conditions (ii)(a) and (ii)(b) above, identifies a significant adverse effect on avifauna species listed as endangered (Hitchmough et ai, 2007), as a result of the operation of the Kaiwera Downs Wind Farm, then the consent holder shall develop a mitigation programme and continue monitoring for a further period, as determined appropriate following consultation with both the consent authority and the Department of Conservation. The mitigation programme shall include, but not necessarily be limited to, relevant matters identified in the Ecological Assessment, which formed Appendix 5 of Volume 3 in the resource consent application documentation.

    iii. The bird strike carcasses shall be disposed of off-site and at an appropriate facility.

30. The consent holder shall undertake monitoring of the New Zealand Falcon as follows:

    i. The consent holder shall undertake further surveys for the presence of New Zealand Falcon within the Kaiwera Downs Wind Farm envelope and surrounds during a single breeding season prior to the commissioning of any turbine constructed as a part of the wind farm.

    ii. Should New Zealand Falcon be found to utilise the, then a programme to monitor New Zealand falcon within the Kaiwera Downs Wind Farm turbine envelope, and immediate surrounds, should be undertaken.

    iii. The consent holder shall consult with the Department of Conservation in developing the monitoring programme. Once the scope of the monitoring programme has been Developed, an outline of the activities that constitute the monitoring programme shall be submitted to the Chief Executive Officer, Gore District Council for certification.

iv. If the monitoring undertaken identifies breeding failure of New Zealand Falcon as a result of the operation of the Kaiwera Downs Wind Farm, then the consent holder shall develop a mitigation programme and continue monitoring as determined appropriate after consultation with the consent authority and the Department of Conservation. The mitigation programme shall include, but not necessarily be limited to, relevant matters identified in the Ecological Assessment that formed Appendix 5 of Volume 3 of the resource consent application documentation.

31. The consent holder shall develop and implement a weed monitoring and management programme during the construction and rehabilitation of the Kaiwera Downs Wind Farm and for two years after construction and then two years after rehabilitation has been completed, or for such a period until these species cease colonising the areas disturbed by the construction activity. The details of this programme shall be included in the Environmental Monitoring and Management Plan required under Condition 28(iv). The purpose of the programme will be to ensure that areas disturbed by construction and/ or rehabilitation are not colonised by weed plants and that management and control of Weeds will also comply with the requirements of the relevant Regional Pest Management Strategy within the Kaiwera Downs Wind Farm site. To achieve this, the consent holder shall identify presence and the extent of any invasive woody weeds within the site at the commencement of the project. The consent holder shall target weed control any new weed infestations which occur as a direct result of activities associated with the wind farm construction. Weed control using manual and/or herbicide treatment is acceptable.

Construction Noise

32. Noise from all construction and decommissioning work including (but not limited to):

    i. Site works

    ii. Wind turbine generator assembly and placement

    iii. Concrete placement

    iv. Wind turbine removal

    v. Foundation demolition and removal

    vi. Land reinstatement

Shall be measured, assessed and controlled using NZS 6803: 1999 Acoustics - Construction Noise. The noise limits shall be those set out in Table 2 of NZS 6803 for works of' long term' duration.

33. All aspects of concrete manufacture shall not exceed the following noise limits:

    7.00 am to 10.00 pm 55 dBA Loo
    10.00 pm to 7.00 am 40 dBA Loo
    10.00 pm to 7.00 am 75 dBA Lmax

    at or within the notional boundary of any dwelling (excluding any dwelling on the wind farm site).

34. Concrete shall not be manufactured outside of the hours of 6.30 am to 8.00 pm from Monday to Friday, and 7.30 am to 6.00 pm on Saturdays.

35. The noise associated with concrete manufacture shall be measured in accordance with NZS 6801:1999: Acoustics - Measurement of Environmental Sound and assessed in accordance with NZS 6802: 1991 Assessment of Environmental Sound.

36. A Construction Noise Management Plan shall be prepared and implemented prior to commencement of construction. This shall be generally in accordance with Section 8 and the relevant annexes of NZS 6803: 1999 Acoustics - Construction Noise which detail the types of construction and procedures that will be carried out to ensure compliance with the Standard. The noise management plan shall be prepared by an appropriately qualified and experienced person, prior to relevant construction stages commencing, and shall be certified by the Chief Executive Officer Gore District Council prior to construction commencing. The Construction Noise Management Plan shall form a part of the ECMP required under Condition 28(iv).

Operational Noise (Non-turbine Related)

37. Noise from all other activities on the site (other than wind turbine generator operation and construction activities) shall not exceed the following limits within the notional boundary of any dwelling (excluding any dwelling on the wind farm site):

    7.00 am to 10.00 pm 55 dBA Loo
    10.00 pm to 7.00 am 40 dBA Loo
    10.00 pm to 7.00 am 75 dBA Lmax

    Noise shall be measured in accordance with NZS 6801: 1999: Acoustics - Measurement of Environmental Sound and assessed in accordance with NZS 6802: 1991 Assessment of Environmental Sound

Operational Noise (Turbines)

38. Wind turbine sound levels when measured at the notional boundary of dwellings existing at the date of this consent (or a dwelling that replaces any existing dwelling in the same location) shall not exceed the appropriate regression curve of the A-weighted background sound level (L95) by more than 5 dBA, or a level of 40 dBA L95, whichever is the greater.

When the background sound conditions between the hours of 10 pm and 7 am the following day are at or below 25 dBA L95 determined from the appropriate regression curve without the interference of the wind farm, and when the mean wind speed at a representative location for the dwelling is less than 1.5m/sec measured at a height of nominally 3 metres above ground level, then noise from the wind farm shall not exceed 35 dBA L95 within the notional boundary of 16 Davidson Road East, being Lot 1 DP 15306 as described in CFR SL12B/80; and 57 Davidson Road East, being Section 17 Block II Slopedown Survey District, as described in CFRSLA4/ 151.

This condition does not apply to any dwelling where the consent holder has reached agreement with the landowner, and such agreement is lodged with the Chief Executive Officer of the Gore District Council.

The wind farm sound level shall be measured and assessed using NZS 6808: 1998 Acoustics - The Assessment and Measurement of Sound from Wind Turbine Generators. Where requirements of these conditions differ from NZS 6808: 1998 then these requirements shall prevail.

39. Prior to installation of any wind turbine generator the consent holder shall furnish:

    i. An acoustic emissions report to the Chief Executive Officer of the Gore District Council for each type of the selected wind turbine generators. The report shall be in accordance with IEC61400-11, Wind Turbine Generator Systems Part 11, Acoustic Noise Measurement Techniques and shall include the A-weighted sound power levels, spectra, and tonality at integer wind speeds from 6 to 10 m/ s and up to 95% of rated power for each type of individual wind turbine to be installed.

    ii. A noise prediction report from a suitably qualified and experienced acoustical consultant that demonstrates to the satisfaction of the Chief Executive Gore District Council that the sound levels from the wind farm will not exceed those levels set out in Condition 38 above. Modes of operation and the type of turbine must be specified. For the avoidance of doubt, this resource consent does not authorise the use of a stall turbine design.

Prior to the Development of the Wind Farm

40. Background sound monitoring shall be undertaken in accordance with Section 4.5 of NZS 6808: 1998. Representative sound measurement locations will be selected within the notional boundary of all dwellings within the predicted 35 dBA Leq noise contour where access is made available to TrustPower with sufficient background sound data collected to assess the following:

    i. Comparison with operation wind speeds of the wind turbines from the cut-in wind speed (nominally 3m/ s) up to the rated power wind speed (nominally 15m/s) at the wind farm

    ii. At the prevailing wind direction at the wind farm

    iii. During daytime 7 am to 10 pm and during night time 10 pm to 7 am the following day

    iv. With sufficient data to be gathered such that accurate best fit regression curves can be obtained

    v. Care will be taken to eliminate periods of contamination of the noise data by other noise sources, i.e., seasonal cicadas, crickets, frogs, rainfall periods, etc

    vi. Background sound levels when the wind speed at the receptor location is at or below 1.5m/ s at 16 Davidson Road East, being Lot 1 DP 15306 as described in CFR SL12B/80; and 57 Davidson Road East, being Section 17 Block II Slopedown Survey District, as described in CFR SLA4/151. The local wind speed shall be measured at these dwellings, nominally at 3 metres above ground level, at the same time as background sound monitoring to allow comparisons to be made.

Post Installation Testing

41. In order to establish compliance with the noise requirements of NZS 6808: 1998 field monitoring will be undertaken as soon as practical once turbines are installed and commissioned. If possible, the testing shall be carried out at the same locations as the background sound monitoring or, if that position is not available, then at a nearby location where the background sound monitoring is still representative.
42. The same parameters as adopted for the background sound monitoring will be monitored subsequent to the WTG's installation and the best fit regression curves will be developed as for the background noise monitoring as set out above.
43. The appropriate regression curve of the $L_{95,\ 10min}$ of the wind turbine generator sound levels corrected for any special audible characteristics is not to exceed the noise limits specified in Condition 38.
44. The consent holder shall provide reports to the Gore District Council as soon as practical following testing at each location but no longer than 15 working days after the completion of each test.
45. In the event that substantiated complaints are received in circumstances not specifically provided for in these conditions then Council may reasonably direct testing to take place at any location and nothing in these conditions shall prevent compliance monitoring of wind farm noise from being undertaken at any wind speed and direction, or time of day. Unless the consent holder can demonstrate actual background sound readings at the actual site the background sound conditions shall be assumed to be the same as at Site 3.
46. If Gore District Council wishes to undertake separate compliance testing of part or of all of the wind farm operation, then the consent holder shall share with Council any wind data to allow it to analyse their noise monitoring in accordance with the requirements of these conditions.
47. Compliance testing shall be carried out at any reasonable request by Council. This may be as a result of what Council considers to be substantiated complaints regarding increased levels of noise from the wind farm or any change in the character of the noise emanating from the wind turbine generators.
48. Sound monitoring shall conform to the following measurement standards:
    i. The complete measurement and analysis system shall conform to the requirements of NZS 6808: 1998 Acoustics - The Assessment and Measurement of Sound from Wind Turbine Generators and the Standards referred to by NZS 6808; and
    ii. Microphones shall be fitted with a wind shield such that the noise generated by wind on the wind shield is, to the extent practicable, at least 10 dBA below the noise being measured.
    iii. All sound monitoring shall be carried out by suitably qualified and experienced persons.
    iv. The operator will report all necessary data required to carry out the compliance testing, including wind speed and direction at hub height during periods of compliance testing.

49. The operator of the wind turbines shall pay all reasonable costs associated with compliance testing.

Assessment of Special Audible Characteristic

50. When wind farm sound within the notional boundary of a dwelling has a special audible characteristic, i.e. impulsiveness, tonality and/or an audible modulation, the measured sound level of the source shall have a 5 dBA penalty applied by adjustment of the measured sound level by the arithmetic addition of the penalty except that the Joint Nordic Method Version 2 shall be used to assess tonality and the penalty shall be as described in that Standard. If more than one penalty is relevant to any measured sound level, then only the penalty with the greatest numerical value shall be applied.
51. A test for modulation is required if the measured peak to trough levels exceeds 5 dBA on a regularly varying basis or if the spectral characteristics, third octave band levels, exhibit a peak to trough variation that exceeds 6 dBA on a regular basis.

Non-Compliance with Noise Conditions

52. Where compliance is not achieved with these Noise Conditions then the consent holder shall operate the wind turbine generators at reduced noise output until remedies are identified and implemented. If sound emissions cannot be reduced such that they comply, then the consent holder shall cease to operate the non-compliant wind turbine generators until modifications are made to reduce the noise. Further operation of the non-compliant wind turbine generators shall only be for sound measurement checks as specifically agreed with the Chief Executive Officer of the Gore District Council to demonstrate compliance. This condition shall not limit or restrict any statutory right or power to take enforcement action that the Council may have under the provisions of the Resource Management Act 1991.

Review of Noise Conditions

53. Notwithstanding the provisions of Condition 8, Council may review the noise conditions set out above, by giving notice of its intention to do so under Section 128 of the Resource Management Act 1991, one, three and five years after the wind farm completion or, if the wind turbine generators are installed in stages, then one year after the completion of each stage and then three and five years after the final completion, for the following purposes:
    i. To deal with any adverse effects on the environment resulting from wind farm sound, including sound with any special audible characteristics, which may arise from the operation of the wind turbines;
    ii. To review the adequacy of any recommendations of the Noise Management Plan;
    iii. To address any issues arising out of complaints.

    Such reviews may take place within six months of the specified dates.

Traffic Conditions

54. A Construction Traffic Management Plan shall be prepared by the consent holder and certified by the Chief Executive Officer of the Gore District Council before any access to the site by construction traffic begins. The purpose of the Construction Traffic Management Plan will be to set out and detail the extent and timing of construction traffic activity, and temporary traffic management provisions to be put in place during this time. The Construction Traffic Management Plan shall form a part of the ECMP required under Condition 28(iv). The Construction Traffic Management Plan shall:

    i. Be prepared after consulting with the Gore District, Southland District, Invercargill City Council and Transit New Zealand, and shall implement the outcome of that consultation.

    ii. Set out the nature and timing of local physical improvement works to be undertaken on the roading network at the consent holder's cost to accommodate access to the Kaiwera Downs Wind Farm. These works shall include as a minimum:

        a) The upgrading of local access routes (being Waikana Road between Old Coach Road and the intersection with Hillary Road, Hillary Road, Rosemarkie Road, Isla Road, Kaiwera Road. Kaiwera Downs Road, Davidson Road West) used for transport of materials to provide for two vehicles to pass each other (other than over-dimension vehicles) based on vehicle tracking consistent with the operating speed of the road.

        b) The upgrading of routes used for transport of overweight and over-dimension vehicles to provide for the swept path of vehicles on horizontal curves.

        c) The upgrading of local access routes used for transport of materials by heavy vehicles (defined as vehicles that require a heavy vehicle licence to operate) on an all-weather surface where necessary on uphill gradients towards the wind farm with gradients of 10% or steeper.

        d) Where practicable, the provision of School bus bays beyond the traffic lane at all pickup and drop-off points on local access routes used for transport of materials by other than light vehicles.

        e) The installation of suitable passing/ stopping bays, in agreed locations, on SH1, SH93, Southland District or Gore District Roads if considered necessary by the road controlling authority.

    iii. Detail the intended traffic arrangements and provisions for the delivery of over-weight and over-dimensioned major components to the site, including any time restrictions for the movement of over-weight and over-dimensioned vehicles.

    iv. Manage construction traffic (other than component delivery by over-dimension and over-weight vehicles) during the construction phase. This shall include as a minimum:

a) Identifying all roads within the Gore District that are to be used by construction traffic. Heaps Road and Waikana Road south of Hillary Road shall not be used for any construction traffic. Kaiwera Road and Isla Road are not to be used by construction traffic until the intersection of SH93, Isla Road and Kaiwera Road is upgraded.

b) The provision for the notification of the Principals of all schools along routes to be used by over-weight and overdimension construction traffic of the commencement and cessation of the construction period.

c) Provision for the notification of commencement and cessation of seasonal construction periods, and the notification of changes to traffic patterns during the construction period, to landowners and occupiers along the unsealed access roads to be used by construction traffic.

d) The provision for dust suppression on parts of unsealed routes in close proximity to dwellings or agreed areas to be used by heavy construction traffic.

e) Ensuring that all construction traffic within the Gore District shall only utilise those roads which have been identified to be used by construction traffic in the Construction Traffic Management Plan.

f) Detailing communication practises to be adopted by the contractor to manage the heavy vehicle movements on the local road network.

g) Detailing the travel planning methods to be adopted to minimise the number of vehicle movements associated with the staff journeys to and from the KWDF work site.

h) The management practices to be adopted to avoid conflict with stock droving on the local access routes.

55. The existing condition of all local access routes (being Waikana Road between Old Coach Road and the intersection with Hillary Road, Hillary Road, Rosemarkie Road, Isla Road, Kaiwera Road. Kaiwera Downs Road, Davidson Road West to be used by construction traffic, in Gore District (as identified in the Traffic Management Plan) shall be investigated and reported upon in a Base Condition Report that shall be prepared by the consent holder. The Base Condition Report shall contain information including classified traffic counts, high speed data capture, system Recording - profile, texture and roughness and falling weight deflectometer. The Base Condition Report shall identify the existing condition of roads, which roads require upgrading, potential remedial works during construction and monitoring requirements during and at the end of the construction period. A draft of the Base Condition Report shall be lodged with the Chief Executive Officer of the Gore District Council a minimum of six months prior to the commencement of construction works at the project site.

56. The Chief Executive Officer of the Gore District Council shall appoint a technical Peer Reviewer to review the Draft of the Base Condition Report and to certify its adequacy prior to the Base Condition Report being formally accepted by the Chief Executive and construction works commencing at the project site. The cost of retaining the services of the technical Peer Reviewer shall be met by the consent holder.

57. The consent holder shall be financially responsible for or shall undertake the maintenance of all Gore District roads (as identified in the Construction Traffic Management Plan) to be used by construction traffic for the duration of the construction period except for any maintenance, repairs or reconstruction of these roads arising from damage caused by other users, or unusual or extreme weather events. For the avoidance of doubt, the consent holder will only be responsible for the costs of maintenance of the roading network to the extent that the costs are additional to those that would be anticipated by Gore District Council in the normal course of events (i.e. the consent holder will pay the reasonable proportion of costs of maintenance required as a result of its own use of the roads.)

58. The consent holder shall be responsible for preparing a Post Construction Condition Report at the conclusion of construction works with respect to all roads subject to the Base Condition Report. A Draft of the Post Construction Condition Report shall be lodged with the Chief Executive Officer and shall provide data with respect to road condition that is consistent with that contained in the Base Condition Report. The draft of the Post Construction Condition Report may be reviewed by a technical Peer Reviewer at the cost of the consent holder prior to the Post Construction Condition Report being formally accepted by the Chief Executive Officer.

59. The consent holder is financially responsible for restoration of all local access roads as defined in Condition 54 used by the construction traffic, in the Gore District to a standard that is consistent with or exceeds the condition recorded in the Base Condition Report. This responsibility shall not include responsibility for any maintenance, repairs or reconstruction of these roads arising from damage caused by other users, or unusual or extreme weather events.

60. Should the consent holder not agree with any aspect of costs imposed by the Council under Condition 59, then the matter shall be referred to arbitration in accordance with the provisions of the Arbitration Act 1996. Arbitration shall be commenced by written notice by the consent holder to the Council advising that the amount imposed is disputed; such notice is to be given by the consent holder within two weeks of notification of the amount. In resolving any dispute, the arbitrator may take into account any relevant contribution made by the consent holder or contractor of the consent holder to the repair or maintenance of the local access routes and any relevant road user payments.

61. If the parties cannot agree upon an arbitrator within a week of receiving the notice from the consent holder, then an arbitrator shall be appointed by the President of the Institute of Professional Engineers of New Zealand. Such arbitrator shall give an award in writing within 30 days after his or her appointment, unless the consent holder and the Council agree that time shall be extended. The parties shall bear their own costs in connection with the arbitration.

62. In all other respects, the provisions of the Arbitration Act 1996 shall apply. Pending the outcome of that arbitration, the existing amounts shall continue in force. Those sums shall be adjusted in accordance with the arbitration determination.

63. If, for any reason the decision of the arbitrator is not made available by the 30th day referred to in Condition 62 then the amount shall be fixed by the Council until such time

as the arbitrator does make his/her decisions. At that stage any new amounts shall apply.

Advice Note:
For the purpose of the traffic conditions of this consent, "Construction Traffic Management Plan" includes physical road improvements, road maintenance and management.

Accidental Discovery Protocol

64. The consent holder shall ensure that all construction personnel involved in site disturbance activities are suitably trained in the requirements of the Accidental Discovery Protocols, and identification of archaeological sites and/ or artefacts.

65. If Koiwi tangata (human skeletal remains), taonga or archaeological artefacts are discovered during site construction, the consent holder shall, without delay:

    i. Cease all work within a 50-metre radius of the discovery and secure the area.

    ii. Notify their nominated archaeologist, the consent authority, Te Ao Marama, the New Zealand Historic Places Trust, and in the case of koiwi tangata (skeletal remains) the New Zealand Police.

    iii. Enable a site inspection by the New Zealand Historic Places Trust and the appropriate Rūnanga, and their advisors, who shall determine the nature of the discovery and the further action required, including whether an Archaeological Authority is required under the Historic Places Act 1993.

    iv. Any koiwi tangata or taonga shall be handled and removed by tribal elders responsible for the tikanga (custom) appropriate to its removal and preservation.

    v. Ensure that the further action identified in accordance in part (iii) of this condition is undertaken.

    vi. Upon completions of tasks (i) to (v) above, and provided all statutory permissions have been obtained, the consent holder may recommence site construction following consultation with the consent authority, Te Ao Marama, the New Zealand Places Trust, and in the case of koiwi tangata (skeletal remains) the New Zealand Police.

66. The consent holder shall, in consultation with Te Ao Marama and the Historic Places Trust, develop a comprehensive Accidental Discovery Protocol, which will form part of the consent holder's Environmental Construction Management Plan required under Condition 28(iv). The protocol shall develop in more detail the processes required in Condition 65 above. The protocol shall also include, but not be limited to, identifying the roles and responsibilities of the consent holder and the other involved parties, providing contact details and identifying reporting requirements.

Archaeological Sites of Interest

67. The consent holder shall avoid adverse effects during the construction and operation of the wind farm and transmission line on the identified sites of 19"' century buildings and the sod all. The methods used to achieve this will be detailed in the ECMP required under Condition 28(iv).

Meteorological Masts

68. The number of meteorological masts on the site shall not exceed 15. No mast shall exceed 90 metres in height.

Earth Potential Rise

69. The consent holder will consult with Telecom NZ Ltd with regard to the effects of earth potential rise on Telecom's equipment in the vicinity of Kaiwera Downs Road and Isla Road at least 12 months prior to the commissioning of the 220 kV line from the wind farm. This consultation will include consideration of any requirement for monitoring and mitigation. The results of this consultation will be reported to the Chief Executive Officer of the Gore District Council within one month of its completion. The consent holder will carry out any work required to monitor and mitigate the effects of earth potential rise. This work will be reported to the Chief Executive Officer of the Gore District Council within one month of its commencing and within one month of its completion. This work will be carried out at the consent holder's cost and will be completed to the satisfaction of the Chief Executive Officer of the Gore District Council.

Public Viewpoint

70. The consent holder will establish and maintain a public viewpoint of the wind farm on SH93. The location for this viewpoint will be established after consultation with the Consultative Group, **a**nd subject to obtaining the approval from the Chief Executive Office of the Gore District Council and Transit New Zealand. The viewpoint will be established prior to the commissioning of the last turbine.

Community Consultation

71. At the completion of detailed design for the wind farm, the consent holder shall establish and co-ordinate a Consultative Group for the Kaiwera Downs Wind Farm. This Group is to be consulted, as a minimum, at least six monthly during the construction phase and the first two years of the operation of the wind farm and thereafter at a frequency to be determined by a majority of the Consultative Group itself. This does not restrict the ability of individual Consultative Group members with the agreement of the Chief Executive Officer of the Gore District Council from calling meetings at shorter intervals to deal with any interim matters that need to be addressed before the next scheduled meeting.

72. The objective of the group will be to facilitate information flow between the consent holder's management team and the community and will be an ongoing point of contact between the consent holder and the community. The functions of the group shall also include acting as a forum for relaying community concerns about the construction and ongoing operation of the wind farm to the consent holder's on-site management, developing acceptable means of addressing (where possible) and managing those concerns, and reviewing the implementation of measures to resolve and manage community concerns.

73. The consent holder shall be responsible for convening the meetings of the group and

shall cover the direct costs associated with the establishment and operation of the group. The consent holder shall be responsible for the keeping and distribution of the group's minutes to all participants in the group. A person independent of the consent holder shall chair the meeting. The chair shall be appointed by the Chief Executive Officer of the Gore District Council.

74. The consent holder shall notify its intention to establish a Consultative Group for the Kaiwera Downs Wind Farm project by public notice. As a minimum, the consent holder shall invite the following to participate in the Consultative Group:

    i. A representative of property owners and occupiers on local roads identified for use by construction traffic as nominated by the Chief Executive Officer of the Gore District Council. (1 representative)

    ii. The operator of the school-bus routes in the area (I representative)

    iii. An Elected Representative of the Gore District Council and one person appointed by the Chief Executive Officer of the Gore District Council (2 representatives)

    iv. Southland District Council or relevant Community Board (1 representative)

    v. The Southland Conservator or delegate of the Department of Conservation. (1 representative)

    vi. Iwi representatives (1 representative)

    vii. Local residents (3 representatives).

    No owner or occupier of any property on which the wind farm is located may a member of the group. The consent holder shall not be in breach of this condition if anyone or more of the above parties specified above do not wish to be members of the group or to attend any particular meeting.

75. The Consultative Group shall cease to exist if a 75% majority of the group vote that it is no longer necessary.

Complaints Register

76. The consent holder shall maintain and keep a Complaints Register to record any complaints about the construction activities and operation of the wind farm received by the consent holder in relation to traffic, noise, dust, analogue television interference, shadow flicker or blade glint. The Register shall also record, where the following information is available:

    i. The date, time and duration of the incident that has resulted in a complaint.

    ii. The location of the complainant when the incident was detected.

    iii. The possible cause of the incident.

    iv. Any corrective action undertaken by the consent holder in response to the complaint, including timing of that corrective action.

77. The Complaints Register shall be available to staff and authorised agents of the Gore District Council and to members of the Consultative Group at all reasonable times upon request. Complaints received by the consent holder that may infer non-compliance with the conditions of this resource consent shall be forwarded to the Chief Executive Officer of the Gore District Council within 48 hours of the complaint being received.

Commercial and Industrial Development Contribution

78. The Gore District Council may levy a commercial and industrial development contribution in respect of each building consent for the works required for the Kaiwera Downs Wind Farm or a stage in the development of the Kaiwera Downs Wind Farm (each a "development contribution").

    i. The value of each development contribution shall be no more than 0.2% (plus GST) of the value of the works to which the building consent relates, subject to (ii) below.

    ii. The aggregate value of all development contributions shall be the lesser of 0.2% of the value of all of the works required for the development of the Kaiwera Downs Wind Farm and $650,000 (indexed to inflation).

    iii. The payment of a development contribution may be deferred for a period and! or may be made in instalments with the approval of the Chief Executive Officer, Gore District Council.

    iv. Development contributions shall be paid in cash or, with the approval of the Chief Executive Officer, Gore District Council, may be made in part or in full by the consent holder undertaking works of an equivalent value in respect of a community development or facility.

    v. The value of each development contribution, and the total of all development contributions, shall be calculated in accordance with the development contribution calculation schedule attached as Schedule 1.

Landscape Mitigation Proposal

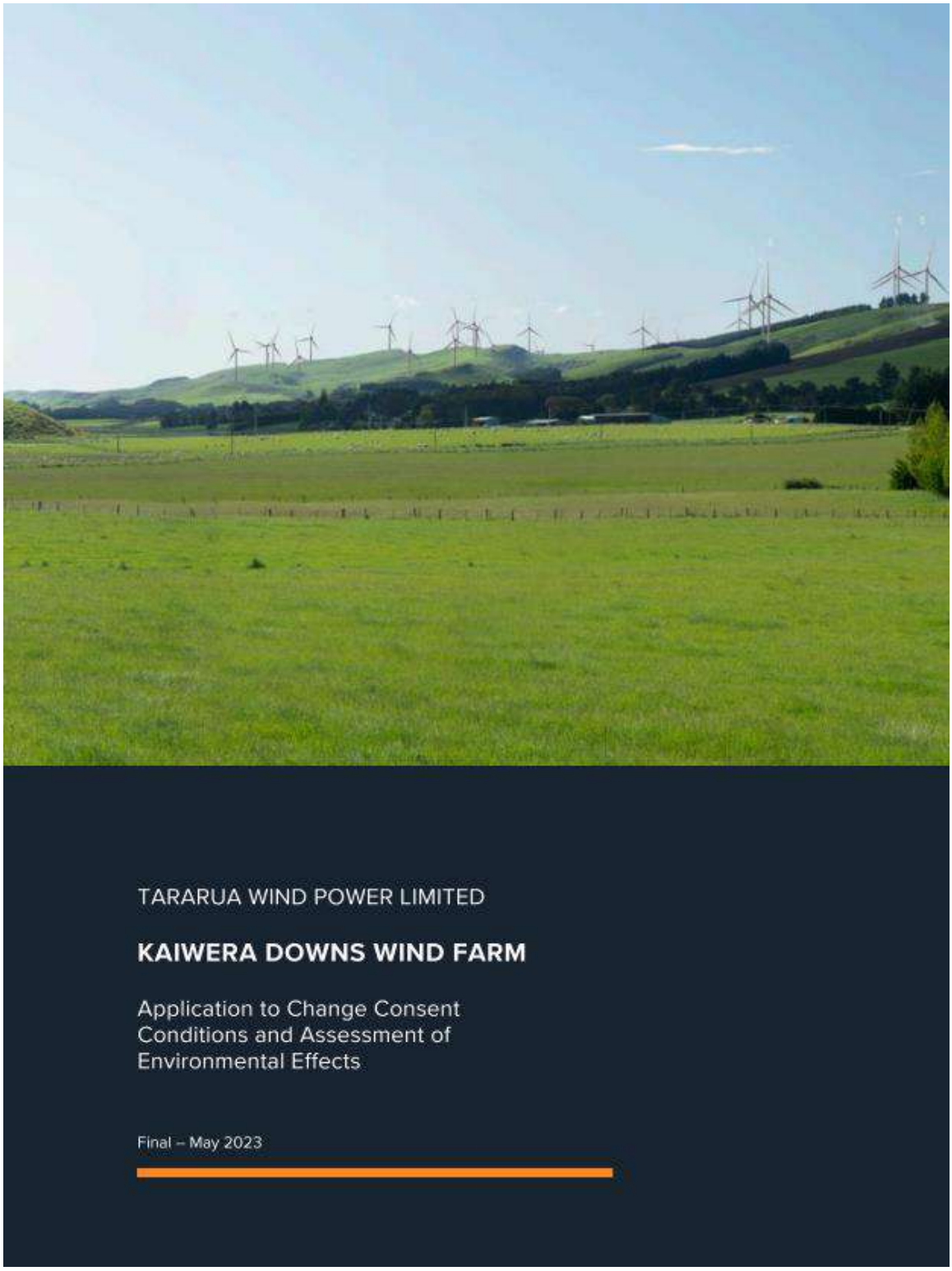
79. Within 6 months of the grant of consent, the consent holder will submit to A Woodrow, C Woodrow and A & J Moody (identified property owners) a landscape mitigation proposal for the purpose of mitigating, where practicable, the visibility of the KDWF turbines from their residences for approval by them.

If an identified property owner approves the landscape mitigation proposal, the consent holder shall implement that proposal prior to the construction of the turbines.

Within 12 months of the grant of consent, the consent holder will submit a report to the Chief Executive Officer of the Gore District Council detailing the landscape mitigation proposals that have been approved and implemented and any proposal that have not been approved. In the event that any landscape mitigation proposal is not approved, the Council may review under Section 128 of the RMA the conditions of consent to deal with, where necessary, the practicable mitigation of visibility of the KDWF turbines from the residences not already subject to an approved landscape mitigation proposal. Any review shall not affect the number and location of the approved turbines.

80. The consent shall be personal to TrustPower Ltd.

APPENDIX B – Applicant's AEE and Associated Reports, "Tararua Wind Power Limited Kaiwera Downs Wind Farm Application to Change Consent Conditions and Assessment of Environmental Effects" - May 2023.



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PART A

Resource Consent Application

FORM 10

APPLICATION FOR CHANGE OR CANCELLATION OF RESOURCE CONSENT CONDITION

Under section 127, Resource Management Act 1991

To: Gore District Council
P O Box 8
Gore 9740

1. **Tararua Wind Power Limited applies for a change of a condition of a resource consent.**

2. **This application relates to the following resource consent:**

   Resource Consent LU 2007/17.

3. **This application relates to the following specific conditions of the resource consent:**

   - General Condition 1 – General accordance condition amendment;
   - Specific Condition 12 – Maximum number of turbines;
   - Specific Condition 16 – Maximum turbine height; and
   - Specific Condition 19 – Turbine appearance.

4. **The proposed changes are as follows:**

   The proposed changes to conditions 1, 12, 16 and 19 of Resource Consent LU 2007/17 are documented in the attached Assessment of Environmental Effects.

   The proposed changes to conditions are principally to the approved documents and plans, and seek to enable the following changes:

   - The reduction in the maximum number of wind turbines within the turbine envelope from 83 to 66; and
   - The increase of the maximum turbine height to the tip of the blade from 145 m to 165 m.

5. **The site that the resource consent relates to is as follows:**

   - The Kaiwera Downs Wind Farm is currently being constructed in the vicinity of Kaiwera Downs, to the southeast of the township of Gore. The land to which the application relates is described in the attached Assessment of Environmental Effects.

- Copies of the relevant Records of Title are also attached to the Assessment of Environmental Effects.

6. **There are no other activities that are part of the proposal to which this application relates.**

7. **I attach an assessment of the proposed change's/cancellation's* effect on the environment that –**

   (a) Includes the information required by clause 6 of the Schedule 4 of the Resource Management Act 1991; and
   (b) Addresses the matters specified in clause 7 of Schedule 4 of the Resource Management Act 1991; and
   (c) Includes such detail as corresponds with the scale and significance of the effects that the activity may have on the environment.

8. **I attach an assessment of the proposed changes against the matters set out in Part 2 of the Resource Management Act 1991**

9. **I attach an assessment of the proposed changes against any relevant provisions of a document referred to in section 104(1)(b) of the Resource Management Act 1991, including the information required by clause 2(2) of Schedule 4 of the Act.**

10. **I attach the following further information required to be included in this application by the Gore District Plan, the Resource Management Act 1991, or any regulations made under that Act:**

- Assessment of Environmental Effects;
- Records of Title; and
- Resource Consent Decision.

Date: 17 May 2023

Signature:

(On behalf of Tararua Wind Power Limited by its authorised agent Richard Turner, Mitchell Daysh Limited)

Address for Service:	Tararua Wind Power Limited C/- Mitchell Daysh PO Box 331152, Takapuna Auckland 0740
Contact Person:	Richard Turner
Phone:	021 332 235
Email:	richard.turner@mitchelldaysh.co.nz

Address for Billing:	Tararua Wind Power Limited PO Box 90399 Auckland 1142
Contact Person:	Stephanie Cook
Phone:	021 088 14741
Email:	stephanie.cook@mercury.co.nz

B

PART B

Assessment of Environmental Effects

1. INTRODUCTION

1.1 PROJECT OVERVIEW

This Assessment of Environmental Effects ("**AEE**") has been prepared in support of an application under the Resource Management Act 1991 ("**RMA**" or "**Act**") by Tararua Wind Power Limited to vary the consent conditions that apply to the construction and operation of the Kaiwera Downs Wind Farm in the Gore District.

The original resource consent application for the Kaiwera Downs Wind Farm was made in November 2007 to the Gore District Council, and was ultimately granted via a Consent Order by the Environment Court in May 2009. A copy of the existing resource consent is attached as **Appendix A** to this AEE.

Figure 1 below provides a location map of the Kaiwera Downs Wind Farm, which is located amongst broken hill country approximately 15 km southeast of Gore.

Figure 1: Kaiwera Downs Wind Farm Location Map

The existing consent provides for the construction and operation of up to 83 wind turbines with a maximum tip height of 145 m at finished ground level within a project envelope, as well as an accompanying 220 kV transmission line that connects to Transpower's North Makarewa to Three Mile Hill Line near the intersection of Old Coach Road and Kaiwera Downs Road.

Tararua Wind Power Limited is currently progressing with the construction of the first stage of the Kaiwera Downs Wind Farm, which will establish 10 wind turbines with a maximum tip height of 145 m at finished ground level. Tararua Wind Power Limited is also currently

progressing a scoping and design process for subsequent stages of development at the wind farm, which includes evaluating opportunities to maximise the efficient generation of electricity from the wind resource at Kaiwera Downs. To this extent, Tararua Wind Power Limited is now seeking (by way of this application) to vary the existing resource consent for the Kaiwera Downs Wind Farm to provide for up to 66 wind turbines with a maximum tip height of 165 m at finished ground level.

1.2 INTRODUCTION TO TARARUA WIND POWER LIMITED / MERCURY

Tararua Wind Power Limited[1] is a New Zealand Limited Company that is wholly owned by Mercury Wind Limited, and is ultimately part of Mercury NZ Limited ("**Mercury**").

Mercury is one of New Zealand's largest electricity generators and retailers, providing energy services to homes, businesses and industrial consumers throughout New Zealand. 100% of the electricity generated by Mercury is from renewable energy sources – covering hydro, geothermal and wind generation. Mercury's Waikato Hydro Scheme, constructed between 1929 and 1971, is made up of eight dams, nine power stations and the Taupō Gates.

Over the last 20 years, Mercury has invested significantly in geothermal power development, and now operates five geothermal power stations in the Taupō Volcanic Zone. In relation to wind generation, Mercury is the largest owner and operator of wind farms across New Zealand – which includes the Waipipi, Turitea, Tararua and Mahinerangi Wind Farms. Mercury is also in the process of constructing Stage 1 of the Kaiwera Downs Wind Farm, and holds resource consents for the construction of two other wind farms in New Zealand.

Mercury acquired the wind assets of Tararua Wind Power Limited in 2021, which were formerly owned by Tilt Renewables Limited.

1.3 PROJECT RATIONALE

As already noted above, the existing resource consent for the Kaiwera Downs Wind Farm provides for the construction and operation of up to 83 wind turbines with a maximum tip height of 145 m within a defined project envelope. This envelope incorporates land above the 330 m contour and takes in the Kaiwera Ridge, Jackson's Ridge and Forestry Ridge.

Tararua Wind Power Limited have recently commenced construction of the first stage of the Kaiwera Downs Wind Farm, and will be installing ten Vestas V136 wind turbines. Consistent with the existing resource consent, these turbines have a maximum tip height

[1] NZBN: 9429039202277

of 145 m (as well as a hub height of 77 m, rotor diameter of 136 m and a ground clearance of 9 m).

Tararua Wind Power Limited is also currently progressing a scoping and design process for subsequent stages of development at the Kaiwera Downs Wind Farm, which includes evaluating opportunities to maximise the efficient generation of electricity from the wind resource at Kaiwera Downs and working with turbine suppliers to identify potential turbine options. To this extent, it is noted that wind turbine technology has significantly evolved since the resource consent for the Kaiwera Downs Wind Farm was granted – with newer turbines being able to generate significantly more electricity than earlier turbine models from correspondingly larger rotor areas and tip heights.

In order to maximise the generation potential of any future development at the Kaiwera Downs Wind Farm, and to provide flexibility as to the type of wind turbines that may be utilised in the future, Tararua Wind Power Limited is seeking to change the conditions of the existing resource consent to provide for the use of similar turbines as being established at present - but with a maximum tip height of 165 m at finished ground level. The increase in the tip height of the turbines will also facilitate Tararua Wind Power Limited to reduce the maximum number of turbines provided for in the project envelope from 83 to 66.

Overall, it is considered that the proposed changes to the conditions of the existing resource consent will enable Tararua Wind Power Limited to maximise the generation of electricity from the Kaiwera Down Wind Farms (which is limited to 240 MW) via the provision of fewer wind turbines (and consequentially less ancillary works across the project envelope).

1.4 REPORT STRUCTURE

This AEE has been prepared to accompany the application to vary the conditions applying to the existing resource consent for the Kaiwera Downs Wind Farm, as required by the RMA. This AEE is considered to comply with the relevant requirements in schedule 4 of the RMA and is also considered to address the relevant matters in the Gore District Plan.

This AEE comprises seven sections as follows:

Section 1: Provides a background to the variation application.

Section 2: Provides a brief description of the site and surrounding environment.

Section 3: Describes the details of the variation application.

Section 4: Provides an assessment of actual and potential environmental effects associated with the variation application.

Section 5: Sets out the statutory framework against which the variation application has been made and considers the variation in relation to the provisions of the RMA and the relevant statutory planning documents (but particularly the Gore District Plan).

Section 6: Addresses the notification requirements under the RMA.

Section 7: Is a short concluding statement.

2. EXISTING ENVIRONMENT

This section of the AEE provides a summary of the existing environmental values around the Kaiwera Downs Wind Farm.

The description of the existing environment provides the context against which the actual and potential effects of the proposed changes to the consent conditions for the Kaiwera Downs Wind Farm have been assessed. It is, however, noted that the description of the existing environment provided with the resource consent application for the wind farm in 2007 largely remains relevant to this variation application, and this is acknowledged in the various technical assessments appended to this AEE.

That said, it is noted that there have been some changes to the existing environment since consent was granted in 2009, including the commencement of construction of the wind farm and the establishment of approximately ten new residential dwellings within 7 km from the project envelope. The below commentary is intended to provide further context and clarification to inform this variation application.

2.1 SITE AND LOCALITY

The site of the Kaiwera Downs Wind Farm is located within the Southland Syncline in the general vicinity of Kaiwera Downs, and is situated approximately 15 km southeast of Gore and 10 km east of Mataura as shown in Figure 2 below.

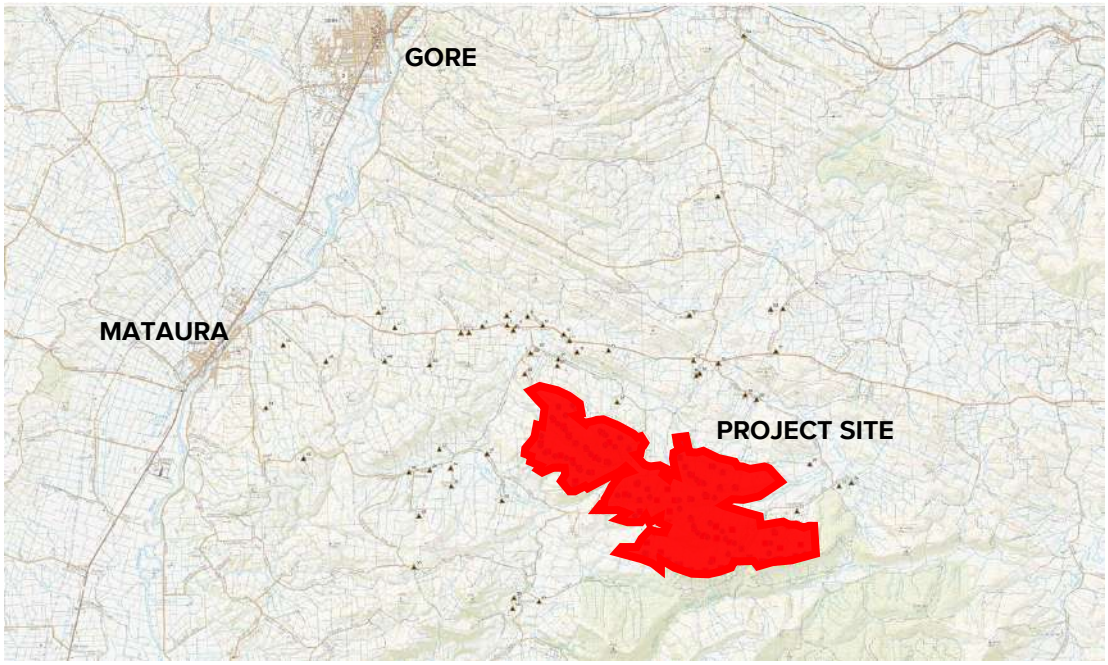

Figure 2: Site Location

The site of the Kaiwera Downs Wind Farm is broadly bounded by Old Coach Road (State Highway 93), Kaiwera Downs Road, Davidson Road West, Tinker Road, Waikana Road and Knowsley Park Road. The rural settlements of Ferndale, Waikana and Waiarikiki are located near the western boundary of the project site and Otaraia is located to the northeast of the site.

As previously noted, the project site is located wholly within the jurisdiction of the Gore District Council, however, the boundaries of the Southland District Council and Clutha District Council are in reasonable proximity to the site boundaries (approximately 1 km and 5 km respectively).

2.2 CONSENTED PROJECT ENVELOPE

The existing resource consent for the Kaiwera Downs Wind Farm provides for the development of the wind farm within a defined turbine envelope characterised by the following parameters:

- 2,568 ha of land incorporating the land above the 330m contour as illustrated in Figure 3 below;
- A maximum installed generation capacity of 240 MW;
- A maximum turbine height of 145 m; and
- A maximum of 83 turbines.

Figure 3: Consented Project Envelope

The project envelope has been shaped to respond to the preferred areas for the development of a wind farm – being the highest ridgeline and saddles. However, the formulation of the project envelope was also informed by environmental constraints identified during the original consenting process.

The rationale for using a defined turbine envelope, as opposed to defining specific development locations for individual turbines, was to retain some flexibility regarding the selection and precise locations of the wind turbines with the project site. Notwithstanding the flexibility afforded to turbine location, there are several variables that dictate optimal locations and distribution of turbines which include things such as site elevation, quality of the wind resource and turbulence, access / constructability, spacing, turbulence, etc. These fundamental variables limit the practical scope for substantial design or configuration departures from the indicative wind farm concept plans.

The indicative turbine layout for the Kaiwera Downs Wind Farm, based on 145 m high turbines, is set out in Figure 4 below. This layout was used as a 'base case' for the visual assessment undertaken for the original resource consent application in 2007.

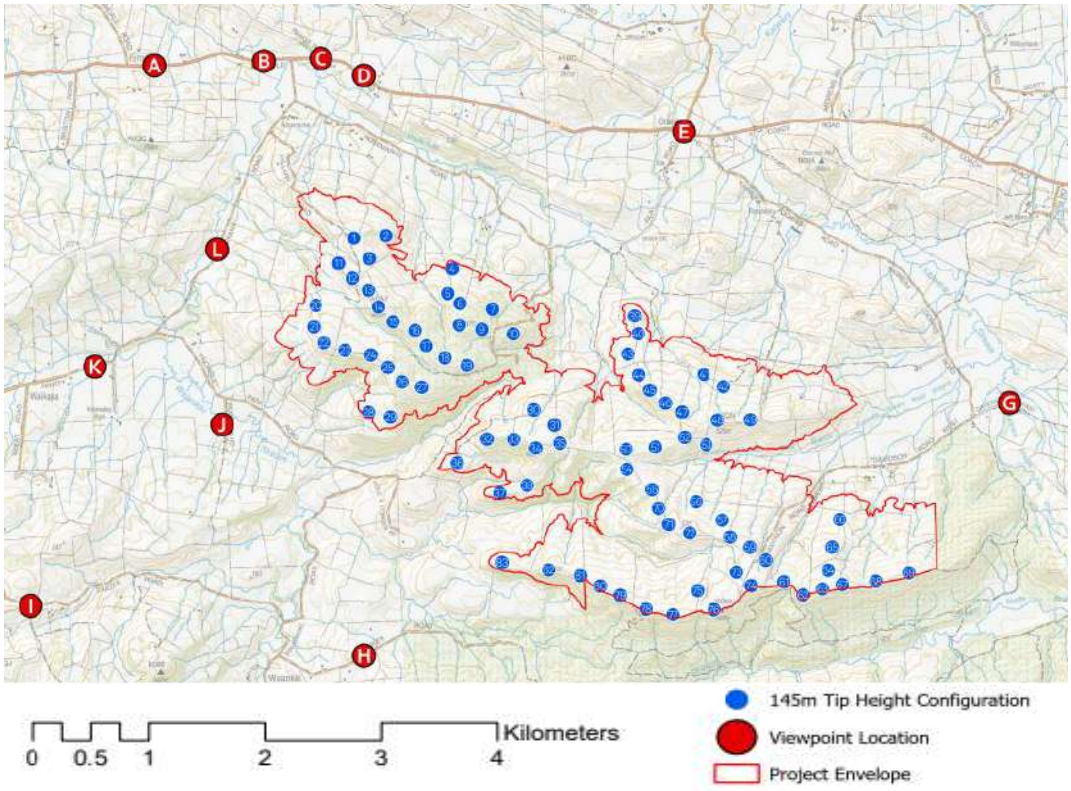

Figure 4: Indicative Turbine Layout (145 m Turbines)

2.3 LAND OWNERSHIP

The project site is made up of land held by 12 different parties.

Tararua Wind Power Limited hold enduring agreements with each of the landowners in the project envelope for the construction and operation of the Kaiwera Downs Wind Farm.

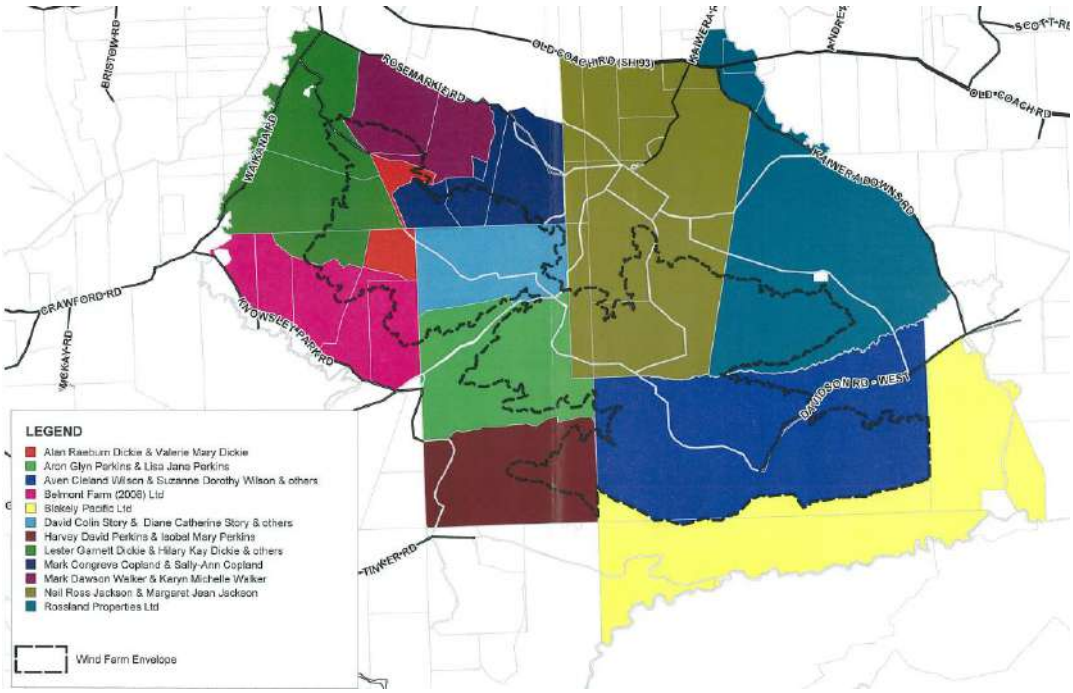

Figure 5: Variation Application Land Holdings

Further details of the landholdings relevant to this variation application are provided in **Appendix B** to this AEE, along with the Records of Title in **Appendix C**.

2.4 EXISTING LANDSCAPE CHARACTER AND VALUES

The underlying landscape characteristics and values of the wider environment were described in the landscape assessment prepared by Boffa Miskell in 2007 for the original resource consent application. Since then, Tararua Wind Power Limited has given effect to the resource consents held for the Kaiwera Downs Wind Farm through commencement of construction of the wind farm.

The visual and landscape assessment prepared by Isthmus (**Appendix E** to this AEE) notes that the Kaiwera Downs Wind Farm is amongst broken hill country. The hills are characterised by south-facing scarps, and shallower dip slopes to the north (i.e. they are a 'cuesta' type of hill).

The project envelope occupies two blocks of hills, each block comprising two ridges. The project envelope provides for wind turbines to be located on the north-facing dip slopes of each ridge:

- Western block comprising the north and south 'Forestry' ridges; and
- Eastern block comprising 'Jacksons' and 'Kaiwera' ridges.

Primary public views of the Kaiwera Downs Wind Farm are from Old Coach Road (State Highway 93) between Mataura and Clinton. Public visibility of the wind farm is otherwise limited to local rural roads that are often no-exit and unsealed. There are relatively few dwellings in the area, and visibility is restricted by the hill country.

The hills around the project site are productive farmland consisting mainly of beef and sheep, and dairy support. Dairy farming and cropping occur on the lower slopes, and small pine plantations and shelter belts are also characteristic elements of the site.

Some small stream tributaries are also located within the project site.

2.5 ZONING AND PLANNING FRAMEWORK

The project site is zoned 'Rural' in the Gore District Plan ("**GDP**"). All the surrounding land is also zoned 'Rural' until Mataura township approximately 10 km west, which is zoned 'Residential'. The project site is not subject to any Landscape or Significant Indigenous Area overlays.

The GDP recognises that the rural environment dominates the district and is primarily used for pastoral and arable farming, horticulture and planted production forestry. It characterises the rural environment by the compatibility of land uses, expanses of open space, privacy for inhabitants, a minimum of signage, low background noise levels and a high-quality roading network.

Residential activities are permitted in the Rural Zone on sites equal to or exceeding 2 ha in area; or sites exceeding 2,000 m^2 and less than 2 ha in area existing, or approved for subdivision, prior to March 2014. The density of residential units outside of the Residential Zone is limited to one residential unit. Whilst this might provide for additional dwellings on sites bordering the project site, the opportunities for significant increases in residential occupation of the surrounding rural area is constrained by both the land use provisions for the Rural Zone, demand, and the availability of services to building sites (i.e. sites closest to the road are typically developed in light of the cost of services).

2.6 RECENTLY ESTABLISHED DWELLINGS

Tararua Wind Power Limited understand that since the existing resource consent was granted in 2009, a total of ten new residential dwellings have been constructed on properties within 7 km of the project envelope for the Kaiwera Downs Wind Farm.

The location and distance of these dwellings from the project envelope are provided in **Appendix D** (which do includes dwellings established by landowners whose properties

form part of the project envelope) and have informed the package of technical assessments.

3. DESCRIPTION OF THE PROPOSAL

3.1 PROPOSED CHANGES TO THE EXISTING CONSENT

The conditions of the existing resource consent that Tararua Wind Power Limited are seeking to change as part of this variation application primarily relate to the maximum turbine height and the maximum number of turbines within the consented project envelope.

As previously noted in this AEE, the maximum dimensions for the wind turbines that were established for the Kaiwera Downs Wind Farm in 2007 - 2009 were based on an understanding of the existing and potential turbine technology available at the time. As such, condition 16 of the existing resource consent limits the maximum tip height of the turbines to 145 m.

Whilst Tararua Wind Power Limited are constructing the first stage of the Kaiwera Downs Wind Farm with ten turbines (Vestas V136 wind turbines) that are consistent with the maximum 145 m tip height of the existing resource consent, it is apparent that the available turbine options to comply with the existing resource consent conditions are becoming more limited given that rotor diameters on turbines are becoming larger – which also creates a situation whereby the available clearance between turbine blades and the ground is reasonable small.

In order to maximise the efficient use of the wind resource at the Kaiwera Downs Wind Farm, and to provide greater flexibility in the turbines available to be installed in the future (due to advances in technology), Tararua Wind Power Limited is seeking to increase the consented height limit for the turbines to 165 m. Given that larger wind turbines are able to generate more electricity per machine, Tararua Wind Power Limited have also confirmed that the total number of turbines required within the wind farm can reduce from a consented maximum of 83 (as per condition 12) to 66. This represents a 20% reduction in total number of wind turbines that may be established across the consented project envelope.

No changes are proposed to the consented project envelope or transmission envelope by Tararua Wind Power Limited. It is also noted that notwithstanding the proposed reduction in the total turbine numbers, the fundamental constraints to the placement of turbines within the project envelope will continue to apply. That is, the placement of turbines within the project envelope will continue to be dictated by site elevation, the quality of the wind resource and turbulence, and access / constructability matters.

Therefore, the continued application of the project envelope approach is not considered to enable a substantial change in the indicative or likely layout of the Kaiwera Downs Wind Farm with 165 m high turbines, as is depicted in Figure 6 below.

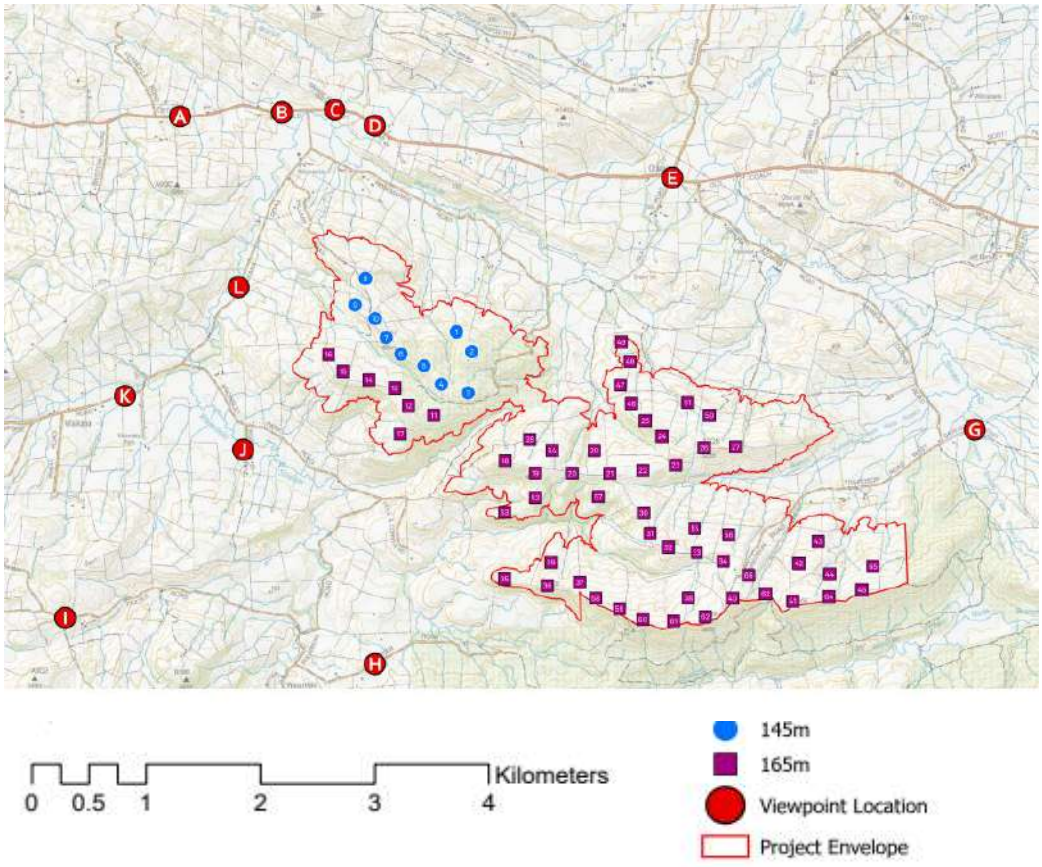

Figure 6: Indicative Turbine Layout - 165 m Turbines

3.2 PROPOSED CHANGE OF CONDITIONS

The proposed changes to the existing resource consent for the Kaiwera Downs Wind Farm, and an explanation of each change, is set out in redline and ~~strikethrough~~ in Table 1 below.

Table 1: Proposed Changes to LU 2007/17

Condition	Proposed changes	Reason for change
Condition 1	*The consent holder shall undertake all activities authorised by this consent in general accordance with:* *i. the plans and information submitted with the resource consent application dated 5 November 2007 and numbered LU 2007/17 by the Gore District Council, and any other documentation relevant to the application*	This change is proposed to reference the documentation forming part of this variation application.

	including requests for further information; and ii. *The plans and information submitted with the variation application under section 127 of the Resource Management Act 1991 dated 12 May 2023;* *except where inconsistent with these conditions. Any request to change or cancel a consent condition must be made in accordance with Section 127 of the Resource Management Act 1991.*	
Condition 12	*The maximum number of turbines in the Kaiwera Downs Wind Farm shall not exceed 66 ~~83~~ .*	This change is proposed to reflect the reduction in wind turbines proposed across the site by Tararua Wind Power Limited.
Condition 16	*The maximum turbine height to the tip of the blade shall not exceed 165 ~~145~~ metres at finished ground height.*	This change is proposed to allow for an increased turbine height, for the reasons discussed in this variation application.
Condition 19	*All turbines used within the wind farm site shall be similar in ~~size and~~ appearance.*	Condition 19 is unclear as to what constitutes 'similar' in terms of size. As such, and adopting a conservative approach, Tararua Wind Power Limited propose to delete reference to the size of the turbines being similar. It is proposed to retain reference to the appearance being similar, as there is no proposal for lattice towers or two-bladed turbines to be utilised on the site.

4. ASSESSMENT OF ENVIRONMENTAL EFFECTS

This section of the AEE addresses the actual and potential environmental effects associated with the variation application. The relevant effects for this variation application are limited to those associated with the proposed changes to conditions 1, 12, 16 and 19 of the existing resource consent – in accordance with section 127(3) of the RMA.

4.1 POSITIVE EFFECTS

The positive effects of the Kaiwera Downs Wind Farm are set out in the AEE for the original resource consent application, and included:

- The proposed wind farm having the potential to achieve an average output of up to 904 GWh per year;
- The electricity generated from wind farm representing a net economic benefit to electricity generation of approximately $30.6 - $32.3 million per year (as at 2007);
- The diversification of electricity generation source in the lower South Island and the reduction of transmission losses in the electricity network;
- The wind farm will utilise a renewable energy resource (i.e. wind) to generate electricity. This will offset approximately 321,000 tonnes of CO_2 emissions per year associated with the equivalent output from a gas fired power station or 730,000 tonnes per year associated with the equivalent output from a coal fired power station; and
- The land comprising the project envelope will continue to be available for existing agricultural activities, and the wind farm also does not affect the future harvest of production forestry on the site.

The variation application will not impact on these previously identified positive effects of the Kaiwera Downs Wind Farm. That is, the identified positive effects of the wind farm will continue to be realised with larger turbines and a reduction in the total number of turbines (particularly given that the generation capacity of modern turbines has significantly increased).

In addition to the above, it is noted that the proposed increase in turbine height and reduction in total turbine numbers will result in the Kaiwera Downs Wind Farm providing a more spacious and less cluttered appearance – providing a positive landscape or visual effect from some of the identified viewpoints. This is discussed further in section 4.2 below.

In addition, the establishment of fewer turbines will require less landform modification and associated construction effects in the landscape.

4.2 VISUAL AND LANDSCAPE EFFECTS

Isthmus have undertaken an assessment of the potential visual and landscape effects of the proposed changes to the height and number of proposed turbines at the Kaiwera Downs Wind Farm (which is attached as **Appendix E** to this AEE).

Isthmus also undertook a comparison of the visual effects associated with the consented wind farm and the proposal outlined in section 3 of this AEE, which included the preparation of new visual simulations from viewpoints utilised in the original landscape assessment for the Kaiwera Downs Wind Farm (attached as **Appendix F** to this AEE).

4.2.1 Potential Effects

Isthmus (2023) provides an assessment of potential adverse effects on landscape values from increasing wind turbine height, including consideration of such matters as dominance, the scale relationship of the wind turbines with the landscape, aesthetic coherence, and effects on rural character and amenity values. The potential positive effects on landscape values from reduced wind turbine numbers are also assessed, including consideration of such matters as spaciousness and visual clutter.

Their findings which identify the above-mentioned potential effects are summarised in Table 2 as follows.

Table 2: Summary of Potential Effects on Landscape Values

Identified Potential Effect	Analysis
Dominance	The increased height will have a negligible effect with respect to dominance for the following reasons: › The wind turbines are separated by some distance form roads and houses. In most instances houses and roads in the area are greater than 2 km from the project envelope; and › The 14% increase in wind turbine height will also not be as apparent as the percent increase might suggest because wind turbines have a generic and scaleable shape, and they lack other ready scale references in the landscape.
Scale relationship with landscape	Wind turbines typically have a scale relationship with the whole underlying landscape because of the absence of other scale references. The scale relationship with the whole landscape entails both vertical and horizontal landscape dimensions. › The approximately 250 m – 300 m height of the scarp ridges will remain dominant compared to the wind turbines' 165 m tip height -

	especially given that the overall scale of the scarps is larger because they comprise both vertical and horizontal dimensions, and one's eyes tend to be drawn to the hub (nacelle) which is fixed and more solid, rather than the thinner, moving rotor tips; and › The pattern of wind turbines will remain consistent with the four dip slope surfaces. The wind turbines will continue to be slender elements visually anchored by the mass of the hills.
Aesthetic coherence	The wind turbines will be within the consented project envelope and maintain a similar pattern with respect to landform as discussed above. Aesthetic coherence will be retained between the wind farm and landform. Aesthetic coherence will also be maintained between all the wind turbines within the wind farm: › The differences between the larger wind turbines and those currently being installed will be a taller tower and a larger gap between the rotors and ground. From most viewpoints, the bases of the wind turbines will be obscured beyond the brow of the hills and therefore the differences in gap between rotors and ground will not be apparent; and › In addition, the turbines currently being constructed are on a different landform from the subsequent stages.
Rural character and amenity	The increase in height will have no effect on rural character and rural amenity values compared to the consented wind farm. The underlying pasture and farming activities will continue beneath the wind turbines. The wind farm will remain appropriate with respect to landscape values for the same reasons as for the existing consent.
Positive effects of fewer wind turbines	Approximately 20% fewer wind turbines are proposed compared to what is authorised by the existing resource consent, which will mean a more spacious pattern and slightly less cluttered appearance. Fewer wind turbine numbers will also mean less landform modifications.

4.2.2 Public Visibility

As noted above, Isthmus have undertaken an assessment of the nature and degree of effects of the proposed changes from twelve representative public viewpoints illustrated with photo simulations. Seven of the viewpoints are the same as those used in the landscape and visual effects assessment provided with the original resource consent application, while the other five were selected to best represent public viewpoints from

each direction. The photo simulations provide 'before and after' simulations for each viewpoint that depict a comparison between indicative 145 m tip height turbine layout under the existing resource consent and the indicative 165 m tip height turbine layout proposed as part of this variation application.

For the reasons set out in Isthmus (2023), the effects on landscape and amenity values from the proposed changes are considered to be:

- A low degree of positive effects at Viewpoints A, B, C, J, K and L;
- No change to effects at Viewpoints D, F, H and I; and
- A very low degree of adverse effects (negligible) at Viewpoints E and G.

Isthmus (2023) concludes that any adverse effects of additional wind turbine height on the amenity values of public views will be at most 'very low' (negligible or 'less than minor'). In most instances such effects will be offset by the benefits of fewer wind turbine numbers so that there will typically be 'very low' or 'low' positive effects, or no effects at all. The benefits of the reduced turbine numbers are identified to be experienced more abundantly at the western end of the project envelope.

4.2.3 Private Views from Dwellings

Isthmus (2023) also assesses (using aerial photos, topographic maps, and road-side observation) the landscape and amenity effects of the proposed changes on 41 dwellings within 4 km of the project envelope, and for dwellings beyond 4 km where there were submitters to the original consent (14 dwellings). It is noted that the assessment by Isthmus includes dwellings on the properties that form part of the project envelope (and notwithstanding the agreements held by Tararua Wind Power Limited), such that the assessment is considered to be conservative in its approach.

The locations of the identified dwellings are provided in **Appendix F** to this AEE.

Of the 41 dwellings within 4 km of the project envelope, the visual effects of the proposed changes to wind turbine height and numbers are considered to be as follows:

- Low degree of positive visual effects on 11 dwellings, the majority of which are positioned north of the project envelope;
- Very low degree of positive visual effects on 17 dwellings, the majority of which are positioned north-west, west and south-west of the project envelope;
- No change to visual effects on 9 dwellings, the majority of which are positioned north and north-east of the project envelope;
- Very low (negligible) degree of adverse visual effects on 3 dwellings, all of which are positioned east of the project envelope; and

- Low degree of adverse visual effects on 1 dwelling which is located 350 m east of the project envelope.

It is important to note that the dwelling on which the proposed changes are considered to result in a low degree of adverse visual effects (i.e. minor effects), is located on land that forms part of the project envelope.

Of the 14 dwellings beyond 4 km of the project envelope, the visual effects of the proposed changes to wind turbine height and numbers are considered to be as follows:

- Very low degree of positive visual effects on 8 dwellings, the majority of which are positioned west and north-west of the project envelope; and
- No change to visual effects on 6 dwellings, the majority of which are positioned north of the project envelope;

Isthmus (2023) concludes that any adverse effects of additional wind turbine height on views from dwellings will be at most 'very low'.[2] In most instances (especially from the north, west, and south-west) such effects will be offset by the positive effects of the reduced wind turbine numbers. Therefore, the effects of the proposed variation on landscape and amenity values from private dwellings are considered to be less than minor.

4.2.4 Summary of Landscape and Visual Effects Assessment

While the difference in height of the larger wind turbines will be perceptible compared to the consented height from some locations, Isthmus (2023) conclude it will have (at most) less than minor adverse effects on landscape values - including such aspects as visual dominance, scale relationship to the landscape, aesthetic coherence, and rural character and amenity values.

In addition, there will be positive effects from 20% fewer wind turbines compared to that provided for under the existing resource consent – the result of which is a slightly more spacious and less cluttered appearance of the wind farm. The overall landscape and visual effects of taller and fewer wind turbines is therefore considered to be that of a 'low' or 'very low' degree of positive effect.

4.3 ECOLOGICAL EFFECTS

Boffa Miskell have undertaken an assessment of the potential ecological effects of the proposed variation application on behalf of Tararua Wind Power Limited, which is attached as **Appendix G** to this AEE.

[2] Except for 'low' adverse effects on the nearest dwelling on Kaiwera Downs Station which is part of the wind farm landowners.

As explained in section 2 and 3 of this AEE, the existing resource consent specifies a project envelope within which all project infrastructure must remain be located, and which has been formed around a set of visual and ecological constraints. The proposed changes sought by this variation application have no implications to the ecological conditions imposed by the existing consent conditions (e.g. condition 26).

The only area identified by Boffa Miskell (2023) where there may be changes to the original ecological assessment is the potential impacts on avifauna. Therefore, the focus of the assessment is on avifauna generally and the New Zealand falcon specifically.

Internationally, it is generally recognised that larger, more widely spaced modern turbines have a lower collision risk for most species of avifauna than older turbines which are smaller, more closely spaced.

Boffa Miskell (2023) has considered international and domestic examples, along with site specific modelling that indicates collision risk of New Zealand falcon will be reduced in the order of approximately 30% as a result of the proposed changes to turbine height and numbers. The assessment also concludes that due to the project envelope and ecological constraints layer remaining unchanged from the existing resource consent, the majority of findings to the original ecological assessment remain relevant and applicable to this variation application.

Overall, Boffa Miskell (2023) conclude that the proposed increase in turbine height along with the reduction in turbine numbers will not increase the risk to New Zealand falcon - rather it will likely reduce the risk compared to the existing resource consent. Furthermore, Tararua Wind Power Limited will continue to monitor and report on any effects on New Zealand falcon in accordance with condition 28 of the existing resource consent.

4.4 ACOUSTIC EFFECTS

With the proposed increase in turbine height, there is a potential for a minor change in the noise effects.

The existing resource consent is subject to operational noise conditions relevant to the turbines. The specific conditions relation to turbine operational noise are set out in Table 3 below.

Table 3: Operational Noise Conditions

Condition	Condition Requirement
38.	*Wind turbine sound levels when measured at the notional boundary of dwellings existing at the date of this consent (or a dwelling that replaces any existing dwelling in the same location) shall not exceed the appropriate regression curve*

of the A-weighted background sound level (L95) by more than 5 dBA, or a level of 40 dBA L95, whichever is the greater.

When the background sound conditions between the hours of 10 pm and 7 am the following day are at or below 25 dBA L95 determined from the appropriate regression curve without the interference of the wind farm, and when the mean wind speed at a representative location for the dwelling is less than 1.5m/sec measured at a height of nominally 3 metres above ground level, then noise from the wind farm shall not exceed 35 dBA L95 within the notional boundary of 16 Davidson Road East, being Lot 1 DP 15306 as described in CFR SL12B/80; and 57 Davidson Road East, being Section 17 Block II Slopedown Survey District, as described in CFRSLA4/ 151.

This condition does not apply to any dwelling where the consent holder has reached agreement with the landowner, and such agreement is lodged with the Chief Executive Officer of the Gore District Council.

The wind farm sound level shall be measured, and assessed using NZS 6808: 1998 Acoustics – The Assessment and Measurement of Sound from Wind Turbine Generators. Where requirements of these conditions differ from NZS 6808:1998 then these requirements shall prevail.

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39. *Prior to installation of any wind turbine generator the consent holder shall furnish*

i. *An acoustic emissions report to the Chief Executive Officer of the Gore District Council for each type of the selected wind turbine generators. The report shall be in accordance with Techniques and shall include the A-weighted sound power levels, spectra, and tonality at integer wind speeds from 6 to 10 m/ s and up to 95% of rated power for each type of individual wind turbine to be installed.*

ii. *A noise prediction report from a suitable qualified and experienced acoustical consultant that demonstrates to the satisfaction of the Chief Executive Gore District Council that the sound levels from the wind farm will not exceed those levels set out in Condition 38 above. Mode of operation and the type of turbine must be specified. For the avoidance of doubt, this resource consent does not authorise the use of a stall turbine design.*

Tararua Wind Power Limited does not propose to vary any of the above noise conditions, which would continue to apply to the revised proposal. To determine whether the increase in tip height would impact on Tararua Wind Power Limited's ability to comply with these conditions, a comparison of noise emissions from a wind farm with a 145 m tip height, versus the same farm with a 165 m tip height was undertaken by Marshall Day Acoustics (which is attached as **Appendix H** to this AEE).

Marshall Day (2023) concludes that an increase in maximum tip height will not have a noticeable impact on either the measured or the perceived noise level from the Kaiwera Downs Wind Farm. This has been determined looking purely at increasing the tip height but keeping the turbine sound power levels and number of turbines the same - notwithstanding that Tararua Wind Power Limited is seeking to reduce the number of turbines, and advances in wind turbine technology will reduce the overall noise footprint of the wind farm, compared with what was considered in the existing resource consent.

Given the above, it is considered that an increase in tip height of 165m (and an associated reduction in the number of turbines from 83 to 66) will not compromise Tararua Wind Power Limited's ability to comply with the existing noise conditions for the Kaiwera Downs Wind Farm – and the maximum potential noise effects for adjacent dwellings will be no greater than already authorised.

4.5 SHADOW FLICKER EFFECTS

An assessment of the shadow flicker durations for sites around the Kaiwera Downs Wind Farm has been undertaken by DNV Australia Pty Limited. This report is provided in **Appendix I** to this AEE.

DNV (2023) have modelled the revised indicative turbine layout for the project envelope at the Kaiwera Downs Wind Farm as illustrated in Figure 7 below.

This modelling considered the location of the surrounding dwellings, the turbine rotor diameter, turbine height and sun path to demonstrate consented, likely, and worst-case shadow flicker scenarios for dwellings within a 10-rotor diameter distance (1,560 m) from the project envelope. DNV has modelled shadow flicker from generic turbines with the proposed dimensions in flat terrain (which neglects potential obstruction from terrain features) in order to produce a 'worst-case' shadow flicker scenario and define areas where high-intensity shadow flicker could theoretically be produced,

From the review of Figure 7 and as summarised in Table 4, DNV (2023) demonstrates that the proportion of the area available for turbine placement which would be potentially constrained by shadow flicker is relatively small.

Table 4: Shadow Flicker Constrained Areas

Turbine dimensions case	Shadow flicker constrained area	
	Km²	% Unconstrained development envelope
Consented	0.70	4.8%

Likely scenario	0.94	6.5%
Worst-case scenario	1.08	7.5%

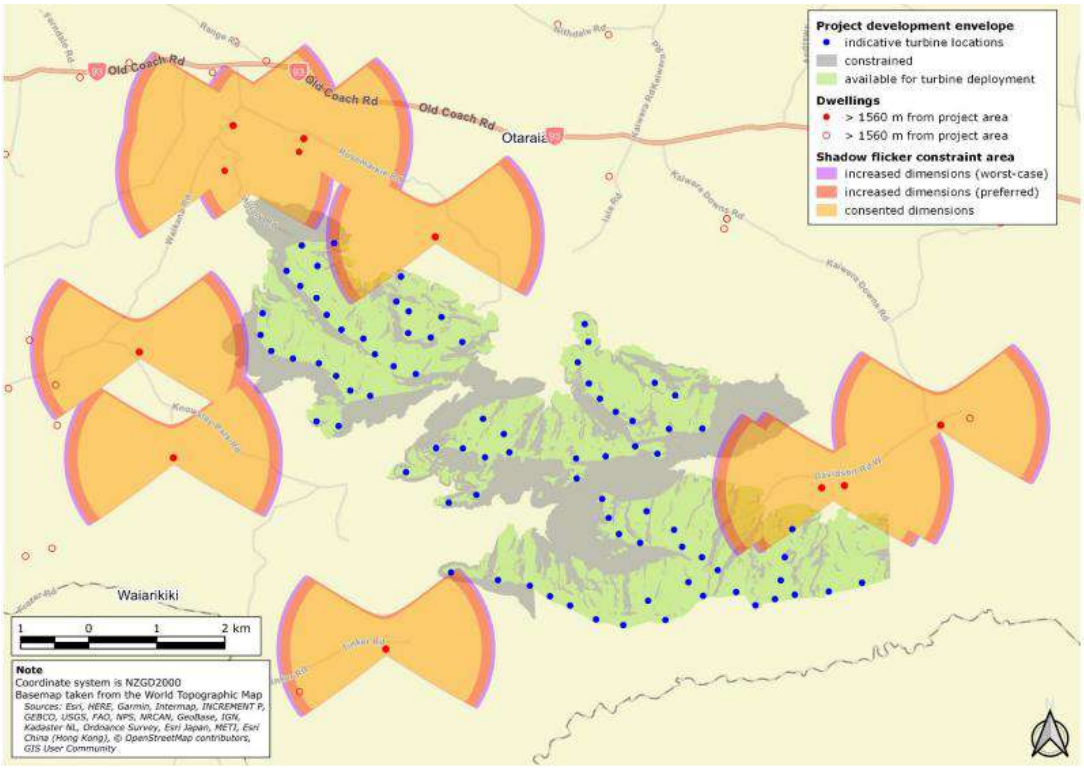


Figure 7: Project Envelope and Indicative Shadow Flicker Constrained Areas

Condition 24 of the existing resource consent outlines the requirements of Tararua Wind Power Limited to assess the extent of shadow flicker beyond the boundaries of those properties which are part of the project envelope. Considering the proposed reduction in the number of turbines, and the estimated extent of the shadow flicker constrained areas for the different turbine dimension scenarios, DNV (2023) concludes that it will be possible for Tararua Wind Power Limited to produce a wind farm layout which would be compliant with condition 24 of the existing resource consent.

In light of the above, the shadow flicker effects for adjacent dwellings will be no greater than already authorised.

5. STATUTORY ASSESSMENT

5.1 INTRODUCTION

Form 10 of the Resource Management (Forms, Fees, and Procedure) Regulations 2003 requires a variation application to include an assessment against the matters set out in Part 2 of the RMA, and any relevant provisions of a document referred to in section 104(1)(b) of the RMA.

Section 104 of the RMA lists the matters that a consent authority must, subject to Part 2, have regard to in determining whether a resource consent application to change the conditions of a consent should be granted. However, in accordance with section 127 of the RMA the reference to 'resource consent' and to 'activity' is limited to the change to conditions. Section 104 states:

(1) When considering an application for a resource consent and any submissions received, the consent authority must, subject to Part 2, have regard to–

(a) any actual and potential effects on the environment of allowing the activity;

(ab) any measure proposed or agreed to by the applicant for the purpose of ensuring positive effects on the environment to offset or compensate for any adverse effects on the environment that will or may result from allowing the activity; and

(b) any relevant provisions of—

(i) a national environmental standard:

(ii) other regulations:

(iii) a national policy statement:

(iv) a New Zealand coastal policy statement:

(v) a regional policy statement or proposed regional policy statement:

(vi) a plan or proposed plan; and

(c) any other matter that the consent authority considers relevant and reasonably necessary to determine the application.

(2) When forming an opinion for the purposes of sub-section (1)(a), a consent authority may disregard an adverse effect of the activity on the environment if a national environmental standard or the plan permits an activity with that effect.

(2A) When considering an application affected by section 124 or 165ZH(1)(c), the consent authority must have regard to the value of the investment of the existing consent holder.

Section 104 of the RMA does not give primacy to any of the matters to which a consent authority is required to have regard. All of the relevant matters are to be given such weight as the consent authority deems appropriate in the circumstances, and all matters listed in section 104(1) are subject to Part 2 of the RMA.

5.2 ACTUAL AND POTENTIAL EFFECTS

With respect to section 104(1)(a) of the RMA, the actual and potential effects on the environment in respect of the proposed changes to the conditions of the existing resource consent are set out in section 4 of this AEE (and the accompanying technical reports).

Furthermore, and based on the conclusions reached with respect to the actual and potential adverse effects of this variation application, no additional compensatory or offsetting measures are proposed or considered necessary by Tararua Wind Power Limited in terms of section 104(1)(ab) of the RMA.

5.3 RELEVANT STATUTORY PLANNING DOCUMENTS

In terms of section 104(1)(b) of the RMA, the following sub-sections provide an assessment of the variation application against the:

- National Policy Statement for Renewable Electricity Generation 2011 ("**NPS-REG**");
- National Policy Statement for Highly Productive land 2022 ("**NPS-HPL**");
- Southland Regional Policy Statement 2017 ("**RPS**"); and
- GDP.

5.3.1 National Policy Statement for Renewable Electricity Generation 2011

The NPS-REG came into effect on 13 May 2011 - after the granting of the existing resource consent for the Kaiwera Downs Wind Farm by the Environment Court in 2009. The NPS-REG seeks to enable the sustainable management of renewable energy generation under the RMA.

The sole objective of the NPS-REG seeks to provide for the development and operation of new and existing renewable electricity generation activities, such that the proportion of New Zealand's electricity generated from renewable energy sources increases to levels that meet or exceed the Government's national target for renewable electricity generation.

Policies B, C1 and C2 of the NPS-REG are considered most relevant to the Kaiwera Downs Wind Farm as they seek to ensure decision makers:

- Recognise the benefits of renewable electricity generation activities;
- Acknowledge the practical implications of achieving an increase in the proportion of electricity generated from renewable sources; and

- Acknowledge the practical constraints associated with the development, operation, maintenance and upgrading of new and existing renewable electricity generation activities.

As discussed in sections 1.1 and 4.1 of this AEE, the Kaiwera Downs Wind Farm will enable the development of additional renewable electricity generation capacity – noting the Government has set an aspirational goal of 100% renewable electricity by 2030 compared to the strategic target in the NPS-REG that 90% of electricity generated in New Zealand be derived from renewable energy sources by 2025 (based on delivered electricity in an average hydrological year). The changes to the turbines proposed by Tararua Wind Farm Limited will ensure that the Kaiwera Downs Wind Farm most efficiently contributes to this goal and the decarbonisation of the New Zealand economy.

Policy B of the NPS-REG focuses on the need to acknowledge the practical implications of achieving New Zealand's renewable energy targets. The proposal seeks to improve the overall efficiency of the Kaiwera Downs Wind Farm, but it is also recognised that the type of turbines available into the future is becoming larger and there are limited options available to reduce the visual effects of these turbines in the environment. As is the case with the Kaiwera Downs Wind Farm, the focus is on ensuring that turbines are appropriately located in the environment and appropriately sited relative to neighbouring dwellings.

Policy C1 recognises the practical implications and locational constraints associated with the development of renewable electricity generation activities. As already discussed in this AEE, the changing turbine technology and the need to maximise the efficient use of the wind resource on the site means that it will not be practical into the future to maintain a turbine tip height of 145 m.

With respect to Policy C2, it seeks that decision-makers have regard to any offsetting measures or environmental compensation when considering any residual environmental effects associated with renewable electricity generation activities that cannot be avoided, remedied or mitigated. The *"National Policy Statement for Renewable Electricity Generation – Implementation Guidance"* by the Ministry for the Environment notes that it is up to the resource consent applicant to volunteer the offsetting of compensatory measures. For the reasons outlined in relation to section 104(1)(ab) of the RMA, no offsetting or environmental compensation measures are considered necessary.

In light of the assessment above, it is concluded that the proposed variation application will be consistent with the stated objective and policy directives of the NPS-REG.

5.3.2 National Policy Statement for Highly Productive Land 2022

The NPS-HPL came into effect on 17 October 2022, with the overall purpose being to improve the way highly-productive land is managed to:

- Recognise the full range of values and benefits associated with its use for primary production;
- Maintain its availability for primary production for future generations; and
- Protect it from inappropriate subdivision, use and development.

With regard to this variation application, the land use classification for the site encompassed by the project envelope consists of a combination of LUC Class 3, 4, 5 and 6. The overwhelming majority of the project envelope is made up of LUC Class 4 and 5 with almost indiscernible portions of LUC Class 3 and 6 areas in a few sections along the periphery of the project envelope. This is demonstrated in Figure 8 below.

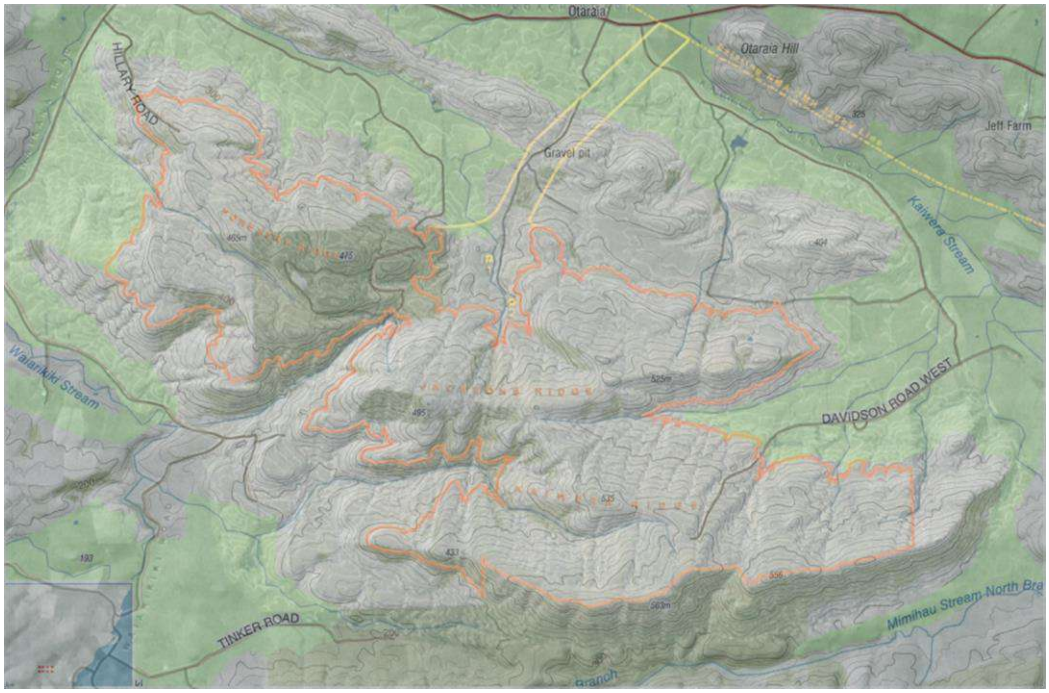


Figure 8: New Zealand Land Resource Inventory Mapping[3] (LUC 3 Class Land in Light Green Shading)

Notwithstanding that there is little productive land within the project envelope, the relevant objectives and policies of the NPS-HPL have been assessed as the Kaiwera Downs Wind Farm is not a primary production activity.

The NPS-HPD includes a single overarching objective:

> *... Highly productive land is protected for use in land-based primary production, both now and for future generations.*

[3] New Zealand Land Resource Inventory information sourced from Our Environment – Manaaki Whenua Landcare Research [https://ourenvironment.scinfo.org.nz]

The relevant policies include:

> *Policy 1: Highly productive land is recognised as a resource with finite characteristics and long term values for land-based primary production.*
>
> *Policy 8: Highly productive land is protected from inappropriate use and development.*
>
> *Policy 9: Reverse sensitivity effects are managed so as not to constrain land-based primary production activities on highly productive land.*

Although the Kaiwera Downs Wind Farm is not a primary production activity, it should be noted that once the consented facility is constructed, less than 1% of the land area contained within the project envelope will be utilised by the wind farm. Therefore, the current farming land uses will be able to continue unaffected by the operation of the wind farm.

Part 3 of the NPS-HPL sets out a non-exhaustive list of things that local authorities must do to give effect to the objectives and policies of the NPS-HPL. Section 3.9 states that territorial authorities must avoid the inappropriate use or development of highly productive land that is not land-based primary production. It also outlines that use or development of highly productive land is inappropriate except where at least one of the exceptions contained within subclause (2) applies and the measures in subclause (3) are also applied.

Exception 3.9(2)(j)(i) identifies a use or development that is associated the maintenance, operation, upgrade, or expansion of specified infrastructure where there is a functional or operation need for the use or development to be on the highly productive land.

Subclause (3) also requires territorial authorities to take measures to ensure that any use or development on highly productive land:

> *(a) Minimises or mitigates any actual loss or potential cumulative loss of the availability and productive capacity of highly productive land in their district; and*
>
> *(b) Avoids if possible, or otherwise mitigates, any actual or potential reverse sensitivity effects on land-based primary production activities from the use or development.*

The definition of specified infrastructure in section 1.3 of the NPS-HPL includes infrastructure that is recognised as regionally or nationally significant in a National Policy Statement, New Zealand Coastal Policy Statement, regional policy statement or regional plan. As outlined in section 5.3.1 of this AEE, the NPS-REG recognises renewable electricity generation activities as a matter of national significance. The Kaiwera Downs Wind Farm is therefore considered to fall within the definition of specified infrastructure – and therefore the exemption under 3.9(2)(j)(i) is considered to apply.

Given that the wind farm is already consented within the project envelope, the proposed variation presents no loss of the availability and productive capacity of highly productive

land, and that there is no actual or potential reverse sensitivity effects on land-based primary production activities. Furthermore, the reduction in the total number of turbines within the project envelope will minimise the disturbance area required to fully construct the wind farm.

It is for the reasons stated above that the proposed variation is considered to be provided for within the objective and policy framework of the NPS-HPL.

5.3.3 Southland Regional Policy Statement 2017

The Southland Regional Policy Statement ("**RPS**") became operative on 9 October 2017, and as such, post-dates the GDP.

The RPS guides resource management practice in the Southland Region - providing a framework on which to base decisions regarding the management of the region's natural and physical resources. The RPS includes objectives and policies relevant to this variation application in Chapters 5, 6, 10 and 16 relating to Rural Land / Soils, Biodiversity, Natural Features and Landscapes, and Energy respectively.

Chapter 5: Rural Land/Soils

Objectives RURAL.1 and 2 of the RPS aim to promote the sustainable use and development of Southland's rural land resource, while safeguarding the life-supporting capacity, mauri and health of soils in rural areas.

Policy RURAL. 1 acknowledges that the use and development of rural land resources through land-based activities such as farming, forestry, mineral extraction, energy generation, manufacturing / industry and tourism provide for the wellbeing of people and communities within Southland. The policy seeks to ensure that these activities are undertaken in a way that promotes the sustainable management purpose of the RMA.

These objectives and policies are enabling of the Kaiwera Downs Wind Farm and this variation application providing specifically for energy generation activities. As is outlined in section 4 of the AEE (and the accompanying technical reports), the proposed variation is considered to generate actual and potential effects that are less than minor result in positive effects on some aspects of the surrounding environment. The proposed variation will also not compromise the use of the project envelope for existing farming activities into the future.

Chapter 6: Biodiversity

Objective BIO.2 aims to maintain indigenous biodiversity in Southland and protect areas of significant indigenous vegetation and significant habitats of indigenous fauna for present and future generation. Policies BIO.2, 4 and 6 seek to protect, maintain and monitor indigenous biodiversity.

As noted in section 2 of this AEE, the project site is not subject to any identified areas of significant indigenous vegetation and habitats. However, the existing resource consent recognises areas of indigenous vegetation within the project envelope - protecting these areas through turbine exclusion areas within the project envelope. The existing resource consent conditions also acknowledge the need for ecological monitoring, with a particular focus on New Zealand falcon.

As noted in section 5 of this AEE, Boffa Miskell (2023) notes the proposed changes sought by this variation application have no implications to the ecological conditions imposed by the existing consent conditions. Boffa Miskell (2023) also conclude the proposal will likely reduce the risk to New Zealand falcon compared to the layout options provided for in the existing resource consent.

Chapter 10: Natural Features and Landscapes

The objectives and policies in Chapter 10 of the RPS seek to identify and protect both outstanding, as well as locally distinctive and valued, natural features and landscapes.

As already discussed in this AEE, the Kaiwera Downs Wind Farm is not located within or in close proximity to areas identified as outstanding natural features and landscapes or locally distinctive and valued natural features and landscapes. There are also no identified areas of cultural significance or historic heritage relevant to the project site.

In light of the absence of such areas, it is considered that the proposed variations to the existing resource consent will not conflict with any of the outcomes sought by Chapter 10 of the RPS.

Chapter 16: Energy

Objective ENG.3 of the RPS is enabling of the Kaiwera Downs Wind Farm and this variation application as it seeks to provide for the increase of renewable energy generation and use in Southland. Identified as a principal reason for Objective ENG.3 is to ensure the suitable supply of energy into the future by maximising the ability to appropriately harness the region's renewable resources.

Policy ENG.2 recognises the benefits of renewable energy and directly reflects the objectives of the NPS-REG insofar that it directs that the development, maintenance, and operation of renewable energy generation activities should be recognised as a matter of national significance. The proposed utilisation of advanced wind turbine technology not only helps to reduce the actual and potential effects on the environment, but it also ensures the efficiency of the Kaiwera Downs Wind Farm is maximised.

Policy ENG.7 seeks to ensure that any potential adverse effects on local communities from the ongoing operation and subsequent closure of energy facilities are appropriately addresses as part of resource consent processes, and are avoided, remedied or mitigated.

As stated in the Isthmus (2023), "*all the wind turbines in the wind farm will appear similar in size and appearance"* and "*the difference will have negligible adverse effects on landscape values including such aspects as visual dominance, scale relationship to the landscape, aesthetic coherence, and rural character and amenity values."* Isthmus (2023) goes on to conclude that "*any adverse effects from increased height will be (at most) very low (negligible, or less than minor), and in most cases the effects will be either neutral or positive because of the benefits of fewer wind turbines within the wind farm"*.

It is acknowledged that in addition to landscape and visual effects, wind turbines can also result in other effects including on the amenity of nearby dwellings, as well as ecological effects. All of these matters were considered in the original application and as assessed in section 4 of this AEE, the proposed changes in turbine height and reduction in numbers will not result in inappropriate adverse effects on the environment.

Objective ENG.4 of the RPS is also enabling of the Kaiwera Downs Wind Farm and this variation application as it acknowledges the national significance of renewable electricity generation activities, regardless of scale, towards addressing the effects climate change while directing decision makes to provide for their development, operation, maintenance and upgrading. The proposed variation to alter the turbine height will enable the maximum efficiency of the wind resource at the Kaiwera Downs Wind Farm.

5.3.4 Gore District Plan

The Kaiwera Downs Wind Farm is situated within the Rural Zone of the GDP and there are no other notable features / overlays shown on the District Planning maps (Maps 35 & 36) that would have relevance to the proposal. In this regard, the site is not located within an outstanding natural landscape nor is it an identified area of significant indigenous vegetation or habitat for indigenous fauna.

Chapter 7: Utilities

Objective 7.3(1) and Policy 7.4(1) of the Utilities Chapter in the GDP relate specifically to ensuring that utilities are provided for in order to meet the *"economic, social, health and safety needs of individuals and the community"*.

The Kaiwera Downs Wind Farm will contribute to meeting the needs for electricity from all community sectors in New Zealand, enabling present and future generations to provide for their social and economic well-being. The proposed changes to the consented proposal will assist in ensuring the operation of the wind farm is optimised.

Policy 7.4(5) seeks to encourage the design and location of utilities that minimises adverse visual effects, where it can be achieved without compromising operation or efficiency. The proposed variation seeks to facilitate an increase in turbine height of 20 m while reducing the total number of turbines to 66. Based upon the landscape and visual effects

assessment by Isthmus it is considered that the proposed changes are consistent with this policy.

Objective 7.3(2) seeks to ensure that the location and design of utilities avoids significant adverse effects on areas of significant indigenous vegetation and significant habitats of indigenous fauna. As noted above, the project envelope is not located in an area identified as being a significant habitat in either the RPS or GDP.

In addition, it is noted that Boffa Miskell have concluded that the proposed increase in turbine height along with the reduction in turbine numbers will not increase the risk of collision to New Zealand falcon - rather it will likely reduce the risk compared to the turbine configuration potentially authorised by the existing resource consent.

Chapter 3: Land Use Activities

Objectives 3.3(1) & (3) of the GDP seek to maintain and enhance the amenity values of the district while ensuring that effects of land use activities do not adversely affect the quality of the environment, and are compatible with the characteristics and amenity values of each locality. Visual amenity effects, in relation to the policy framework contained within the relevant statutory framework, has been discussed above, and therefore is not reiterated here. Additional amenity related effects are assessed below.

Noise is a potential amenity effect from any wind farm. As assessed in section 4.4 of this AEE, the changes in turbine technology will not impact on the ability of the wind farm to comply with the consented noise limits under the existing resource consent. As such, it is not considered that there will be any change in amenity values from this aspect of the wind farm.

Likewise, shadow flicker effects will be able to be managed to comply with the existing resource consent conditions.

Construction activities are also relevant to the amenity of the surrounding environment. However, the proposed variation will reduce the total number of wind turbines within the project envelope by 20% - which will reduce to total construction disturbance required for the project.

Once the turbines are in place, the site will continue to operate in accordance with the original land use, which is generally agricultural.

Given the above discussion, it is considered that the KDWF is consistent with the above policy framework.

Chapter 2: Matters of National Importance

Chapter 2 of the GDP considers matters of national importance, providing a framework for the management of activities throughout the district in a away that meets the Council's obligations under the RMA. A total of six matters are identified and are labelled:

- Outstanding natural features and landscapes;
- Significant indigenous vegetation and significant habitats of indigenous fauna;
- Margins of rivers and streams;
- Heritage; and
- Mana Whenua.

As previously mentioned in the AEE, the Kaiwera Downs Wind Farm project site is not subject to any overlays that relate to outstanding natural features or landscapes, significant indigenous vegetation, or habitat. It also is not subject to any identifies sites of heritage significance and does not adjoin the Mataura River. Therefore only the Mana Whenua objectives and policies are assessed as follows.

Objective 2.6.3(4) seeks to facilitate consultation with Ngai Tahu to ensure that resource management issues of significance to them are had regard to in carrying out functions under the RMA.

Extensive consultation was undertaken with Te Ao Marama, as well as the Hokonui runanga, when the original resource consent application for the Kaiwera Downs Wind Farm was lodged. This determined that the site was not of particular significance. The archaeological assessment that supported the original resource consent application also concluded that there are no sites of particular cultural or historical significance within the site.

No changes to conditions 64 - 66 relating to the accidental discovery protocol are proposed as part of this variation.

Furthermore, it is noted that Te Ao Marama did not make a submission on the original resource consent application. Te Ao Marama and Hokonui runanga have also not responded to invitations for comment on this variation application (as noted in **Appendix J**).

5.4 CONCLUSION

In summary, the proposed changes sought by this variation are considered to be generally consistent with the objectives and policies of both the RPS and GDP. Accordingly, there is nothing within the relevant planning documents that suggests the application should not be granted as sought.

5.5 PART 2

As discussed above, the changes sought will ensure that the Kaiwera Downs Wind Farm maximises its contribution to meeting or exceeding national targets for renewable energy generation. The changes are considered to be consistent with the intent of the relevant objectives and policies of the various relevant planning documents and would promote the sustainable management of natural and physical resources in the context of Part 2 of the RMA, noting that:

- The change to conditions will enable:
  - Greater efficiency from the proposed wind turbines, which is consistent with sections 7(b) and (j); and
  - Fewer turbines will be necessary which is consistent with sections 7(c) and (f).
- The effects of the proposed changes are able to be avoided, remedied or mitigated in accordance with the expectations of the relevant planning documents and sections 5, 6, 7 and 8 of the RMA.

Given that the relevant statutory documents have been prepared subject to Part 2 of the RMA, it is considered that any further assessment against Part 2 would not add anything to the evaluative exercise and is not therefore necessary[4].

[4] As is consistent with the direction of the Court of Appeal decision on RJ Davidson Family Trust v Marlborough District Council CA97/2017 (2018) NZCA 316.

6. NOTIFICATION

Section 127 of the RMA specifies that sections 88 to 121 of the RMA apply to a variation application, as if it were a resource consent application for a discretionary activity and any references to the resource consent / activity were references only to the change or cancellation of a condition (and the effects of the change or cancellation of a condition).

In light of the above, it is appropriate to consider the variation application against sections 95A – 95E of the RMA.

6.1 SECTION 95A PUBLIC NOTIFICATION

Whether the variation application should be publicly notified has been assessed as follows, according to section 95A of the RMA:

Step 1 – Mandatory Public Notification:

- Tararua Wind Power Limited does not request public notification of its variation application (s95A(3)(a)); and
- The variation application does not include an exchange of recreation reserve land under the Reserves Act 1977 (s95A(3)(c)).

Step 2 – Public Notification Precluded:

- Public notification is not precluded by any rule or national environmental standard (s95A(5)(a)); and
- The variation application is to be assessed as if it were a discretionary activity, but is not a boundary activity. Therefore, public notification is not precluded (s95A(5)(b)).

Step 3 – Public Notification Required in Certain Circumstances:

- There are no rules or national environmental standards that require public notification of the variation application (s95A(8)(a)); and
- For the reasons set out in this AEE and the technical assessments, the variation application will not have (or likely have) adverse effects on the environment that are more than minor (s95A(8)(b)).

Step 4 – Public Notification in Special Circumstances

- There are no special circumstances in relation to this variation application;
- In considering whether special circumstances apply to warrant notification of a variation application, it is noted that special circumstances:
  - Are unusual or exceptional but may be less than extraordinary or unique; and
  - Unlikely to be justified where there is no evidence of adverse effects likely to arise from an activity.

- The variation application is not considered to be unusual or exceptional. The proposal is for a variation to enable changes to the type and layout of the turbines within the Kaiwera Downs Wind Farm, and the technical assessments have concluded that any potential environmental effects will be acceptable in the environment, including for adjacent dwellings.

Therefore, public notification of the variation application is not required.

6.2 SECTION 95B LIMITED NOTIFICATION

Whether the variation application should be limited notified has been assessed as follows, according to section 95B(1) of the RMA:

Step 1 – certain affected groups and affected persons must be notified:

- Limited notification is not required under Step 1 as the proposal does not affect customary rights groups or customary marine title groups or a statutory acknowledgement.

Step 2 – If not required by Step 1, limited notification precluded in certain circumstances:

- Limited notification is not precluded under Step 2 as the proposal is not subject to a rule in the GDP or an NES that precludes notification; and
- Limited notification is not precluded under Strip 2 as the proposal is not a controlled activity.

Step 3 – If not precluded by Step 2

- The proposal is not a boundary activity and is not a prescribed activity; and
- The proposal therefore falls into the 'any other activity' category and the effects of the proposal on any persons are assessed in accordance with section 95E of the RMA.

6.3 ASSESSMENT OF EFFECTS ON PERSONS (S95E)

In accordance with section 95E of the RMA, a person is an affected person if the adverse effects of the proposed activity on the person are minor or more than minor (but are not less than minor).

When determining a variation application and who is adversely affected by the change to conditions, section 127 of the RMA also states the consent authority must consider:

- Every person who made a submission on the original application; and
- Every person who may be affected by the change or cancellation.

A summary of the 66 submissions on the original resource consent application is attached as **Appendix K** to this AEE, along with a map identifying the location of each submitter. Of

the 25 submitters in opposition to the project, the key themes from the submissions related to the following matters:

- Major irrevocable adverse effects on landscape and amenity values, and that turbines should be located at least 5 km from any dwelling;
- Noise effects on nearby properties;
- Interference with farming operations; and
- Construction traffic effects.

With respect to these matters, it is noted that the proposed variation will not impact on any neighbouring farming operations (or farming operations within the project envelope once construction is completed). Likewise, the variation application will not result in any changes to potential construction traffic effects or how they are managed – except that the construction of less turbines will potentially reduce the construction traffic required for the project.

With respect to potential noise and shadow flicker effects, these are summarised in section 4 of this AEE – where it is concluded that the existing consent conditions which are intended to maintain amenity will continue to be met even with larger turbines. As such, the variation application is not considered to impact on matters raised in any of the original submissions.

The landscape and visual effects assessment by Isthmus considers the potential effects of the variation application on dwellings on properties within 4 km of the project envelope, along with dwellings on properties of submitters to the original resource consent application that are beyond 4 km from the project envelope. This assessment concludes that any adverse effects of additional wind turbine height on views from dwellings will be at most 'very low'. In most instances (especially from the north, west, and south-west) such effects will be offset by the positive effects of the reduced wind turbine numbers.

As such, and in accordance with the assessment of actual and potential effects in section 4 of this AEE, it is not considered that any persons are affected to a minor or more than minor extent.

7. CONCLUDING STATEMENT

As described in this AEE, Tararua Wind Power Limited is seeking to vary the existing resource consent for the Kaiwera Downs Wind Farm to provide for an increase in turbine height from 145 m to 165 m and a reduction of the total turbine numbers from 83 to 66. This requires a change to conditions 1, 12, 16 and 19 of the existing resource consent from the Gore District Council in order to enable the use of up-to-date turbine technology.

The actual and potential effects on the surrounding environment from the proposed changes to the existing resource consent will be consistent with the scale of activities already consented for the Kaiwera Downs Wind Farm. The proposed changes to the turbine height and numbers will also be consistent with the relevant objectives and policies of the relevant statutory documents.

Overall, it is considered that this variation application will be consistent with the purpose and principals of the RMA and that there are no impediments to the grant of the changes sought by Tararua Wind Power Limited on a non-notified basis.

APPENDIX A

Resource Consent LU2007/17
Decision

RM3/6169

Gore District Council
29 Civic Avenue
P O Box 8
GORE
Phone: 03) 209 0330
Fax: (03) 209 0357
Email: khovell@goredc.govt.nz
Website: www.goredc.govt.nz

GORE DISTRICT COUNCIL

29 CIVIC AVENUE, GORE 9710
PO BOX 8, GORE 9740
NEW ZEALAND

TELEPHONE (03) 209 0330
FACSIMILE (03) 209 0357
Email info@goredc.govt.nz

Our File Ref: LU 2007/17
Inquiries to: Keith Hovell

28 May 2009

Ryan Piddington
TrustPower Limited
P O Box 12023
TAURANGA

Dear Ryan

Kaiwera Downs Windfarm Consent

I enclose a certified copy of the conditions that apply to this consent. The conditions have been amended to reflect the agreement between TrustPower and Council, and now approved by the Court.

I draw one issue to your attention. Paragraph 6 of the Schedule states:

6. From the date of this letter until the first Review Date the Contribution Cap will be $650,000. For the avoidance of doubt, on the first Review Date 'OR' (for the purposes of the calculation in clause 5 above) will be $650,000.

There is no letter as part of the consent condition. Our legal adviser indicates the letter was dated 6 March 2009, and the clause has been amended to reflect that.

Should you have any queries do not hesitate to contact me.

Yours faithfully

K J Hovell
Planning Consultant

Gore District Council
29 Civic Avenue
P O Box 8
GORE
Phone: 03) 209 0330
Fax: (03) 209 0357
Email: fcowan@goredc.govt.nz
Website: www.goredc.govt.nz

GORE DISTRICT COUNCIL

Certified Copy of Resource Consent

Incorporating Environment Court Consent Order dated 13 May 2009

Consent Holder:

TrustPower Limited
P O Box 12023
TAURANGA

Our Ref:

LU 2007/17

Approved development:

To construct, operate and maintain a wind farm

Land Subject to Approval:

The site is legally described as:

- Section 18 Block X Waikaka Survey District in CFR SL169/274
- Part Section 11 Block X Waikaka Survey District in CFR SL235/17
- Part Section 12 Block X Waikaka Survey District in CFR SL235/18
- Sections 6, 7, 16 and 17 Block III Slopedown Survey District in CFR SL235/19
- Lots 1, 4 and 5 DP 5932 in CFR SL235/20
- Section 2 Block III Slopedown Survey District in CFR SL9B/587
- Section 17 Block X Waikaka Survey District in CFR SL9B/588
- Sections 15A, 16A and 17 Block VIII Tuturau Survey District, Section 22 Block IX Tuturau Survey District and Section 10 Block X Waikaka Survey District in CFR SLB2/91
- Lots 2, 3 and 6 DP 5932 in CFR SL235/21
- Lot 1 and Part Lot 2 DP 5933 in CFR SL235/22
- Lots 1, 2, 3 and 4 DP 15077 and Lots 5, 6 and 7 DP 15076 in CFR SL12A/629
- Section 20 Block III Slopedown Survey District in CFR SL5B/1196
- Section 21 Block III Slopedown Survey District in CFR SL5B/1197
- Section 22 Block III Slopedown Survey District in CFR SL5B/1198
- Part Section 31 Block IX Tuturau Survey District in CFR SL8C/229
- Section 33 Block IX Tuturau Survey District in CFR SL205/100
- Lots 1, 2 and 3 DP 11651 in CFR SL8C/228
- Sections 34 and 35 Block IX Tuturau Survey District in CFR SL10A/731
- Section 1 Survey Office Plan 10763, Section 1 Survey Office Plan 10766, Part Section 9 Waiarikiki Settlement, Section 1 Survey Office Plan 10764 and Section 1 Survey Office Plan 10765 in CFR SL10A/752
- Lot 1 DP 12921 and Lots 2 and 3 DP 15378 in CFR SL12B/232
- Lot 1 DP 15378 and Lot 1 DP 15379 in CFR SL12B/231
- Lots 1 and 2 DP 12300 in CFR SL9C/1000
- Section 22 Block VII Tuturau Survey District in CFR SL9D/66

- Section 22 Block VII Tuturau Survey District in CFR SL9D/66
- Part Section 6 and Section 10 Waiarikiki Settlement in CFR SL175/236
- Lot 4 DP 8833 in CFR SL6A/735
- Lot 1 DP 8942 in CFR SL6A/738
- Section 2 Waiarikiki Settlement in CFR SL6C/102
- Lot 1 DP 10995 in CFR SL6D/466
- Lot 1 DP 11019 in CFR SL7A/196
- Part Lot 1 DP 8834 in CFR SL8D/323
- Part Lot 2 DP 11019 in CFR SL9D/1

Conditions of Consent

GENERAL CONDITIONS OF CONSENT:

1. The consent holder shall undertake all activities authorised by this consent in general accordance with the plans and information submitted with the resource consent application dated 5 November 2007 and numbered LU 2007/17 by the Gore District Council, and any other documentation relevant to the application including requests for further information, except where inconsistent with these conditions. Any request to change or cancel a consent condition must be made in accordance with Section 127 of the Resource Management Act 1991.

2. The consent holder shall notify the Chief Executive Officer, Gore District Council, at least fifteen (15) working days in advance of the date of the commencement of works associated with this consent.

3. Unless it is otherwise specified in the conditions of this consent, compliance with any monitoring requirement imposed by these conditions shall be at the consent holder's expense.

4. Where conditions of this consent require the provision of further information such as reports or management plans by the consent holder, these reports or management plans shall be submitted to the Chief Executive Officer of the Gore District Council for certification. These reports or plans include but are not limited to a Site Development Plan and an Environmental Construction Management Plan which is comprised of an Earthworks Management Plan, a Rehabilitation Plan, an Ecological Monitoring and Management Plan, a Fire Management Plan, a Construction Noise Management Plan, a Construction Traffic Management Plan, a Shadow Flicker report and an Accidental Discovery Protocol. As a part of this certification process, the Gore District Council may commission a peer review of this information to certify its accuracy and compliance with conditions of consent. This peer review shall be at the consent holder's expense. No work shall commence on the site until the plans referred to in this condition have been certified as giving effect to the requirements of Condition 1 above.

5. The consent holder shall supply any agent or contractor working under this consent with a copy of the consent conditions on-site so that these conditions can be presented to an officer of the consent authority upon request.

6. Any works carried out during the life of the wind farm, whether maintenance, decommissioning or otherwise, shall be consistent with the conditions attached to this consent.

7. The consent holder shall pay to Gore District Council all required administration costs and charges fixed by the Council pursuant to Section 36 of the Act in relation to any:

   (i) Administration, reviewing, assessing, monitoring, certifying and inspection relating to this consent;

   (ii) Preparatory work and attendance at meetings of the Consultative Group, referred to in Condition 71, by those persons representing the Gore District Council as listed in Condition 74(iii); and

   (iii) Charges authorised by regulations.

8. In accordance with Section 128 of the Resource Management Act 1991 (and in addition to any more specific monitoring conditions attached), the Gore District Council may, at two years after the commencement of this consent and at two yearly intervals thereafter, after giving not less than one month's notice in writing, serve notice on the consent holder of its intention to review any of the conditions of this consent for either of the following purposes:

   (i) To deal with any adverse effect on the environment that may arise from the exercise of this consent, including noise, and which it is appropriate to deal with at a later stage.

   (ii) To require the consent holder to adopt the best practicable option to avoid, mitigate or remedy any adverse effect on the environment.

9. Upon completion of construction of the wind farm, the consent holder shall advise the Chief Executive Officer, Gore District Council, in writing that all conditions of this consent have been complied with.

10. The consent holder shall ensure that copies of all Management Plans submitted to the Gore District Council are supplied to the Compliance Manager, Southland Regional Council within ten working days of their submission to the Gore District Council.

SPECIFIC CONDITIONS OF CONSENT:

General

11. The maximum installed generation capacity of the Kaiwera Downs Wind Farm shall not exceed 240 MW.

12. The maximum number of turbines in the Kaiwera Downs Wind Farm shall not exceed 83.

13. All turbines and all associated structures shall be contained within the turbine envelope and all transmission infrastructure shall be contained within the transmission envelope.

14 If the wind farm ceases operation for a continuous 18 month period, or is decommissioned for any other reason, then all turbines and other above ground structures shall be removed and turbine footings covered and re-vegetated in accordance with the Rehabilitation Management Plan required under Condition 28(v).

15. (i) Any refuelling, lubrication or mechanical repairs shall be

undertaken in such a manner as to ensure that no spillages of hazardous substances occur onto the land surface or into water.

(ii) If a fuel or oil spillage occurs in excess of 10 litres to land that does not enter water, the consent holder shall:

(a) Immediately take such action or execute such work as may be necessary to stop and/or contain such escape; and

(b) Take all reasonable steps to remedy or mitigate any adverse effects on the environment resulting from the escape; and

(c) Inform the Chief Executive Officer, Gore District Council, within 24 hours of its occurrence and the steps taken, or being taken, to clean up the spill, remedy any adverse effects, and prevent any recurrence of such escape.

(iii) In the event of any spillage to water, the consent holder shall immediately notify the Environment Southland Compliance Manager and remedy or mitigate the effects of contamination of the site without undue delay.

Turbine Construction

16. The maximum turbine height to the tip of the blade shall not exceed 145 metres at finished ground height.

17. The wind turbine structures shall all be finished in the same neutral off-white or light grey, matt non-reflective colour system.

18. Lattice pylons shall not be used for the wind turbine structures.

19. All turbines used within the wind farm site shall be similar in size and appearance.

20. The consent holder shall consult with the Civil Aviation Authority (CAA) in order to ensure that the wind farm complies with CAA standards and guidelines.

21. The consent holder will forward information regarding the turbine locations and heights to the CAA once those details are confirmed.

22. All navigational lights required on the turbines or meteorological masts by the CAA shall be shielded to screen downward light spill as far as is practicable.

23. The consent holder shall provide a copy of all correspondence to and from the CAA to the Chief Executive Officer, Gore District Council, within five working days of sending or receiving such correspondence.

Turbine Operation

24. The consent holder shall assess the extent of shadow flicker beyond the boundaries of those properties which are a part of the turbine envelope.

In consultation with adjoining property owners and the Consultative Group referred to in Condition 71, the consent holder shall identify specific locations (for example houses, cattle yards and barns) from

which to model the potential impact of any shadow flicker. The number and location of the specific sites shall be approved by the Chief Executive Officer of the Gore District Council.

Within twelve months following the completion of construction of each stage of the project, the consent holder shall submit a Shadow Flicker report to the Chief Executive Officer, Gore District Council:

(i) advising of the results of the modelling

(ii) assessing the accuracy of that modelling

(iii) advising of any complaints received at the sites modelled, or any other site, together with an assessment of those complaints

(iv) outlining the procedures that are proposed to be adopted, and when they would be instigated, where it is established that shadow flicker occurs."

25. Where the wind turbines are shown to affect television reception, as assessed by a suitably qualified and experienced radio engineer, at dwellings existing at the date of this consent, the consent holder shall provide an alternative television reception arrangement (at no cost to the occupier) to those dwellings such that television reception is no worse than that present before the construction of the wind farm.

Construction Conditions

26. The consent holder shall avoid undertaking construction activities in areas of high ecological value including streams and wetlands. Such areas are generally described and identified in the Ecological Assessment that forms Appendix 5 in Volume 3 of the application documentation. Implementation measures amongst others, which are to be undertaken to achieve avoidance of such values, include:

(i) All potential areas of high ecological value including streams and wetlands are to be identified by an appropriately qualified ecological expert during the detailed design stage. The location of these sites shall be accurately located on the detailed Site Development Plan referred to in Condition 28. Construction activity within these areas is to be avoided.

(ii) Appropriate buffer zones that relate to the values being protected within avoidance areas are to be established as recommended by the ecological expert. The size of any buffer zone shall be assessed having regard to the ecological value of the area in question.

(iii) High ecological value areas and associated buffer zones will be separated from the defined construction zone and clearly marked as such for the duration of the construction period.

27. In addition to Condition 26, in relation to spoil disposal in gullies, the following criteria must also be met:

(i) Fill disposal must not result in significant or long term siltation of high quality streams or wetland vegetation.

(ii) Fill disposal shall not occur in areas defined as KD1, KD2 or KD3 as defined in the evidence of Dr. Bishop.

28. In terms of Condition 4, the consent holder shall submit to the Chief

Executive Officer of the Gore District Council a detailed Site Development Plan that provides the information listed below. Subsequent amendments shall be submitted to and certified as complying with the conditions of this consent by the Chief Executive Officer of the Gore District Council prior to their taking effect.

(i) The final location of all facilities and infrastructure to be built, including, but not limited to:
  (a) All turbines
  (b) All access tracks
  (c) All lay down sites
  (d) All fill sites
  (e) The substation site
  (f) The operations and maintenance building and associated waste and water services, and construction site office and depot
  (g) The transmission line
  (h) The concrete batching area and associated stockpiles
  (i) The internal transmission system
  (j) Meteorological masts and equipment
  (k) Any other areas of land disturbance

(ii) A joint report from a qualified and independent landscape architect and a qualified and independent engineer certifying that:

  (a) The earthworks associated with the construction of the access tracks and how they will be contoured to blend the roads with the surrounding landscape;

  (b) The areas of fill disposal and how they will be contoured to blend with the surrounding landform;

  (c) The design and appearance of the substation and operations building including colour schemes to illustrate how these buildings will blend with the environment; and

  (d) The earthworks associated with the construction of the turbine, hard stand areas and any other landing and lay-by sites and how they will be contoured to blend with the surrounding landform.

(iii) A report from a qualified and experienced ecologist that details the ecological values of the sites affected by the development of the infrastructure identified in Condition 28(i) above. This report shall include detail of how the site work and construction activity will comply with the requirements of Conditions 26 and 27.

(iv) A comprehensive Environmental Construction Management Plan (ECMP) prepared by a suitably qualified and experienced person in accordance with Appendix 14 of the application documentation entitled *Kaiwera Downs Wind Farm Draft Environmental Construction Management Plan*, prepared by Golder Associates (NZ) Ltd.

  (a) The purpose of the ECMP is to detail how any adverse potential effects on the environment associated with construction of the Kaiwera Downs Wind Farm will be avoided, remedied or mitigated. As a minimum, the ECMP will contain the following:
    - A goal based on achieving appropriate mitigation of

the effects associated with the construction of the Kaiwera Downs Wind Farm.

- Individual management plans including, but not limited to Site Development Plan and an Environmental Construction Management Plan which is comprised of an Earthworks Management Plan, a Rehabilitation Plan, an Ecological Monitoring and Management Plan, a Fire Management Plan, a Construction Noise Management Plan, a Construction Traffic Management Plan, and an Accidental Discovery Protocol.
- An explanation of the how the ECMP is to work, including how it will be implemented and associated implementation responsibilities.
- Management procedures for the establishment, activity and rehabilitation phases of the activity, where appropriate. The management procedures will aim to ensure compliance with relevant resource consent conditions.

(b) The consent holder shall ensure that the construction of the Kaiwera Downs Wind Farm is undertaken in accordance with the requirements of the ECMP.

(v) A Rehabilitation Management Plan prepared by a suitably qualified and experienced person. The Rehabilitation Management Plan shall define the scope and methodology for rehabilitation of the areas affected by the construction activities and the ongoing maintenance of the rehabilitation work. The Rehabilitation Management Plan shall contain closure criteria that, when met, will show that rehabilitation has succeeded. The provisions of the Rehabilitation Management Plan shall be implemented under the supervision of a suitably qualified and experienced person. The Rehabilitation Plan shall form a part of the ECMP required under Condition 28(iv).

(vi) An Ecological Monitoring and Management Plan prepared by a suitably qualified and experienced person in accordance with Part B of Appendix 14 Volume 4 of the application documentation and Appendix 2 of the *Kaiwera Downs Wind Farm Assessment Of Terrestrial Ecological Effects* prepared by Golder Associates (NZ) Ltd (Appendix 5 Volume 3 of application documentation). The Ecological Monitoring and Management Plan shall form part of the ECMP required under Condition 28(iv). The Ecological Monitoring and Management Plan shall include detail of how the site work and construction activity will comply with the requirements of Conditions 26 and 27 and also make provision for the following:

(a) Monitoring, and associated reporting, in relation to bird strike, any effects on New Zealand Falcon (Falco novaseelandiae), and any increase in invasive weeds that has arisen as a result of construction activities as required by Conditions 29 – 31.

(b) All vehicles shall, as far as is practicable, be confined to formed access routes and the active construction zone.

(c) As far as practicable, construction vehicles must be cleaned of adhering soil before entering the site.

(d) The consent holder shall use its reasonable endeavours

to source weed free aggregate for all construction, operational and maintenance related requirements.

(vii) The consent holder shall manage all earthworks in accordance with the following conditions:

(a) The consent holder shall take appropriate steps to control and/or mitigate any dust, sediment run-off and contamination of stormwater that may occur. These measures shall be implemented prior to the commencement of any earthworks and shall remain in place, and operating effectively, throughout the duration of the site earthworks.

(b) The consent holder shall prepare an Earthworks Management Plan for all earthworks associated with the construction of the Kaiwera Downs Wind Farm. The Earthworks Management Plan shall be part of the ECMP required under Condition 28(iv).

(c) The Earthworks Management Plan shall generally comply with the requirements of Auckland Regional Council's "*Erosion and Sediment Control Guidelines for Land Disturbing Activities*" (Technical Publication No. 90). As a minimum, the Earthworks Management Plan will contain the following:

- Identification of the purpose of the Earthworks Management Plan, which shall include ensuring that earthworks do not adversely affect water bodies within the site and adjoining landowners and that adverse visual effects are minimised.
- Management procedures, for the establishment, activity and rehabilitation phases of the activity, where appropriate. The management procedures will aim to achieve the goal of the ECMP, the Earthworks Management Plan, and reflect the relevant resource consent conditions. Matters to be provided for by the management procedures include, but are not limited to, relevant matters contained within Part C – Earthworks Management Plan of the draft ECMP which formed Appendix 14 of Volume 4 of the resource consent application documentation.

(d) The consent holder shall ensure that all earthworks associated with the construction of the Kaiwera Downs Wind Farm are undertaken in accordance with the requirements of the Earthworks Management Plan.

(viii) A Fire Management Plan prepared by a suitably qualified and experienced person in accordance with the following conditions:

(a) The purpose of the Fire Management Plan shall be to establish management procedures to ensure that the fire risk associated with the Kaiwera Downs Wind Farm is minimised and, should fires occur, that immediate and appropriate action is instigated. The Fire Management Plan shall be part of the ECMP required under Condition 28(iv).

(b) The Fire Management Plan shall be structured in general accordance with the Forest and Rural Fire Act 1977.

(c) The consent holder shall comply with the requirements of the Fire Management Plan.

Advice Note:
The Southern Rural Fire Authority and Clutha District Council, as parties responsible for the management of rural fires, are to be consulted during the development of the Fire Management Plan.

Ecological Monitoring

29. The consent holder shall monitor the instances of bird strike at the wind farm as follows:

    (i) For the first two years of operation, retrieval of any carcasses will be on a monthly basis. Thereafter, carcass retrieval will be associated with the routine maintenance at each turbine with increased surveillance for bird carcasses during the breeding season (spring and early summer) if considered necessary as a result of the first two years of monitoring.

    (ii) Bird Strike Monitoring

        (a) During the first two years of the operation of the Kaiwera Downs Wind Farm, all retrieved bird carcasses will be assessed by identifying the species, gender, age class (i.e. juvenile or adult) and where possible, the cause of death, location of the carcass in relation to turbines, and antecedent weather conditions. This assessment is to be undertaken in association with a qualified avifauna expert.

        (b) Following the first two years of operation, the consent holder shall, annually and by 1 March, submit a report to the Chief Executive Officer, Gore District Council, detailing all bird fatalities, known or likely cause of death, species and seasonal or spatial patterns. A copy of this report shall also be supplied to the Department of Conservation.

        (c) If the monitoring undertaken in accordance with Conditions (ii)(a) and (ii)(b) above, identifies a significant adverse effect on avifauna species listed as endangered (Hitchmough et al, 2007), as a result of the operation of the Kaiwera Downs Wind Farm, then the consent holder shall develop a mitigation programme and continue monitoring for a further period, as determined appropriate following consultation with both the consent authority and the Department of Conservation. The mitigation programme shall include, but not necessarily be limited to, relevant matters identified in the Ecological Assessment, which formed Appendix 5 of Volume 3 in the resource consent application documentation.

    (ii) The bird strike carcasses shall be disposed of off-site and at an appropriate facility.

30. The consent holder shall undertake monitoring of the New Zealand Falcon as follows:

    (i) The consent holder shall undertake further surveys for the presence of New Zealand Falcon within the Kaiwera Downs Wind Farm envelope and surrounds during a single breeding season prior to the commissioning of any turbine constructed as a part of the wind farm.

    (ii) Should New Zealand Falcon be found to utilise the turbine

envelope, then a programme to monitor New Zealand falcon within the Kaiwera Downs Wind Farm turbine envelope, and immediate surrounds, should be undertaken.

(iii) The consent holder shall consult with the Department of Conservation in developing the monitoring programme. Once the scope of the monitoring programme has been developed, an outline of the activities that constitute the monitoring programme shall be submitted to the Chief Executive Officer, Gore District Council for certification.

(iv) If the monitoring undertaken identifies breeding failure of New Zealand Falcon as a result of the operation of the Kaiwera Downs Wind Farm, then the consent holder shall develop a mitigation programme and continue monitoring as determined appropriate after consultation with the consent authority and the Department of Conservation. The mitigation programme shall include, but not necessarily be limited to, relevant matters identified in the Ecological Assessment that formed Appendix 5 of Volume 3 of the resource consent application documentation.

31. The consent holder shall develop and implement a weed monitoring and management programme during the construction and rehabilitation of the Kaiwera Downs Wind Farm and for two years after construction and then two years after rehabilitation has been completed, or for such a period until these species cease colonising the areas disturbed by the construction activity. The details of this programme shall be included in the Environmental Monitoring and Management Plan required under Condition 28(iv). The purpose of the programme will be to ensure that areas disturbed by construction and/or rehabilitation are not colonised by weed plants and that management and control of weeds will also comply with the requirements of the relevant Regional Pest Management Strategy within the Kaiwera Downs Wind Farm site. To achieve this, the consent holder shall identify presence and the extent of any invasive woody weeds within the site at the commencement of the project. The consent holder shall target weed control any new weed infestations which occur as a direct result of activities associated with the wind farm construction. Weed control using manual and/or herbicide treatment is acceptable.

Construction Noise

32. Noise from all construction and decommissioning work including (but not limited to):

(i) Site works

(ii) Wind turbine generator assembly and placement

(iii) Concrete placement

(iv) Wind turbine removal

(v) Foundation demolition and removal

(vi) Land reinstatement

Shall be measured, assessed and controlled using NZS 6803:1999 *Acoustics - Construction Noise*. The noise limits shall be those set out in Table 2 of NZS 6803 for works of '*long term*' duration.

33. All aspects of concrete manufacture shall not exceed the following noise limits:

7.00 am to 10.00 pm 55 dBA L_{eq}
10.00 pm to 7.00 am 40 dBA L_{eq}
10.00 pm to 7.00 am 75 dBA L_{max}

at or within the notional boundary of any dwelling (excluding any dwelling on the wind farm site).

34. Concrete shall not be manufactured outside of the hours of 6.30 am to 8.00 pm from Monday to Friday, and 7.30 am to 6.00 pm on Saturdays.

35. The noise associated with concrete manufacture shall be measured in accordance with NZS 6801:1999: *Acoustics - Measurement of Environmental Sound* and assessed in accordance with NZS 6802:1991 *Assessment of Environmental Sound.*

36. A Construction Noise Management Plan shall be prepared and implemented prior to commencement of construction. This shall be generally in accordance with Section 8 and the relevant annexes of NZS 6803:1999 *Acoustics – Construction Noise* which detail the types of construction and procedures that will be carried out to ensure compliance with the Standard. The noise management plan shall be prepared by an appropriately qualified and experienced person, prior to relevant construction stages commencing, and shall be certified by the Chief Executive Officer Gore District Council prior to construction commencing. The Construction Noise Management Plan shall form a part of the ECMP required under Condition 28(iv).

Operational Noise (Non-turbine Related)

37. Noise from all other activities on the site (other than wind turbine generator operation and construction activities) shall not exceed the following limits within the notional boundary of any dwelling (excluding any dwelling on the wind farm site):

7.00 am to 10.00 pm 55 dBA L_{eq}
10.00 pm to 7.00 am 40 dBA L_{eq}
10.00 pm to 7.00 am 75 dBA L_{max}

Noise shall be measured in accordance with NZS 6801:1999: *Acoustics - Measurement of Environmental Sound* and assessed in accordance with NZS 6802:1991 Assessment of Environmental Sound

Operational Noise (Turbines)

38. Wind turbine sound levels when measured at the notional boundary of dwellings existing at the date of this consent (or a dwelling that replaces any existing dwelling in the same location) shall not exceed the appropriate regression curve of the A-weighted background sound level (L95) by more than 5 dBA, or a level of 40 dBA L95, whichever is the greater.

When the background sound conditions between the hours of 10 pm and 7 am the following day are at or below 25 dBA L95 determined from the appropriate regression curve without the interference of the wind farm, and when the mean wind speed at a representative location for the dwelling is less than 1.5m/sec measured at a height of nominally 3 metres above ground level, then noise from the wind farm shall not exceed 35 dBA L95 within the notional boundary of 16 Davidson Road East, being Lot 1 DP 15306 as described in CFR SL12B/80; and 57 Davidson Road East, being Section 17 Block II Slopedown Survey District, as described in CFRSLA4/151.

This condition does not apply to any dwelling where the consent holder has reached agreement with the landowner, and such agreement is lodged with the Chief Executive Officer of the Gore District Council.

The wind farm sound level shall be measured, and assessed using NZS 6808:1998 *Acoustics - The Assessment and Measurement of Sound from Wind Turbine Generators.* Where requirements of these conditions differ from NZS 6808:1998 then these requirements shall prevail.

39. Prior to installation of any wind turbine generator the consent holder shall furnish:

    (i) An acoustic emissions report to the Chief Executive Officer of the Gore District Council for each type of the selected wind turbine generators. The report shall be in accordance with IEC61400-11, Wind Turbine Generator Systems Part 11, Acoustic Noise Measurement Techniques and shall include the A-weighted sound power levels, spectra, and tonality at integer wind speeds from 6 to 10 m/s and up to 95% of rated power for each type of individual wind turbine to be installed.

    (ii) A noise prediction report from a suitably qualified and experienced acoustical consultant that demonstrates to the satisfaction of the Chief Executive Gore District Council that the sound levels from the wind farm will not exceed those levels set out in Condition 38 above. Modes of operation and the type of turbine must be specified. For the avoidance of doubt, this resource consent does not authorise the use of a stall turbine design.

Prior to the Development of the Wind Farm

40. Background sound monitoring shall be undertaken in accordance with Section 4.5 of NZS 6808:1998. Representative sound measurement locations will be selected within the notional boundary of all dwellings within the predicted 35 dBA Leq noise contour where access is made available to TrustPower with sufficient background sound data collected to assess the following:

    (i) Comparison with operation wind speeds of the wind turbines from the cut-in wind speed (nominally 3m/s) up to the rated power wind speed (nominally 15m/s) at the wind farm

    (ii) At the prevailing wind direction at the wind farm

    (iii) During daytime 7 am to 10 pm and during night time 10 pm to 7 am the following day

    (iv) With sufficient data to be gathered such that accurate best fit regression curves can be obtained

    (v) Care will be taken to eliminate periods of contamination of the noise data by other noise sources, i.e. seasonal cicadas, crickets, frogs, rainfall periods, etc

(vi) Background sound levels when the wind speed at the receptor location is at or below 1.5m/s at 16 Davidson Road East, being Lot 1 DP 15306 as described in CFR SL12B/80; and 57 Davidson Road East, being Section 17 Block II Slopedown Survey District, as described in CFR SLA4/151. The local wind speed shall be measured at these dwellings, nominally at 3 metres above ground level, at the same time as background sound monitoring to allow comparisons to be made.

Post Installation Testing

41. In order to establish compliance with the noise requirements of NZS 6808:1998 field monitoring will be undertaken as soon as practical once turbines are installed and commissioned. If possible, the testing shall be carried out at the same locations as the background sound monitoring or, if that position is not available, then at a nearby location where the background sound monitoring is still representative.

42. The same parameters as adopted for the background sound monitoring will be monitored subsequent to the WTG's installation and the best fit regression curves will be developed as for the background noise monitoring as set out above.

43. The appropriate regression curve of the $L_{95,10min}$ of the wind turbine generator sound levels corrected for any special audible characteristics is not to exceed the noise limits specified in Condition 38.

44. The consent holder shall provide reports to the Gore District Council as soon as practical following testing at each location but no longer than 15 working days after the completion of each test.

45. In the event that substantiated complaints are received in circumstances not specifically provided for in these conditions then Council may reasonably direct testing to take place at any location and nothing in these conditions shall prevent compliance monitoring of wind farm noise from being undertaken at any wind speed and direction, or time of day. Unless the consent holder can demonstrate actual background sound readings at the actual site the background sound conditions shall be assumed to be the same as at Site 3.

46. If Gore District Council wishes to undertake separate compliance testing of part or of all of the wind farm operation then the consent holder shall share with Council any wind data to allow it to analyse their noise monitoring in accordance with the requirements of these conditions.

47. Compliance testing shall be carried out at any reasonable request by Council. This may be as a result of what Council considers to be substantiated complaints regarding increased levels of noise from the wind farm or any change in the character of the noise emanating from the wind turbine generators.

48. Sound monitoring shall conform to the following measurement standards:

    (i) The complete measurement and analysis system shall conform to the requirements of NZS 6808:1998 *Acoustics - The Assessment and Measurement of Sound from Wind Turbine Generators* and the Standards referred to by NZS 6808; and

    (ii) Microphones shall be fitted with a wind shield such that the noise generated by wind on the wind shield is, to the extent practicable, at least 10 dBA below the noise being measured.

    (iii) All sound monitoring shall be carried out by suitably qualified and experienced persons.

    (iv) The operator will report all necessary data required to carry out the compliance testing, including wind speed and direction at hub height during periods of compliance testing.

49. The operator of the wind turbines shall pay all reasonable costs associated with compliance testing.

Assessment of Special Audible Characteristic

50. When wind farm sound within the notional boundary of a dwelling has a special audible characteristic, i.e. impulsiveness, tonality and/or an audible modulation, the measured sound level of the source shall have a 5 dBA penalty applied by adjustment of the measured sound level by the arithmetic addition of the penalty except that the Joint Nordic Method Version 2 shall be used to assess tonality and the penalty shall be as described in that Standard. If more than one penalty is relevant to any measured sound level then only the penalty with the greatest numerical value shall be applied.

51. A test for modulation is required if the measured peak to trough levels exceeds 5 dBA on a regularly varying basis or if the spectral characteristics, third octave band levels, exhibit a peak to trough variation that exceeds 6 dBA on a regular basis.

Non Compliance with Noise Conditions

52. Where compliance is not achieved with these Noise Conditions then the consent holder shall operate the wind turbine generators at reduced noise output until remedies are identified and implemented. If sound emissions cannot be reduced such that they comply, then the consent holder shall cease to operate the non-compliant wind turbine generators until modifications are made to reduce the noise. Further operation of the non-compliant wind turbine generators shall only be for sound measurement checks as specifically agreed with the Chief Executive Officer of the Gore District Council to demonstrate compliance. This condition shall not limit or restrict any statutory right or power to take enforcement action that the Council may have under the provisions of the Resource Management Act 1991.

Review of Noise Conditions

53. Not withstanding the provisions of Condition 8, Council may review the noise conditions set out above, by giving notice of its intention to do so under Section 128 of the Resource Management Act 1991, one, three and five years after the wind farm completion or, if the wind turbine generators are installed in stages, then one year after the completion of each stage and then three and five years after the final completion, for the following purposes:

    (i) To deal with any adverse effects on the environment resulting from wind farm sound, including sound with any special audible characteristics, which may arise from the operation of the wind turbines;

    (ii) To review the adequacy of any recommendations of the Noise Management Plan;

    (iii) To address any issues arising out of complaints.

    Such reviews may take place within six months of the specified dates.

Traffic Conditions

54. A Construction Traffic Management Plan shall be prepared by the consent holder and certified by the Chief Executive Officer of the Gore District Council before any access to the site by construction traffic begins. The purpose of the Construction Traffic Management Plan will be to set out and detail the extent and timing of construction traffic activity, and temporary traffic management provisions to be put in place during this time. The Construction Traffic Management Plan shall form a part of the ECMP required under Condition 28(iv). The Construction Traffic Management Plan shall:

    (i) Be prepared after consulting with the Gore District, Southland District, Invercargill City Council and Transit New Zealand, and shall implement the outcome of that consultation.

    (ii) Set out the nature and timing of local physical improvement works to be undertaken on the roading network at the consent holder's cost to accommodate access to the Kaiwera Downs Wind Farm. These works shall include as a minimum:

        (a) The upgrading of local access routes (being Waikana Road between Old Coach Road and the intersection with Hillary Road, Hillary Road, Rosemarkie Road, Isla Road, Kaiwera Road. Kaiwera Downs Road, Davidson Road West) used for transport of materials to provide for two vehicles to pass each other (other than over-dimension vehicles) based on vehicle tracking consistent with the operating speed of the road.
        (b) The upgrading of routes used for transport of over-weight and over-dimension vehicles to provide for the swept path of vehicles on horizontal curves.
        (c) The upgrading of local access routes used for transport of materials by heavy vehicles (defined as vehicles that require a heavy vehicle licence to operate) on an all weather surface where necessary on uphill gradients towards the wind farm with gradients of 10% or steeper.
        (d) Where practicable, the provision of School bus bays beyond the traffic lane at all pickup and drop-off points on local access routes used for transport of materials by other than light vehicles.
        (e) The installation of suitable passing/stopping bays, in agreed locations, on SH1, SH93, Southland District or Gore District Roads if considered necessary by the road controlling authority.

    (iii) Detail the intended traffic arrangements and provisions for the delivery of over-weight and over-dimensioned major components to the site, including any time restrictions for the movement of over-weight and over-dimensioned vehicles.

    (iv) Manage construction traffic (other than component delivery by over-dimension and over-weight vehicles) during the construction phase. This shall include as a minimum:

        (a) Identifying all roads within the Gore District that are to be used by construction traffic. Heaps Road and Waikana Road south of Hillary Road shall not be used for any construction traffic. Kaiwera Road and Isla Road are not to be used by construction traffic until the intersection of SH93, Isla Road and Kaiwera Road is upgraded.

(b) The provision for the notification of the Principals of all schools along routes to be used by over-weight and over-dimension construction traffic of the commencement and cessation of the construction period.

(c) Provision for the notification of commencement and cessation of seasonal construction periods, and the notification of changes to traffic patterns during the construction period, to landowners and occupiers along the unsealed access roads to be used by construction traffic.

(d) The provision for dust suppression on parts of unsealed routes in close proximity to dwellings or agreed areas to be used by heavy construction traffic.

(e) Ensuring that all construction traffic within the Gore District shall only utilise those roads which have been identified to be used by construction traffic in the Construction Traffic Management Plan.

(f) Detailing communication practises to be adopted by the contractor to manage the heavy vehicle movements on the local road network.

(g) Detailing the travel planning methods to be adopted to minimise the number of vehicle movements associated with the staff journeys to and from the KWDF work site.

(h) The management practices to be adopted to avoid conflict with stock droving on the local access routes.

55. The existing condition of all local access routes (being Waikana Road between Old Coach Road and the intersection with Hillary Road, Hillary Road, Rosemarkie Road, Isla Road, Kaiwera Road. Kaiwera Downs Road, Davidson Road West) to be used by construction traffic, in Gore District (as identified in the Traffic Management Plan) shall be investigated and reported upon in a Base Condition Report that shall be prepared by the consent holder. The Base Condition Report shall contain information including classified traffic counts, high speed data capture, system recording – profile, texture and roughness and falling weight deflectometer. The Base Condition Report shall identify the existing condition of roads, which roads require upgrading, potential remedial works during construction and monitoring requirements during and at the end of the construction period. A draft of the Base Condition Report shall be lodged with the Chief Executive Officer of the Gore District Council a minimum of six months prior to the commencement of construction works at the project site.

56. The Chief Executive Officer of the Gore District Council shall appoint a technical Peer Reviewer to review the Draft of the Base Condition Report and to certify its adequacy prior to the Base Condition Report being formally accepted by the Chief Executive and construction works commencing at the project site. The cost of retaining the services of the technical Peer Reviewer shall be met by the consent holder.

57. The consent holder shall be financially responsible for or shall undertake the maintenance of all Gore District roads (as identified in the Construction Traffic Management Plan) to be used by construction traffic for the duration of the construction period except for any maintenance, repairs or reconstruction of these roads arising from damage caused by other users, or unusual or extreme weather events.

    For the avoidance of doubt, the consent holder will only be responsible for the costs of maintenance of the roading network to the extent that

the costs are additional to those that would be anticipated by Gore District Council in the normal course of events (i.e. the consent holder will pay the reasonable proportion of costs of maintenance required as a result of its own use of the roads.)

58. The consent holder shall be responsible for preparing a Post Construction Condition Report at the conclusion of construction works with respect to all roads subject to the Base Condition Report. A Draft of the Post Construction Condition Report shall be lodged with the Chief Executive Officer and shall provide data with respect to road condition that is consistent with that contained in the Base Condition Report. The draft of the Post Construction Condition Report may be reviewed by a technical Peer Reviewer at the cost of the consent holder prior to the Post Construction Condition Report being formally accepted by the Chief Executive Officer.

59. The consent holder is financially responsible for restoration of all local access roads as defined in Condition 54 used by the construction traffic, in the Gore District to a standard that is consistent with or exceeds the condition recorded in the Base Condition Report. This responsibility shall not include responsibility for any maintenance, repairs or reconstruction of these roads arising from damage caused by other users, or unusual or extreme weather events.

60. Should the consent holder not agree with any aspect of costs imposed by the Council under Condition 59, then the matter shall be referred to arbitration in accordance with the provisions of the Arbitration Act 1996. Arbitration shall be commenced by written notice by the consent holder to the Council advising that the amount imposed is disputed; such notice is to be given by the consent holder within two weeks of notification of the amount. In resolving any dispute, the arbitrator may take into account any relevant contribution made by the consent holder or contractor of the consent holder to the repair or maintenance of the local access routes and any relevant road user payments.

61. If the parties cannot agree upon an arbitrator within a week of receiving the notice from the consent holder, then an arbitrator shall be appointed by the President of the Institute of Professional Engineers of New Zealand. Such arbitrator shall give an award in writing within 30 days after his or her appointment, unless the consent holder and the Council agree that time shall be extended. The parties shall bear their own costs in connection with the arbitration.

62. In all other respects, the provisions of the Arbitration Act 1996 shall apply. Pending the outcome of that arbitration, the existing amounts shall continue in force. Those sums shall be adjusted in accordance with the arbitration determination.

63. If, for any reason the decision of the arbitrator is not made available by the 30th day referred to in Condition 62 then the amount shall be fixed by the Council until such time as the arbitrator does make his/her decisions. At that stage any new amounts shall apply.

Advice Note:
For the purpose of the traffic conditions of this consent, "Construction Traffic Management Plan" includes physical road improvements, road maintenance and management.

Accidental Discovery Protocol

64. The consent holder shall ensure that all construction personnel involved in site disturbance activities are suitably trained in the requirements of the Accidental Discovery Protocols, and identification of archaeological sites and/or artefacts.

65. If *koiwi tangata* (human skeletal remains), *taonga* or archaeological artefacts are discovered during site construction, the consent holder shall, without delay:

    (i) Cease all work within a 50 metre radius of the discovery and secure the area.

    (ii) Notify their nominated archaeologist, the consent authority, Te Ao Marama, the New Zealand Historic Places Trust, and in the case of *koiwi tangata* (skeletal remains) the New Zealand Police.

    (iii) Enable a site inspection by the New Zealand Historic Places Trust and the appropriate runanga, and their advisors, who shall determine the nature of the discovery and the further action required, including whether an Archaeological Authority is required under the Historic Places Act 1993.

    (iv) Any *koiwi tangata* or *taonga* shall be handled and removed by tribal elders responsible for the *tikanga* (custom) appropriate to its removal and preservation.

    (v) Ensure that the further action identified in accordance in part (iii) of this condition is undertaken.

    (vi) Upon completions of tasks (i) to (v) above, and provided all statutory permissions have been obtained, the consent holder may recommence site construction following consultation with the consent authority, Te Ao Marama, the New Zealand Places Trust, and in the case of *koiwi tangata* (skeletal remains) the New Zealand Police.

66. The consent holder shall, in consultation with Te Ao Marama and the Historic Places Trust, develop a comprehensive Accidental Discovery Protocol, which will form part of the consent holder's Environmental Construction Management Plan required under Condition 28(iv). The protocol shall develop in more detail the processes required in Condition 65 above. The protocol shall also include, but not be limited to, identifying the roles and responsibilities of the consent holder and the other involved parties, providing contact details and identifying reporting requirements.

Archaeological Sites of Interest

67. The consent holder shall avoid adverse effects during the construction and operation of the wind farm and transmission line on the identified sites of 19th century buildings and the sod wall. The methods used to achieve this will be detailed in the ECMP required under Condition 28(iv).

Meteorological Masts

68. The number of meteorological masts on the site shall not exceed 15. No mast shall exceed 90 metres in height.

Earth Potential Rise

69. The consent holder will consult with Telecom NZ Ltd with regard to the effects of earth potential rise on Telecom's equipment in the vicinity of Kaiwera Downs Road and Isla Road at least 12 months prior to the commissioning of the 220 kV line from the wind farm. This consultation will include consideration of any requirement for monitoring and mitigation. The results of this consultation will be reported to the Chief Executive Officer of the Gore District Council within one month of its completion. The consent holder will carry out any work required to monitor and mitigate the effects of earth potential rise. This work will be reported to the Chief Executive Officer of the Gore District Council within one month of its commencing and within one month of its completion. This work will be carried out at the consent holder's cost and will be completed to the satisfaction of the Chief Executive Officer of the Gore District Council.

Public Viewpoint

70. The consent holder will establish and maintain a public viewpoint of the wind farm on SH93. The location for this viewpoint will be established after consultation with the Consultative Group, and subject to obtaining the approval from the Chief Executive Office of the Gore District Council and Transit New Zealand. The viewpoint will be established prior to the commissioning of the last turbine.

Community Consultation

71. At the completion of detailed design for the wind farm, the consent holder shall establish and co-ordinate a Consultative Group for the Kaiwera Downs Wind Farm. This Group is to be consulted, as a minimum, at least six monthly during the construction phase and the first two years of the operation of the wind farm and thereafter at a frequency to be determined by a majority of the Consultative Group itself. This does not restrict the ability of individual Consultative Group members with the agreement of the Chief Executive Officer of the Gore District Council from calling meetings at shorter intervals to deal with any interim matters that need to be addressed before the next scheduled meeting.

72. The objective of the group will be to facilitate information flow between the consent holder's management team and the community, and will be an ongoing point of contact between the consent holder and the community. The functions of the group shall also include acting as a forum for relaying community concerns about the construction and ongoing operation of the wind farm to the consent holder's on-site management, developing acceptable means of addressing (where possible) and managing those concerns, and reviewing the implementation of measures to resolve and manage community concerns.

73. The consent holder shall be responsible for convening the meetings of the group and shall cover the direct costs associated with the establishment and operation of the group. The consent holder shall be responsible for the keeping and distribution of the group's minutes to all participants in the group. A person independent of the consent holder shall chair the meeting. The chair shall be appointed by the Chief Executive Officer of the Gore District Council.

74. The consent holder shall notify its intention to establish a Consultative Group for the Kaiwera Downs Wind Farm project by public notice. As a minimum, the consent holder shall invite the following to participate in the Consultative Group:

(i) A representative of property owners and occupiers on local roads identified for use by construction traffic as nominated by the Chief Executive Officer of the Gore District Council. (1 representative)

(ii) The operator of the school-bus routes in the area (1 representative)

(iii) An Elected Representative of the Gore District Council and one person appointed by the Chief Executive Officer of the Gore District Council (2 representatives)

(iv) Southland District Council or relevant Community Board (1 representative)

(v) The Southland Conservator or delegate of the Department of Conservation. (1 representative)

(vi) Iwi representatives (1 representative)

vii) Local residents (3 representatives).

No owner or occupier of any property on which the wind farm is located may a member of the group. The consent holder shall not be in breach of this condition if any one or more of the above parties specified above do not wish to be members of the group or to attend any particular meeting.

75. The Consultative Group shall cease to exist if a 75% majority of the group vote that it is no longer necessary.

Complaints Register

76. The consent holder shall maintain and keep a Complaints Register to record any complaints about the construction activities and operation of the wind farm received by the consent holder in relation to traffic, noise, dust, analogue television interference, shadow flicker or blade glint. The Register shall also record, where the following information is available:
(i) The date, time and duration of the incident that has resulted in a complaint.
(ii) The location of the complainant when the incident was detected.
(iii) The possible cause of the incident.
(iv) Any corrective action undertaken by the consent holder in response to the complaint, including timing of that corrective action.

77. The Complaints Register shall be available to staff and authorised agents of the Gore District Council and to members of the Consultative Group at all reasonable times upon request. Complaints received by the consent holder that may infer non-compliance with the conditions of this resource consent shall be forwarded to the Chief Executive Officer of the Gore District Council within 48 hours of the complaint being received.

Commercial and Industrial Development Contribution

78. The Gore District Council may levy a commercial and industrial development contribution in respect of each building consent for the works required for the Kaiwera Downs Wind Farm or a stage in the development of the Kaiwera Downs Wind Farm (each a "development contribution").

    (i) The value of each development contribution shall be no more than 0.2% (plus GST) of the value of the works to which the building consent relates, subject to (ii) below.

    (ii) The aggregate value of all development contributions shall be the lesser of 0.2% of the value of all of the works required for the development of the Kaiwera Downs Wind Farm and $650,000 (indexed to inflation).

    (iii) The payment of a development contribution may be deferred for a period and/or may be made in instalments with the approval of the Chief Executive Officer, Gore District Council.

    (iv) Development contributions shall be paid in cash or, with the approval of the Chief Executive Officer, Gore District Council, may be made in part or in full by the consent holder undertaking works of an equivalent value in respect of a community development or facility.

    (v) The value of each development contribution, and the total of all development contributions, shall be calculated in accordance with the development contribution calculation schedule attached as Schedule 1.

Landscape Mitigation Proposal

79. Within 6 months of the grant of consent, the consent holder will submit to A Woodrow, C Woodrow and A & J Moody (identified property owners) a landscape mitigation proposal for the purpose of mitigating, where practicable, the visibility of the KDWF turbines from their residences for approval by them.

    If an identified property owner approves the landscape mitigation proposal, the consent holder shall implement that proposal prior to the construction of the turbines.

    Within 12 months of the grant of consent, the consent holder will submit a report to the Chief Executive Officer of the Gore District Council detailing the landscape mitigation proposals that have been approved and implemented and any proposal that have not been approved. In the event that any landscape mitigation proposal is not approved, the Council may review under Section 128 of the RMA the conditions of consent to deal with, where necessary, the practicable mitigation of visibility of the KDWF turbines from the residences not already subject to an approved landscape mitigation proposal. Any review shall not affect the number and location of the approved turbines.

80. The consent shall be personal to TrustPower Ltd.

Date of lapsing if consent if not given effect to:
Ten years as provided for in Section 125(1) of the Resource Management Act 1991.

SCHEDULE 1

Development contribution value

1. The value of the works to which a particular development contribution relates will be based on TrustPower's reasonable estimate of the actual costs of completing the works anticipated in the relevant building consent or as expressed in any building consent application.

2. For the purposes of condition 78(iv) of the Consent, the value of the works in respect of a community development or facility undertaken by TrustPower shall be TrustPower's actual costs in respect of those works (not including internal TrustPower administration costs).

Contribution Cap

3. The maximum dollar amount of $650,000 (indexed to inflation) referred to in condition 78(ii) is referred to as the "**Contribution Cap**" for the purposes of this schedule.

4. In the event that the aggregate total of all development contributions reaches the Contribution Cap, no further development contributions shall be payable by TrustPower for the Development.

5. For the purposes of determining whether the Contribution Cap has been reached, at each anniversary of 6 March 2009 (each a "**Review Date**"), the total amount of development contributions remaining to be paid before the Contribution Cap has been reached shall be calculated in accordance with the following formula:

$$NR = (OR - C) \times \frac{reference\ \ index}{base\ \ index}$$

Where:

NR is the dollar amount of development contributions remaining to be paid before the Contribution Cap is reached, to apply from the Review Date.

OR is the dollar amount of development contributions that remained to be paid before the Contribution Cap was reached that applied immediately after the immediately preceding Review Date.

C is the dollar value of the development contributions paid during the year prior to the Review Date.

Reference index is PPI published as at the end of the quarter in respect of which PPI has been published most recently before the Review Date.

Base index is PPI published as at the end of the quarter in respect of which PPI has been published most recently before the immediately preceding Review Date.

PPI is the Producers Price Index Inputs All Industries (excluding administration, health and education) published by Statistics New Zealand.

Below is an example of the formula being applied to a hypothetical

example:

$$NR = (OR - C) \times \frac{reference\ \ index}{base\ \ index}$$

C = $100,000

OR = $650,000

PPI reference (reference index) = 1.03

PPI Base (base index) = 1.00

NR = (650,000 - 100,000) x 1.03 / 1.00

= 550,000 x 1.03

= $566,500

Note: For the following year the PPI reference Index becomes the PPI Base Index.

6. From 6 March 2009 until the first Review Date the Contribution Cap will be $650,000. For the avoidance of doubt, on the first Review Date 'OR' (for the purposes of the calculation in clause 5 above) will be $650,000.

7. If Statistics New Zealand ceases to compile and report figures for the Producers Price Index, Inputs All Industries, or if any other change is made in the timing or methodology for reporting such statistic which renders the operation of the mechanism in this condition unworkable, the consent holder and the Gore District Council will agree upon a substitute index or methodology which most closely approximates the purpose and composition of that statistic. If agreement is not reached on that issue within 20 Business Days of such issue arising then either party may require a substitute to be determined in accordance with paragraph 8 below.

Dispute resolution

8. If a dispute arises between Trustpower and the Gore District Council in respect of any matter arising under this development contribution schedule the matter shall be determined by a suitably qualified expert appointed by the parties, or failing agreement on such appointment, the expert shall be appointed at the request of a party by the president or the vice-president for the time being of New Zealand Law Society or the nominee of such president or vice-president. The guidelines which shall govern the proceedings for determining the dispute shall be set by the parties. Failing agreement on the guidelines within 10 working days after the appointment of the expert, a party may request the expert to set the guidelines (whether or not in conjunction with such party) which shall govern the proceedings for determining the dispute.

Certification:

This document is certified as being true and correct in setting out the extent of the consent and the conditions applying to the consent for the development referred to as the Kaiwera Downs Wind Farm.

Dated at Gore this 28th day of May 2009

Stephen Francis Parry
Chief Executive Officer
Gore District Council

B

APPENDIX B

Kaiwera Downs Wind Farm Land Parcels

KAIWERA DOWNS WIND FARM, LAND OWNERS

Land Owner	Property Location	LINZ Title	Legal Description
NZSF Southland Farms Limited	54 Isla Road RD 2	SL169/274	Section 18 Block X Waikaka SD
NZSF Southland Farms Limited	54 Isla Road RD 2	SL235/17	Part Section 11 Block X Waikaka SD
NZSF Southland Farms Limited	54 Isla Road RD 2	SL235/18	Part Section 12 Block X Waikaka SD
NZSF Southland Farms Limited	54 Isla Road RD 2	668428	Section 6-7, 16-17 Block III Slopedown SD & Section 5 SO Plan 453068
NZSF Southland Farms Limited	43 Isla Road RD 2	SL235/20	Lot 1 and Lot 4-5 DP 5932
NZSF Southland Farms Limited	54 Isla Road RD 2	SL9B/587	Section 2 Block III Slopedown SD
NZSF Southland Farms Limited	54 Isla Road RD 2	SL9B/588	Section 17 Block X Waikaka SD
NZSF Southland Farms Limited	54 Isla Road RD 2	668427	Section 15A, 16A, 17 Block VIII, Section 22 Block IX Tuturau SD, Section 10 Block X Waikaka SD & Section 4 SO Plan 453068
Rossland Properties Limited	134 Kaiwera Downs Road RD 2	SL235/21	Lot 2-3 and Lot 6 DP 5932
Rossland Properties Limited	134 Kaiwera Downs Road RD 2	SL235/22	Lot 1-2 DP 5933 & Part Section 1 Block X Waikaka SD
Suzanne Dorothy Wilson, Allen David Wilson and Liza Claire Wilson	135 Davidson Road West RD 2	668562	Lot 507 DP 15076, Lot 104 DP 15077, Section 6 SO plan 453069 & Section 20 Block III Slopedown SD
Suzanne Dorothy Wilson, Allen David Wilson and Liza Claire Wilson	135 Davidson Road West RD 2	SL5B/1197	Section 21 Block II Slopedown SD
Suzanne Dorothy Wilson, Allen David Wilson and Liza Claire Wilson	135 Davidson Road West RD 2	SL5B/1198	Section 22 Block III Slopedown SD

Land Owner	Property Location	LINZ Title	Legal Description
Dean George Perkins, Harvey David Perkins and Harvey James Perkins	0 Hole and Corner Road RD 2	SL8C/229	Par Section 31 Block IX Tuturau SD
Aron Glyn Perkins and Lisa Jane Perkins	39 Hole and Corner Road RD 2	SL205/100	Section 33 Block IX Tuturau SD
Aron Glyn Perkins and Lisa Jane Perkins	39 Hole and Corner Road RD 2	668426	Lot 103 DP 11651 & Section 3 SO Plan 453068
David Colin Story, Diane Catherine Story and Jeffrey Barnard Walker	9999 Hillary Road RD 2	668425	Section 34-35 Block IX Tuturau SD & Section 2 SO Plan 453068
Mark Congreve Copland as to a ½ share & Sally-Ann Copland as to a ½ share	360 Rosemarkie Road RD 2	SL10A/752	Part Section 9 Waiarikiki Settlement, Section 1 SO Plan 10763, Section 1 SO Plan 10764, Section 1 SO Plan 10765 & Section 1 SO Plan 10766
Mark Congreve Copland as to a ½ share & Sally-Ann Copland as to a ½ share	360 Rosemarkie Road RD 2	SL12B/232	Lot 1 DP 12921 & Lot 2-3 DP 15378
Mark Dawson Walker and Karyn Michelle Walker	90 Rosemarkie Rd RD 2	454793	Lot 1 DP 15379 & Lot 2 DP 414572
Mark Dawson Walker and Karyn Michelle Walker	9999 Old Coach Road RD 2	525481	Lot 1 DP 432760
Valerie Mary Dickie	9999 Hillary Road RD 2	668424	Lot 1-2 DP 12300, Lot 1 DP 414572 & Section 1 SO Plan 453068
Belmont Farm (2008) Limited	55B Knowsley Park Road RD 2	SL6A/735	Lot 4 DP 8833
Belmont Farm (2008) Limited	55B Knowsley Park Road RD 2	SL6A/738	Lot 1 DP 8942
Belmont Farm (2008) Limited	62 Hillary Road RD 2	482121	Lot 1 DP 421469
Belmont Farm (2008) Limited	55B Knowsley	475354	Lot 3 DP 419768

Land Owner	Property Location	LINZ Title	Legal Description
	Park Road RD 2		
Belmont Farm (2008) Limited	55B Knowsley Park Road RD 2	SL8D/323	Part Lot 1 DP 8834
Belmont Farm (2008) Limited	55B Knowsley Park Road RD 2	SL9D/1	Part Lot 2 DP 11019
Belmont Farm (2008) Limited	55B Knowsley Park Road RD 2	485353	Lot 2 DP 419768
Lester Garnett Dickie and Hilary Kay Dickie	1144 Old Coach Road RD 2	525482	Lot 2 DP 432760
Lester Garnett Dickie and Hilary Kay Dickie	81 Waikana Road RD 2	544990	Section 1 and Part Section 2 Waiarikiki Settlement
Lester Garnett Dickie and Hilary Kay Dickie	62 Hillary Road RD 2	SL6C/278	Section 11 Waiarikiki Settlement
Lester Garnett Dickie and Hilary Kay Dickie	62 Hillary Road RD 2	475352	Lot 1 DP 419768, Lot 2 DP 421469, Section 10 Wairaikiki Settlement & Part Section 6 Waiarikiki Settlement

C

APPENDIX C

Records of Title

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Search Copy

R.W. Muir
Registrar-General
of Land

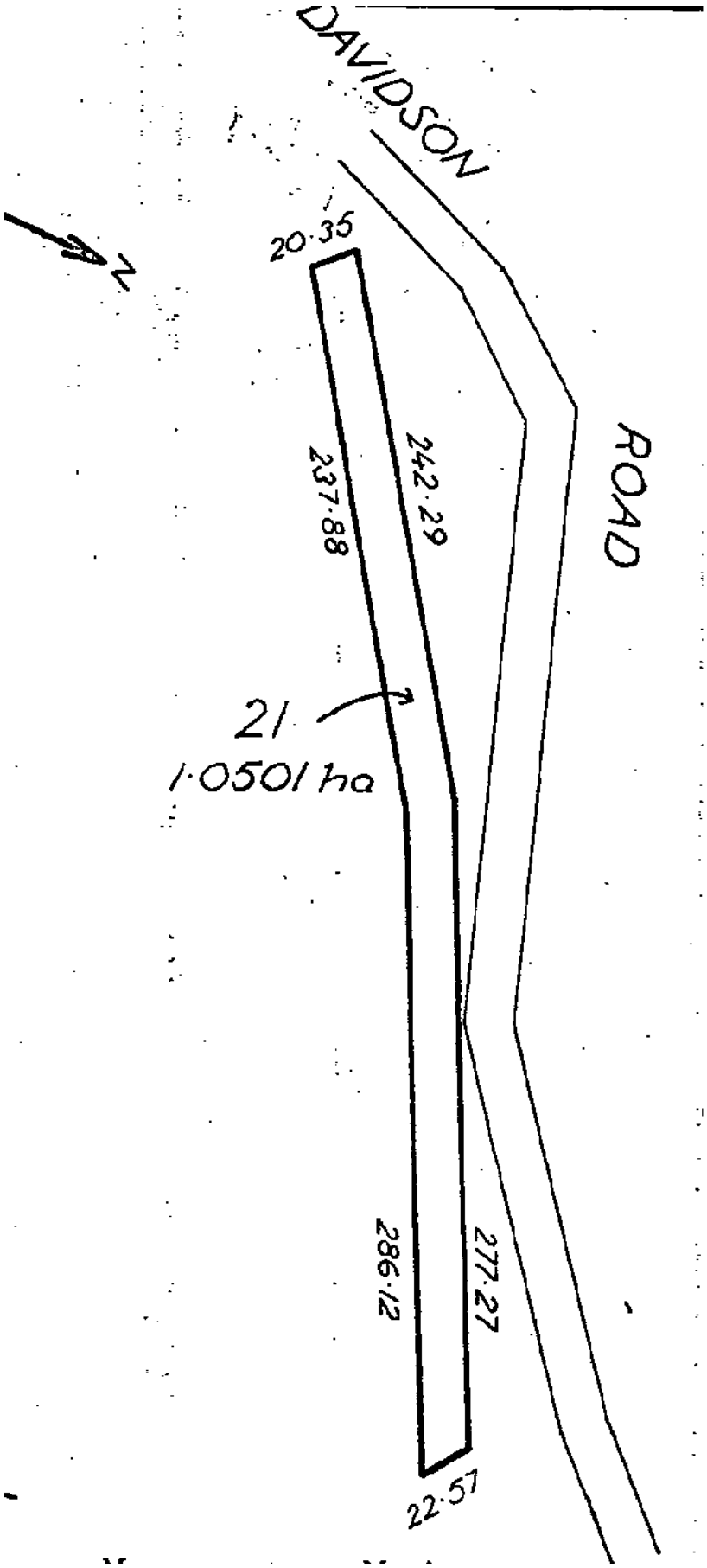
Identifier	**SL5B/1197**
Land Registration District	**Southland**
Date Issued	16 November 1976

Prior References
GN 018798.1

Estate	Fee Simple
Area	1.0501 hectares more or less
Legal Description	Section 21 Block III Slopedown Survey District

Registered Owners
Suzanne Dorothy Wilson, Allen David Wilson and Liza Claire Wilson

Interests
11634658.3 Mortgage to Rabobank New Zealand Limited - 16.12.2019 at 3:38 pm


DAVIDSON
ROAD
N
20.35
237.88
242.29
21
1.0501 ha
286.12
277.27
22.57

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Search Copy

R.W. Muir
Registrar-General
of Land

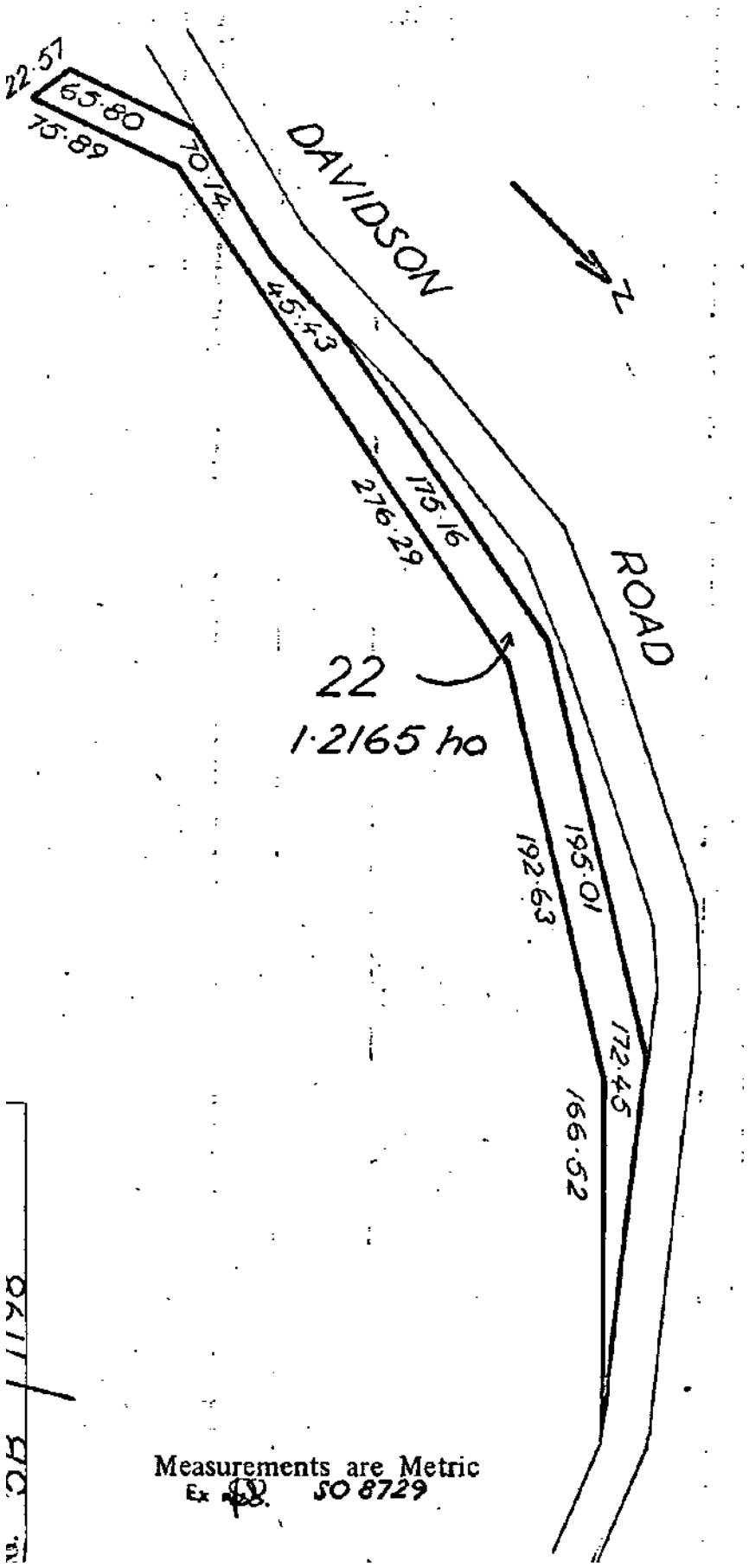
Identifier	**SL5B/1198**
Land Registration District	**Southland**
Date Issued	16 November 1976

Prior References
GN 018798.1

Estate	Fee Simple
Area	1.2165 hectares more or less
Legal Description	Section 22 Block III Slopedown Survey District

Registered Owners
Suzanne Dorothy Wilson, Allen David Wilson and Liza Claire Wilson

Interests
11634658.3 Mortgage to Rabobank New Zealand Limited - 16.12.2019 at 3:38 pm


22·57
65·80
75·89
70·74
DAVIDSON
ROAD
N
45·43
276·29
175·16
22
1·2165 ha
192·63
195·01
172·45
166·52
Measurements are Metric
Ex SO 8729

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**SL6A/735**
Land Registration District	**Southland**
Date Issued	31 October 1979

Prior References
SL140/169

Estate	Fee Simple
Area	124.0000 hectares more or less
Legal Description	Lot 4 Deposited Plan 8833
Registered Owners	

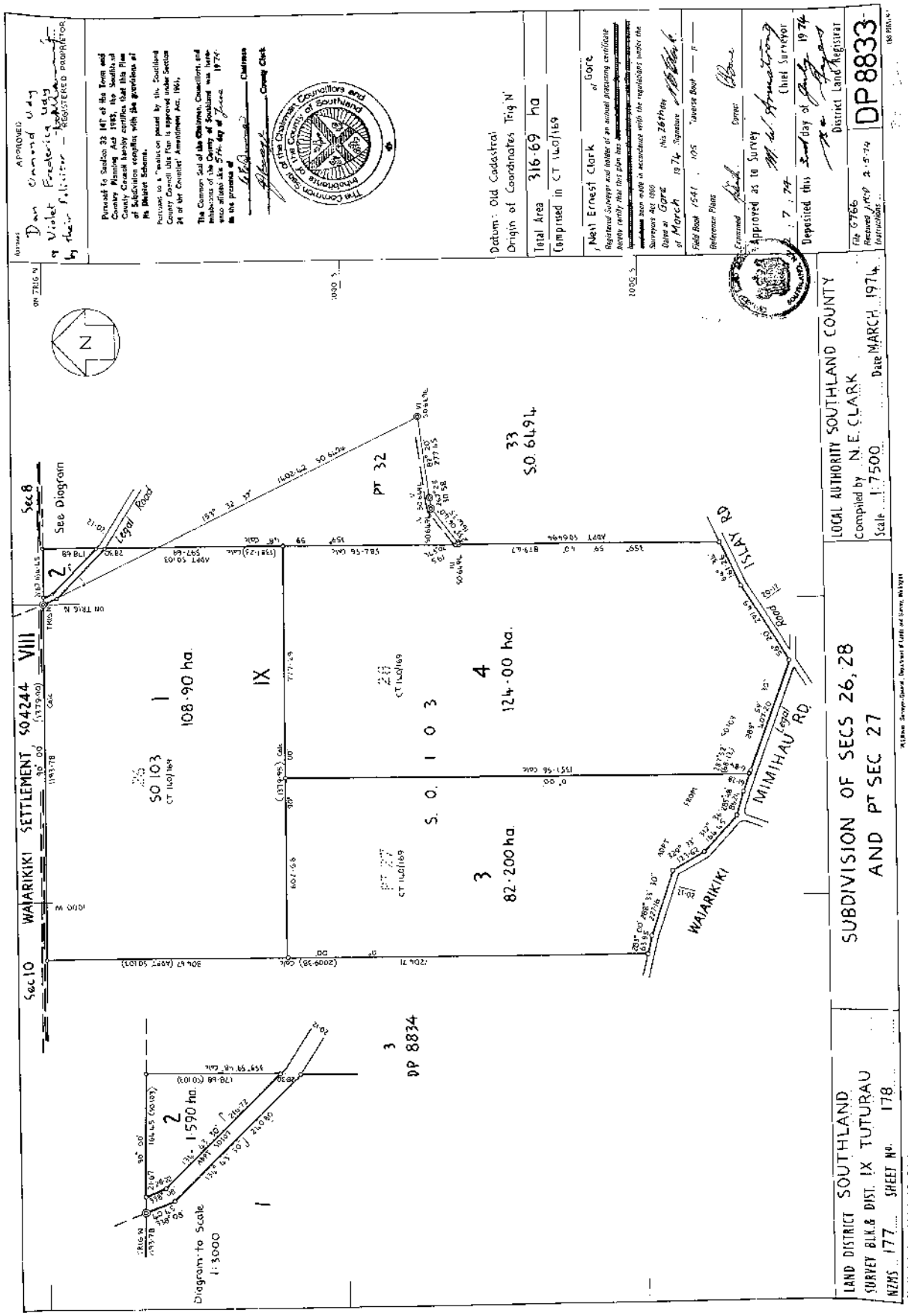
Belmont Farm (2008) Limited

Interests

8386624.5 Encumbrance to (now) Tararua Wind Power Limited - 19.1.2010 at 2:04 pm

10447059.2 Mortgage to Southland Building Society - 1.6.2016 at 2:16 pm

10698733.3 CAVEAT BY TARARUA WIND POWER LIMITED - 31.3.2017 at 9:12 am


DP 8833
SUBDIVISION OF SECS 26, 28 AND PT SEC 27
WAIARIKIKI SETTLEMENT SO 4244
LOCAL AUTHORITY SOUTHLAND COUNTY
Compiled by N.E. CLARK
Scale 1:7500
Date MARCH 1974
LAND DISTRICT SOUTHLAND
SURVEY BLK.& DIST. IX TUTURAU
NZMS 177 SHEET NO. 178
Datum: Old Cadastral
Origin of Coordinates Trig N'
Total Area 316·69 ha
Comprised in CT 140/169
Neil Ernest Clark of Gore
Approved as to Survey
Deposited this 7th day of June 1974
District Land Registrar
File 67766
Diagram to Scale 1:3000
See Diagram
Sec 8
Sec 10
Sec 9
Sec 11
Ingall Road
WAIARIKIKI RD
MIMIHAU Legal RD
1 108·90 ha
2 1·590 ha
3 82·200 ha
4 124·00 ha.
SO 103
SO 6494
PT 32
33
DP 8834
IX
VIII

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Search Copy

R.W. Muir
Registrar-General
of Land

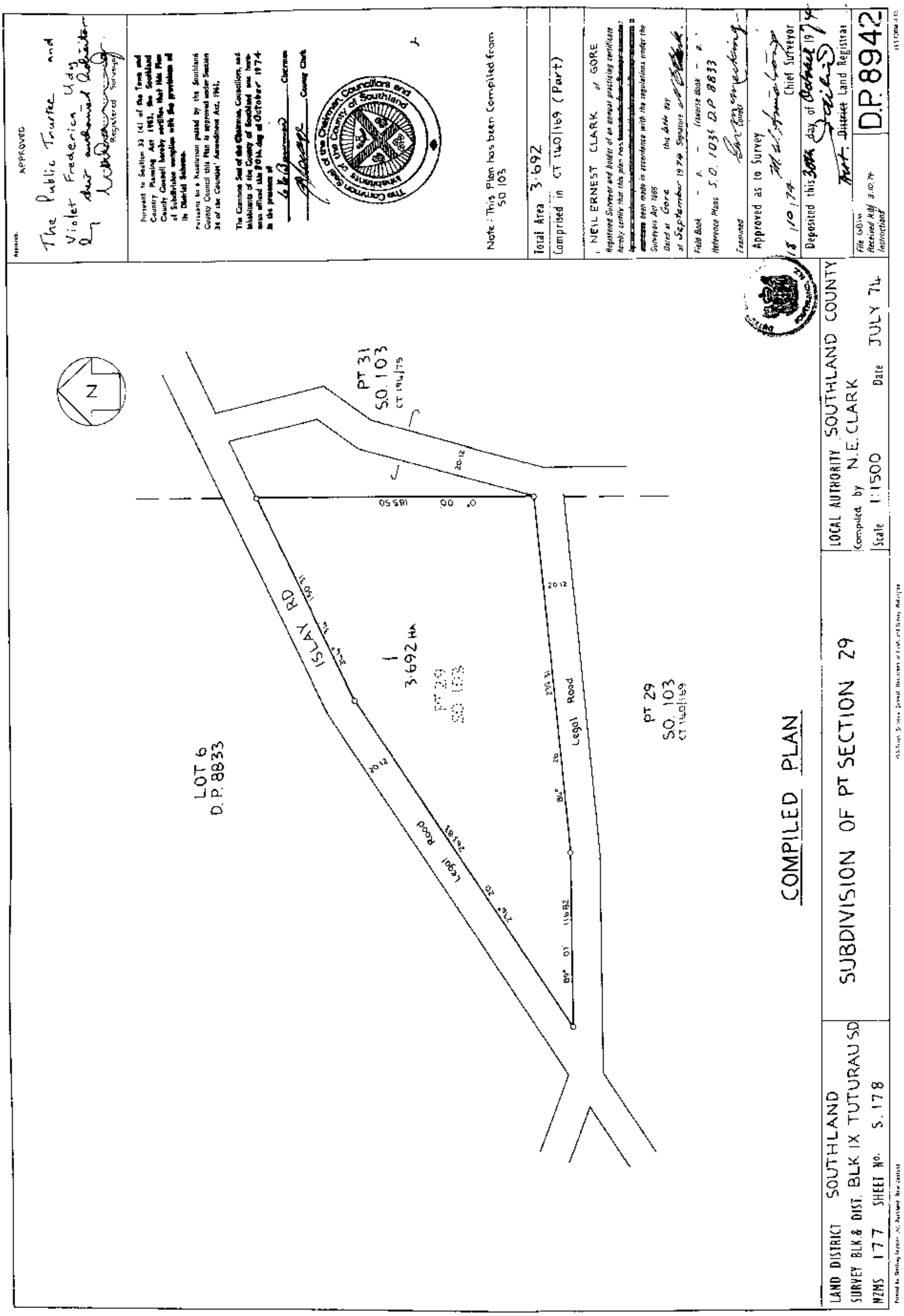
Identifier	**SL6A/738**
Land Registration District	**Southland**
Date Issued	31 October 1979

Prior References
SL140/169

Estate	Fee Simple
Area	3.6920 hectares more or less
Legal Description	Lot 1 Deposited Plan 8942
Registered Owners	

Belmont Farm (2008) Limited

Interests


COMPILED PLAN
SUBDIVISION OF PT SECTION 29
LAND DISTRICT SOUTHLAND
SURVEY BLK.& DIST. BLK IX TUTURAU SD
NZMS 177 SHEET No. S.178
LOCAL AUTHORITY SOUTHLAND COUNTY
Compiled by N.E. CLARK
Scale 1:1500 Date JULY 74
DP 8942
LOT 6
D.P. 8833
ISLAY RD
Legal Road
1
3.692 HA
PT 29
S.O. 103
PT 31
S.O. 103
Note: This Plan has been Compiled from SO 103
Total Area 3.692
Comprised in CT 140/169 (Part)
Approved as to Survey
Chief Surveyor
Land Registrar

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**SL6C/278**
Land Registration District	**Southland**
Date Issued	22 March 1982

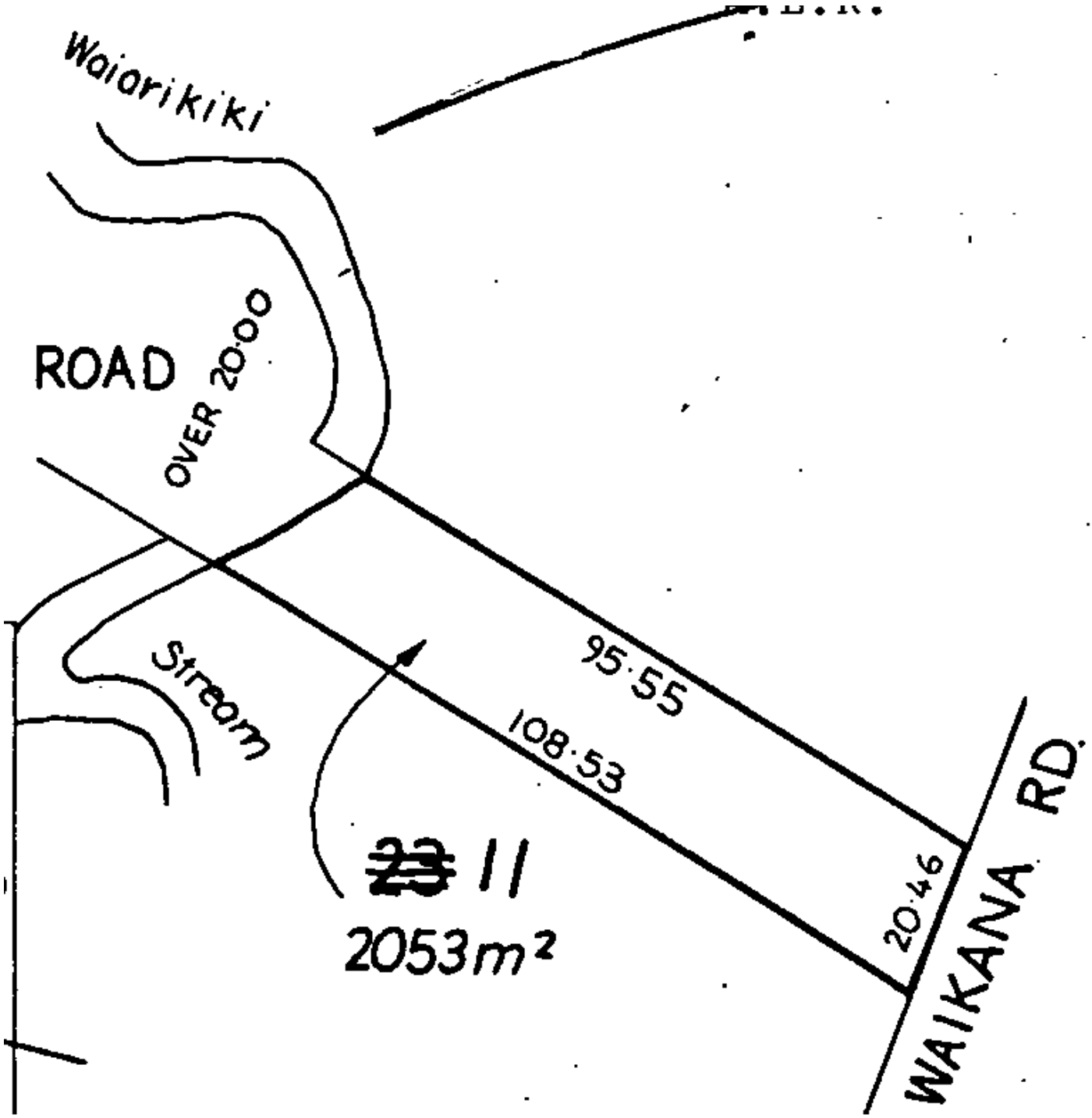
Prior References
GN 080787.1 SL175/236

Estate	Fee Simple
Area	2053 square metres more or less
Legal Description	Section 11 Waiarikiki Settlement
Registered Owners	

Lester Garnett Dickie and Hilary Kay Dickie

Interests

11390063.3 Mortgage to Southland Building Society - 12.8.2019 at 9:56 am


Waiorikiki
ROAD
OVER 20·00
Stream
95·55
108·53
~~23~~ 11
2053m²
20·46
WAIKANA RD.

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Search Copy

R.W. Muir
Registrar-General of Land

Identifier	**SL8C/229**
Land Registration District	**Southland**
Date Issued	24 July 1987

Prior References
SL174/75

Estate	Fee Simple
Area	405.7278 hectares more or less
Legal Description	Part Section 31 Block IX Tuturau Survey District

Registered Owners
Dean George Perkins, Harvey David Perkins and Harvey James Perkins

Interests

142831.11 Easement Certificate specifying the following easements - 24.7.1987 at 2.27 pm

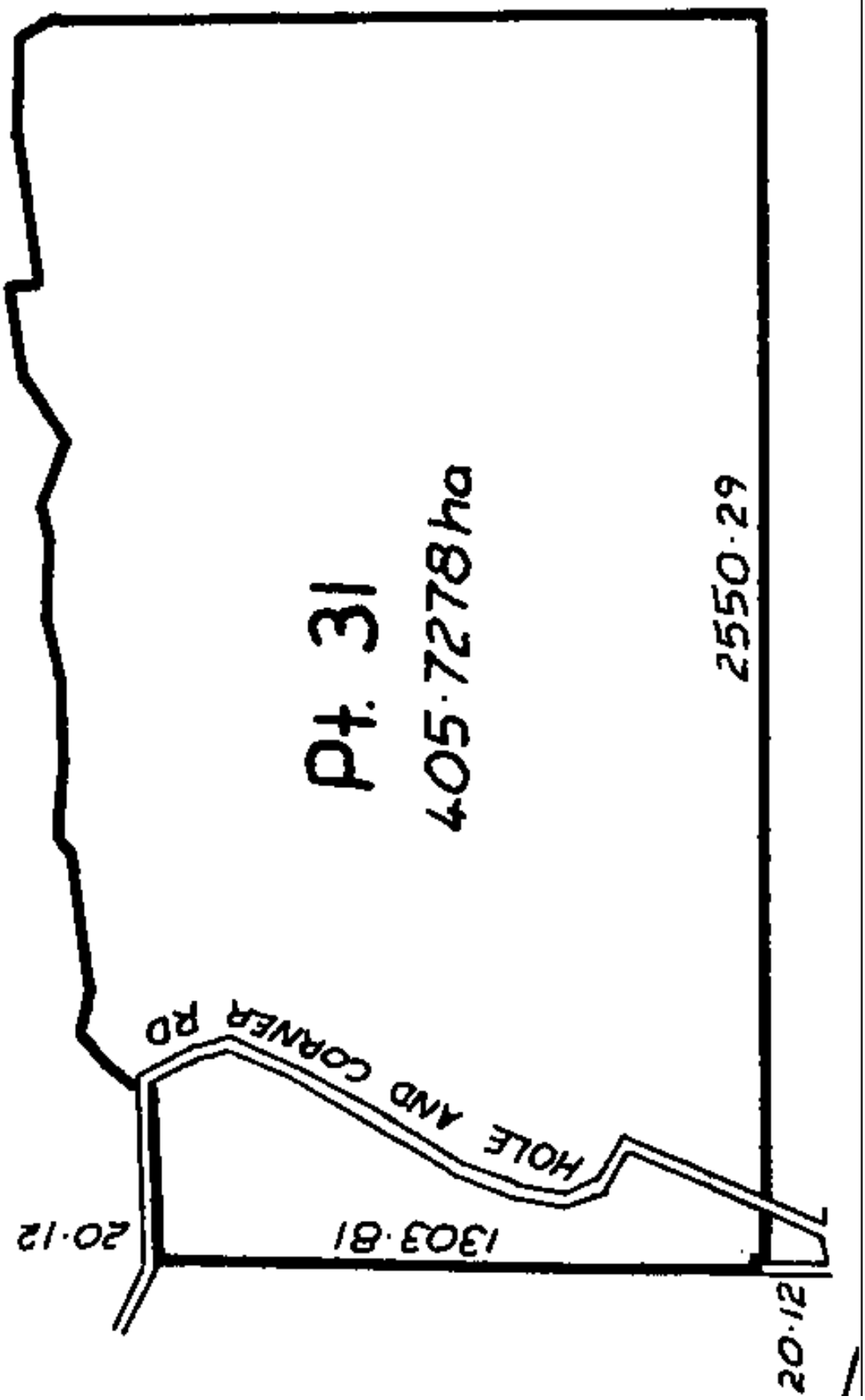
Type	Servient Tenement	Easement Area	Dominant Tenement	Statutory Restriction
Right of way	Part Section 31 Block IX Tuturau Survey District - herein	A DP 11651	Lot 1 Deposited Plan 11651 - CT SL8C/228	Section 309(1)(a) Local Government Act 1974

258934.4 Forestry Right pursuant to the Forestry Rights Registration Act 1983 to (now) Harvey David Perkins - 8.7.1998 at 2:09 pm

258934.5 Mortgage to (now) Harvey David Perkins and Harvey James Perkins - 8.7.1998 at 2:09 pm

9236042.1 Notice pursuant to Section 195(2) Climate Change Response Act 2002 - 26.11.2012 at 4:15 pm

10699976.2 CAVEAT BY TARARUA WIND POWER LIMITED - 12.5.2017 at 9:01 am


Pt. 31
405.7278ha
2550.29
HOLE AND CORNER RD
1303.81
20.12
20.12

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**SL8D/323**
Land Registration District	**Southland**
Date Issued	25 March 1988

Prior References
SL6A/736

Estate	Fee Simple
Area	44.4314 hectares more or less
Legal Description	Part Lot 1 Deposited Plan 8834
Registered Owners	

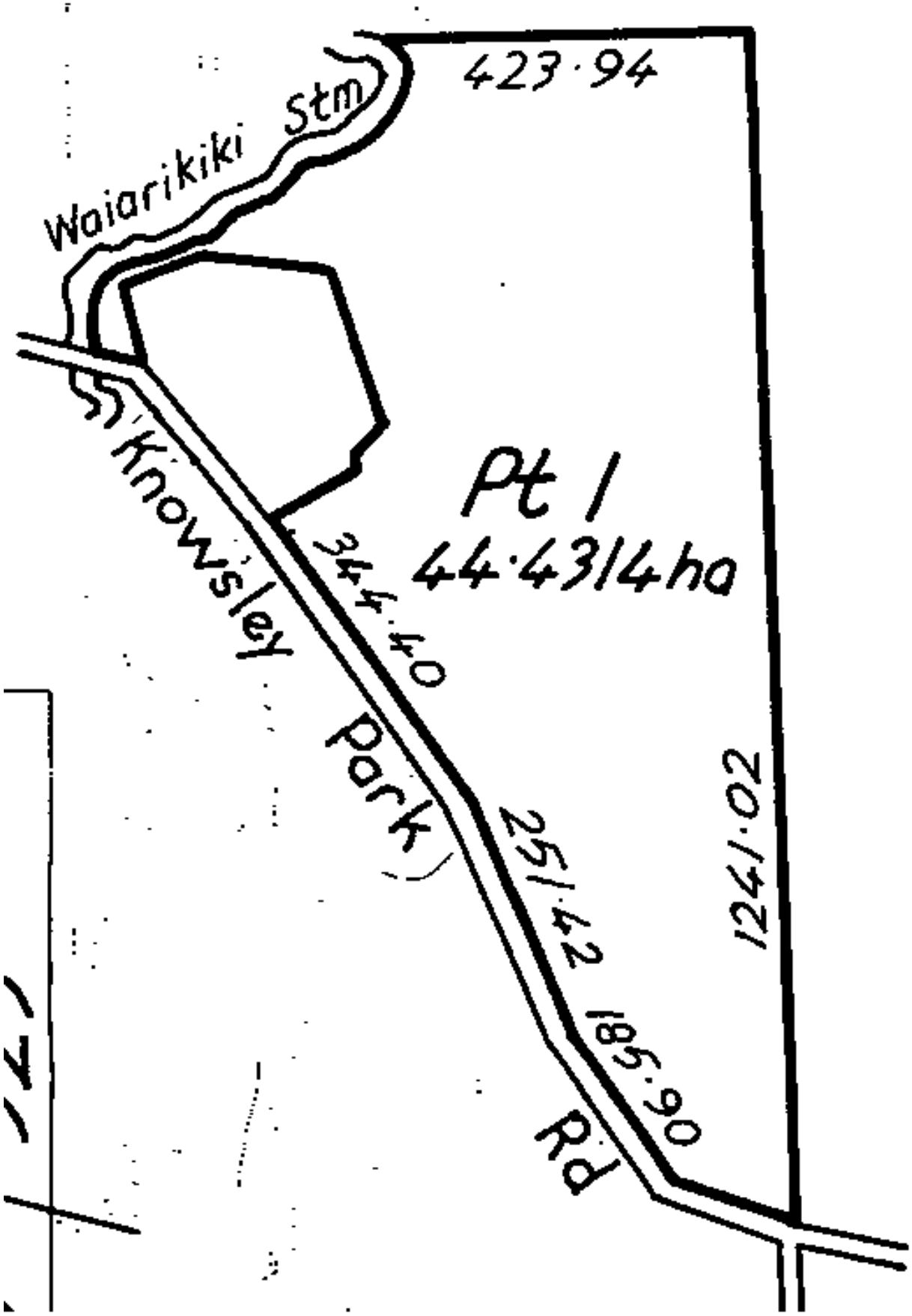
Belmont Farm (2008) Limited

Interests

271947.2 Forestry Right pursuant to the Forestry Rights Registration Act 1983 to Lester Garnett Dickie and Hilary Kay Dickie for a term of 30 years commencing 18.2.2000 - 21.3.2000 at 2:34 pm

8386624.5 Encumbrance to (now) Tararua Wind Power Limited - 19.1.2010 at 2:04 pm

10447059.2 Mortgage to Southland Building Society - 1.6.2016 at 2:16 pm


423·94
Waiarikiki Stm
Pt 1
44·4314ha
344·40
Knowsley Park
251·42
185·90
Rd
1241·02

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**SL9B/587**
Land Registration District	**Southland**
Date Issued	18 December 1989

Prior References
SL47/193

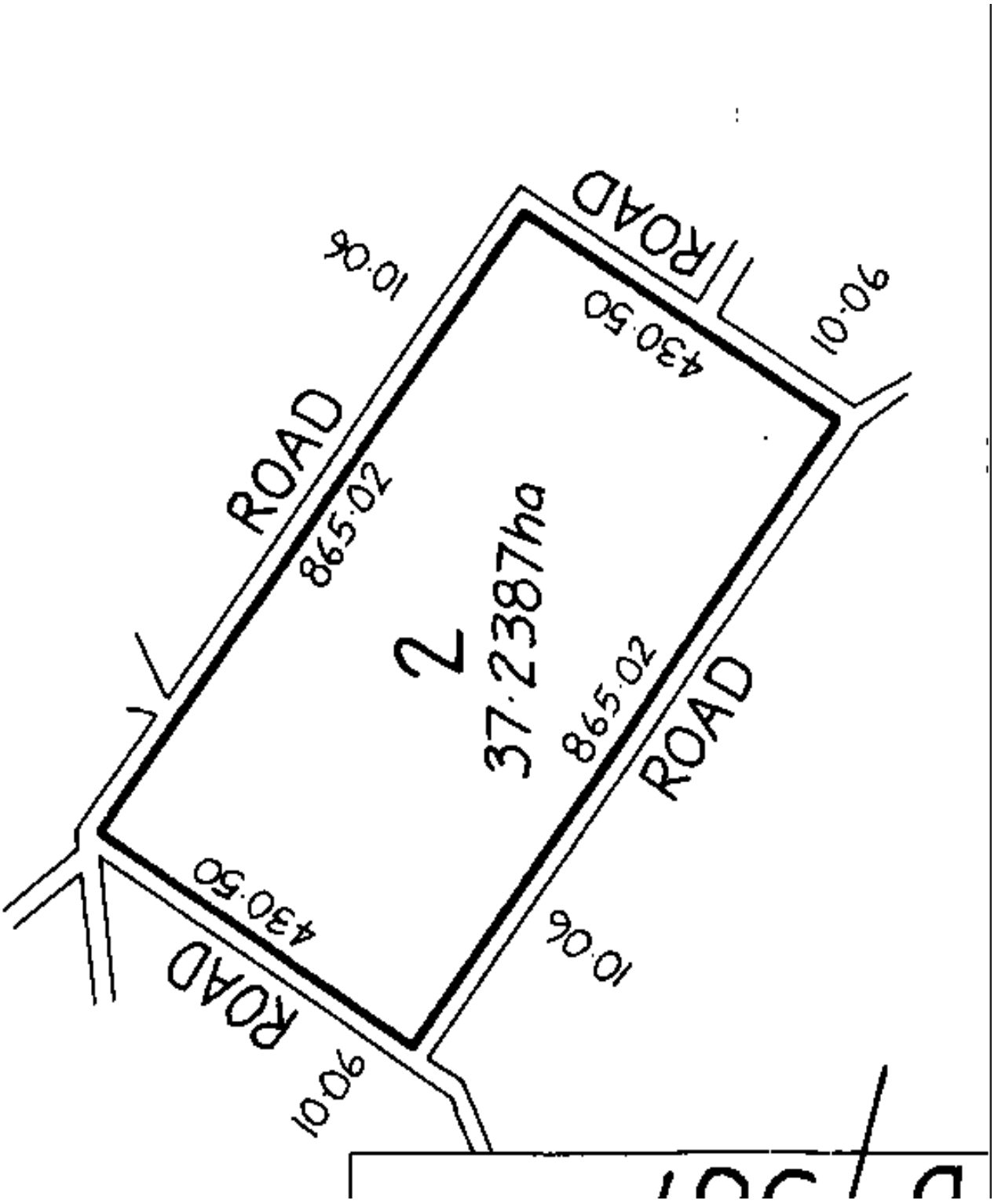
Estate	Fee Simple
Area	37.2387 hectares more or less
Legal Description	Section 2 Block III Slopedown Survey District

Registered Owners
NZSF Southland Farms Limited

Interests

9236042.1 Notice pursuant to Section 195(2) Climate Change Response Act 2002 - 26.11.2012 at 4:15 pm

10768280.3 CAVEAT BY TARARUA WIND POWER LIMITED - 21.4.2017 at 9:17 am


ROAD
10.06
430.50
ROAD
865.02
2
37.2387ha
865.02
ROAD
430.50
ROAD
10.06
10.06

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**SL9B/588**
Land Registration District	**Southland**
Date Issued	18 December 1989

Prior References
SL100/52

Estate	Fee Simple
Area	13.6404 hectares more or less
Legal Description	Section 17 Block X Waikaka Survey District

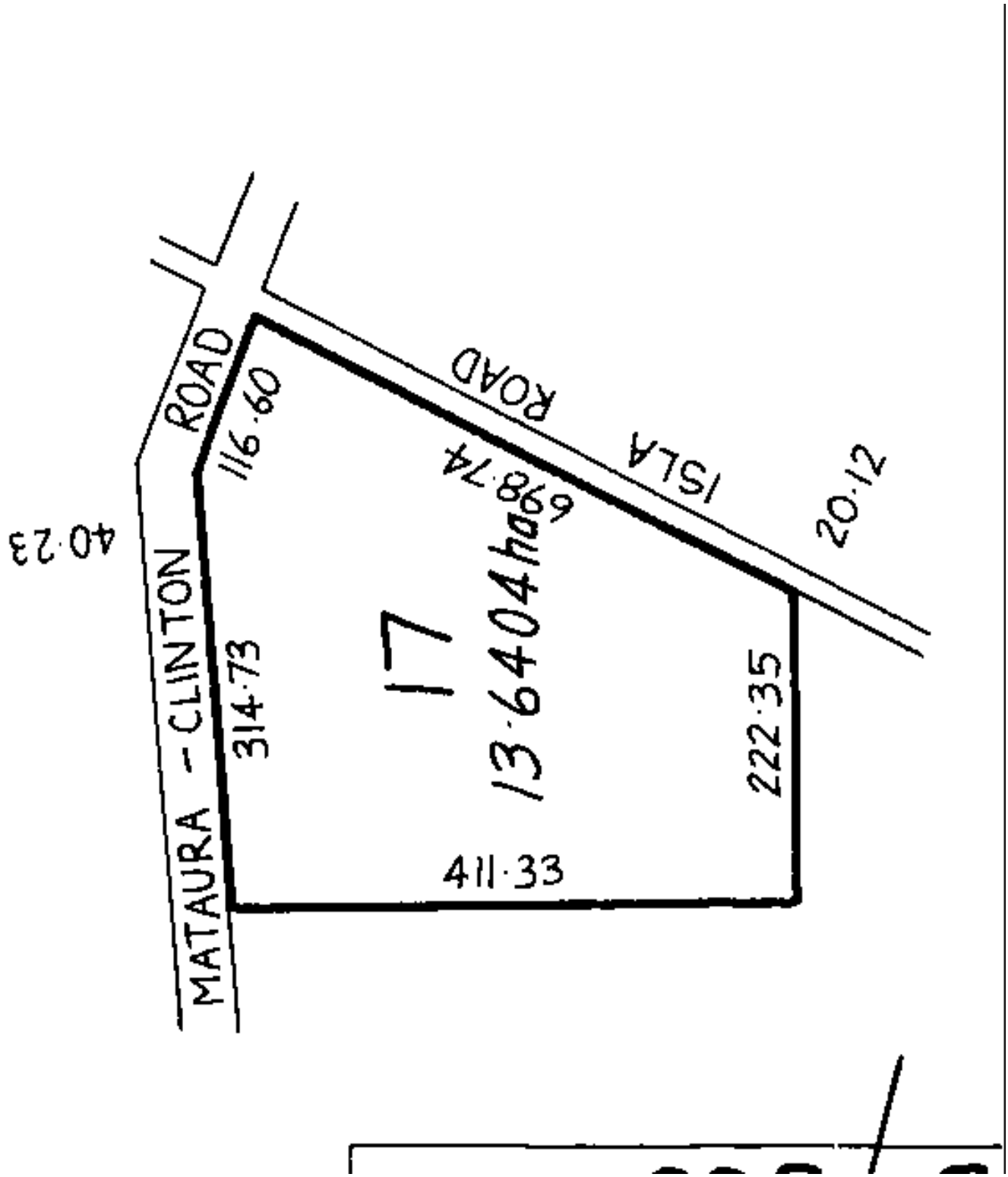
Registered Owners
NZSF Southland Farms Limited

Interests

5041591.1 Gazette Notice (2001/1044) declaring the adjoining road (State Highway 93) to be a limited access road - 11.5.2001 at 9:31 am

5064538.4 Notice pursuant to Section 91 Transit New Zealand Act 1989 - 26.7.2001 at 12:43 pm

9236042.1 Notice pursuant to Section 195(2) Climate Change Response Act 2002 - 26.11.2012 at 4:15 pm


ROAD
ISLA ROAD
116·60
698·74
20·12
40·23
MATAURA - CLINTON
314·73
17
13·6404ha
222·35
411·33

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**SL9D/1**
Land Registration District	**Southland**
Date Issued	16 October 1990

Prior References
SL7A/195

Estate	Fee Simple
Area	74.8835 hectares more or less
Legal Description	Part Lot 2 Deposited Plan 11019
Registered Owners	

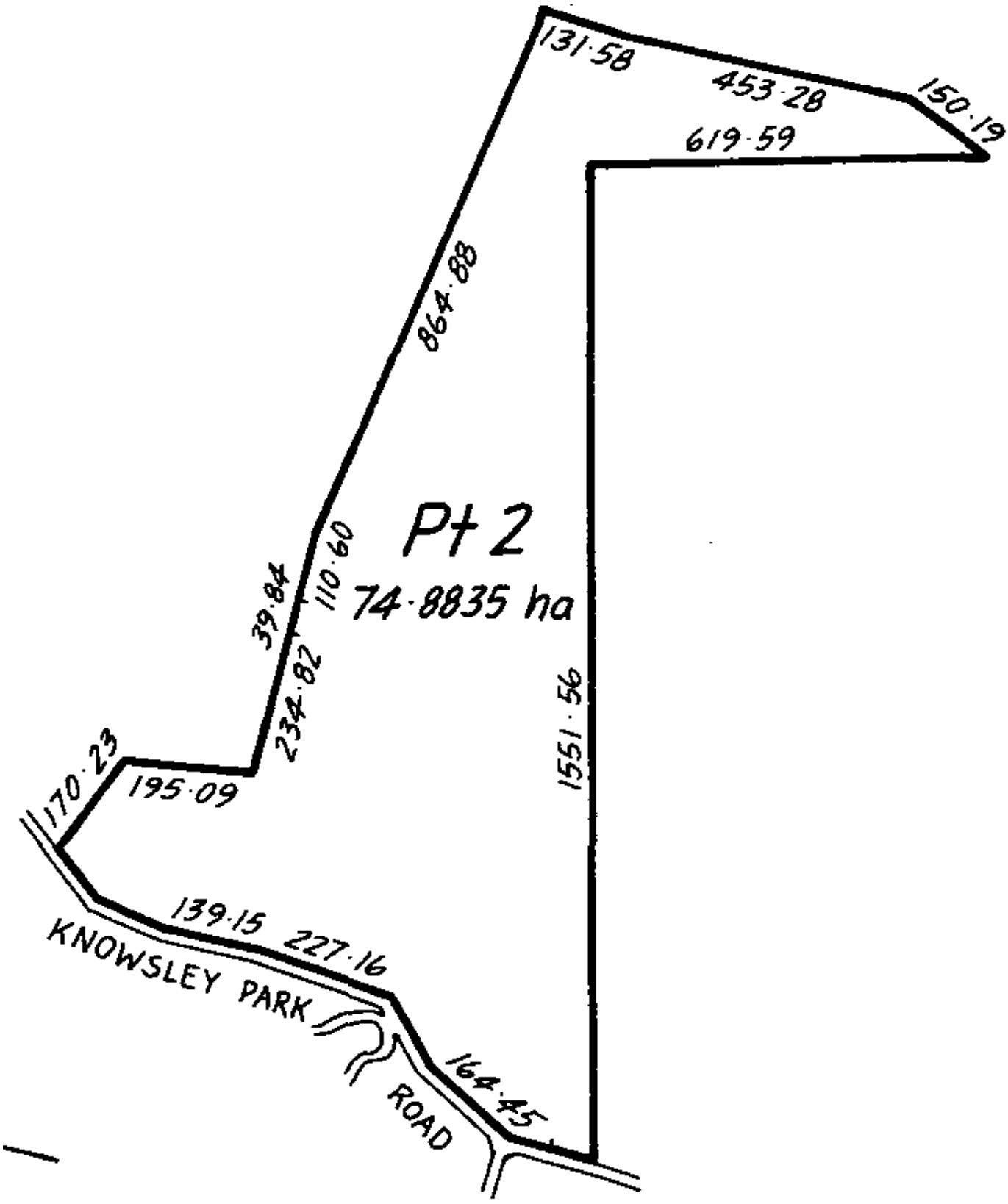
Belmont Farm (2008) Limited

Interests

8386624.5 Encumbrance to (now) Tararua Wind Power Limited - 19.1.2010 at 2:04 pm

10447059.2 Mortgage to Southland Building Society - 1.6.2016 at 2:16 pm

10698733.3 CAVEAT BY TARARUA WIND POWER LIMITED - 31.3.2017 at 9:12 am


131·58
453·28
150·19
619·59
864·88
Pt 2
74·8835 ha
110·60
39·84
234·82
1551·56
170·23
195·09
139·15
227·16
KNOWSLEY PARK
ROAD
164·45

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**SL169/274**
Land Registration District	**Southland**
Date Issued	03 May 1950

Prior References

SLPR34/55 WA 594

Estate	Fee Simple
Area	17.4824 hectares more or less
Legal Description	Section 18 Block X Waikaka Survey District

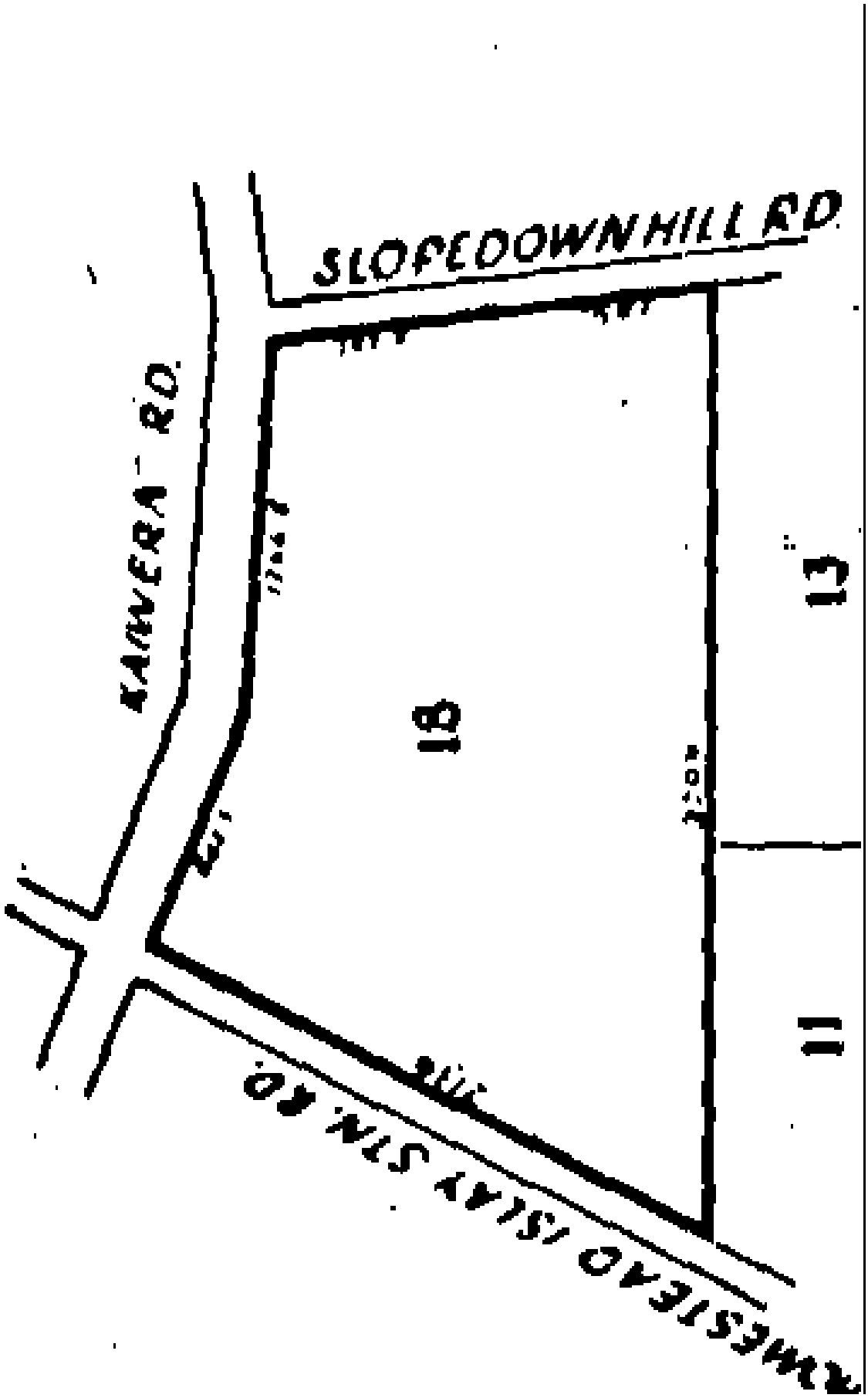
Registered Owners

NZSF Southland Farms Limited

Interests

5041591.1 Gazette Notice (2001/1044) declaring the adjoining road (State Highway 93) to be a limited access road - 11.5.2001 at 9:31 am

9236042.1 Notice pursuant to Section 195(2) Climate Change Response Act 2002 - 26.11.2012 at 4:15 pm


SLOPEDOWN HILL RD
KAMERA RD
18
13
11
TAMESIDE ISLAY STN RD

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**SL205/100**
Land Registration District	**Southland**
Date Issued	17 March 1959

Prior References
SLPR38/237

Estate	Fee Simple
Area	84.4022 hectares more or less
Legal Description	Section 33 Block IX Tuturau Survey District

Registered Owners
Aron Glyn Perkins and Lisa Jane Perkins

Interests

Subject to Section 59 Land Act 1948

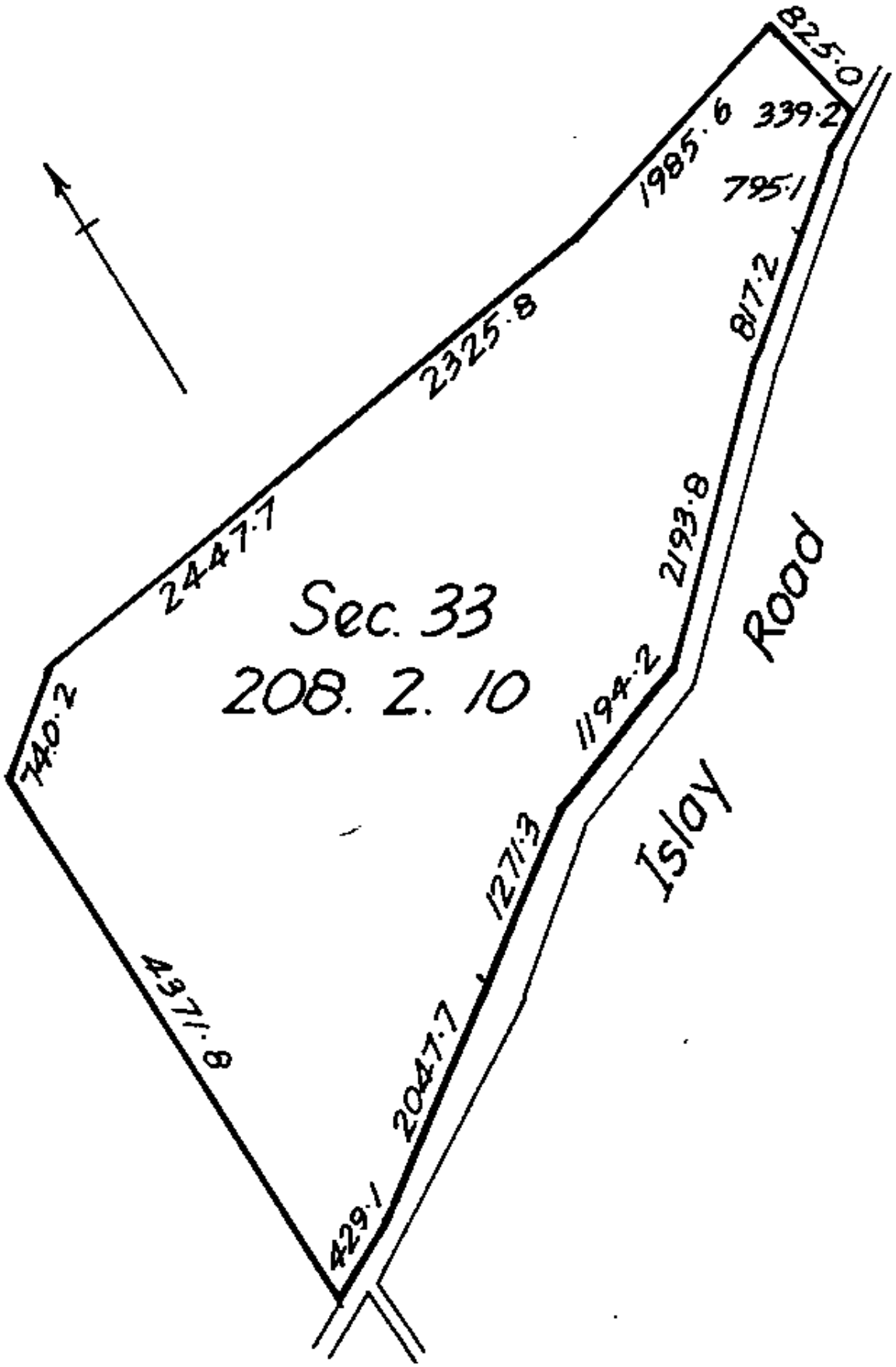
7222871.2 Transfer granting exclusive right to quarry and take for their own use and benefit all minerals defined in the Crown Minerals Act 1991in upon and under the within land to Jennifer Ann Perkins,Graham Peter Butcher and Alan Vernon Burton - 8.2.2007 at 9:00 am

7222871.3 Mortgage to ANZ National Bank Limited - 8.2.2007 at 9:00 am

7222871.4 Mortgage to Graham Peter Butcher, Alan Vernon Burton and Jennifer Ann Perkins - 8.2.2007 at 9:00 am

10699655.2 CAVEAT BY TARARUA WIND POWER LIMITED - 31.3.2017 at 8:51 am

12490805.1 Variation of Mortgage 7222871.3 - 29.8.2022 at 2:54 pm


825.0
339.2
1985.6
795.1
817.2
2325.8
2447.7
2193.8
Sec. 33
208. 2. 10
740.2
1194.2
Road
Isloy
1271.3
437.8
2047.7
429.1

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**SL235/17**
Land Registration District	**Southland**
Date Issued	29 September 1961

Prior References
SL27/162

Estate	Fee Simple
Area	67.4914 hectares more or less
Legal Description	Part Section 11 Block X Waikaka Survey District

Registered Owners
NZSF Southland Farms Limited

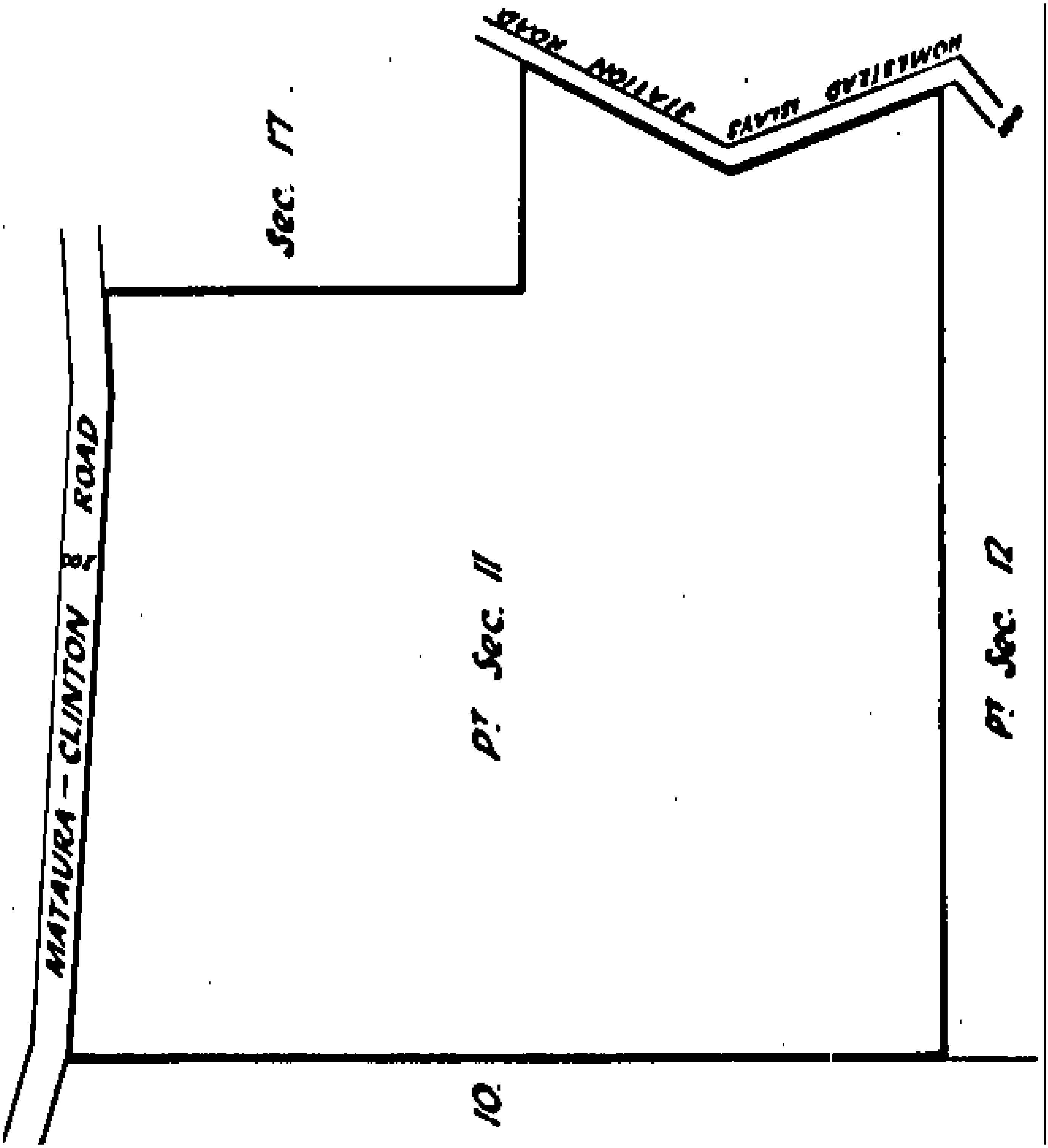
Interests

5041591.1 Gazette Notice (2001/1044) declaring the adjoining road (State Highway 93) to be a limited access road - 11.5.2001 at 9:31 am

5064410.1 Notice pursuant to Section 91 Transit New Zealand Act 1989 - 26.7.2001 at 12:43 pm

5064410.2 Notice pursuant to Section 91 Transit New Zealand Act 1989 - 26.7.2001 at 12:43 pm

9236042.1 Notice pursuant to Section 195(2) Climate Change Response Act 2002 - 26.11.2012 at 4:15 pm


STATION ROAD
Sec. 17
MATAURA - CLINTON ROAD
Pt. Sec. 11
Pt. Sec. 12
10.

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Search Copy

R.W. Muir
Registrar-General
of Land

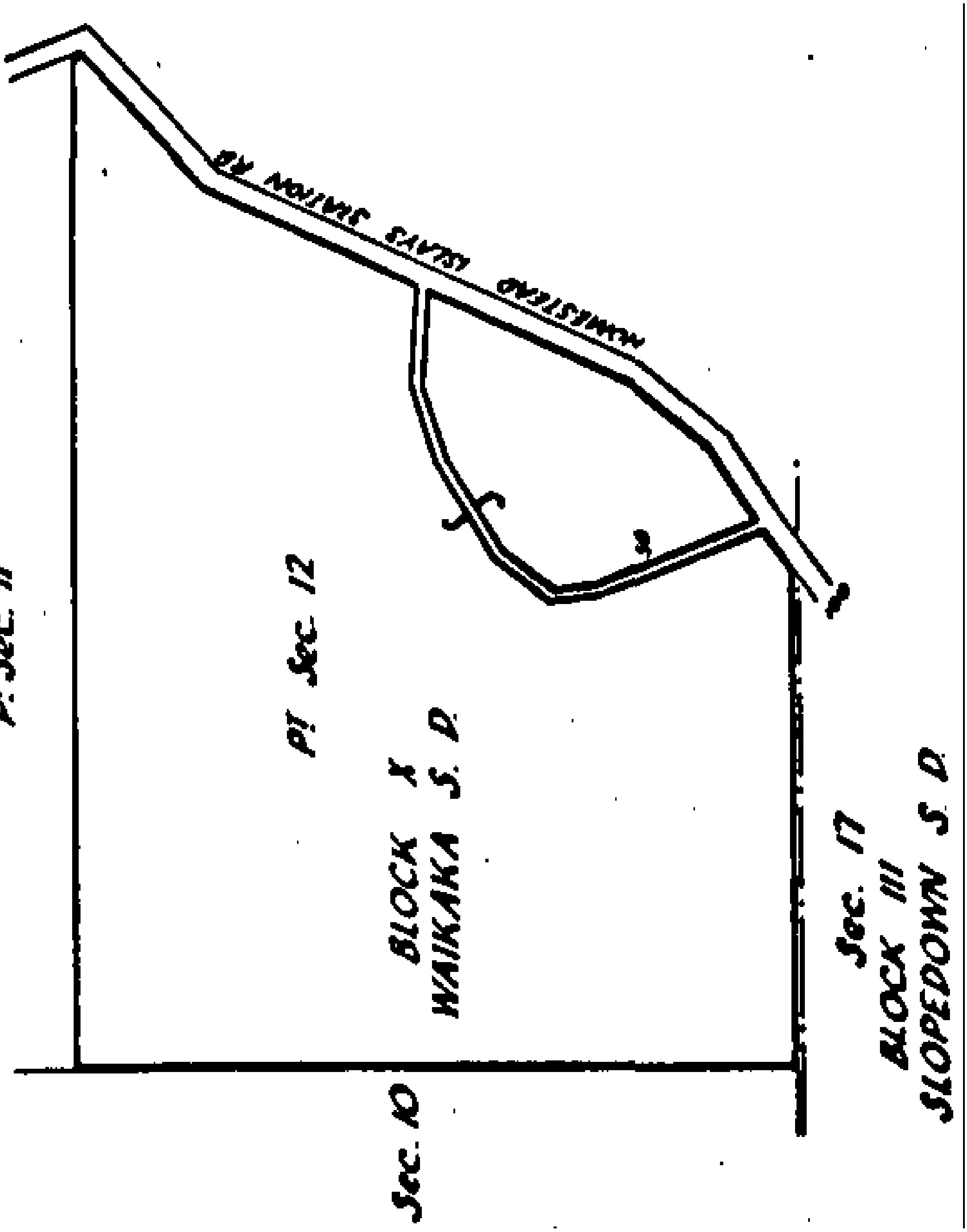
Identifier	**SL235/18**
Land Registration District	**Southland**
Date Issued	29 September 1961

Prior References
SL35/141

Estate	Fee Simple
Area	47.5910 hectares more or less
Legal Description	Part Section 12 Block X Waikaka Survey District

Registered Owners
NZSF Southland Farms Limited

Interests


Pt. Sec. 11
Pt. Sec. 12
BLOCK X
WAIKAKA S. D
Sec. 10
Sec. 17
BLOCK III
SLOPEDOWN S. D

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
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R.W. Muir
Registrar-General
of Land

Identifier **SL235/20**

Land Registration District **Southland**

Date Issued 29 September 1961

Prior References

SL164/103	SL17/112	SL20/15
SL27/162	SL29/98	SL35/141
SL41/218	SL70/222	

Estate Fee Simple

Area 473.8237 hectares more or less

Legal Description Lot 1 and Lot 4-5 Deposited Plan 5932

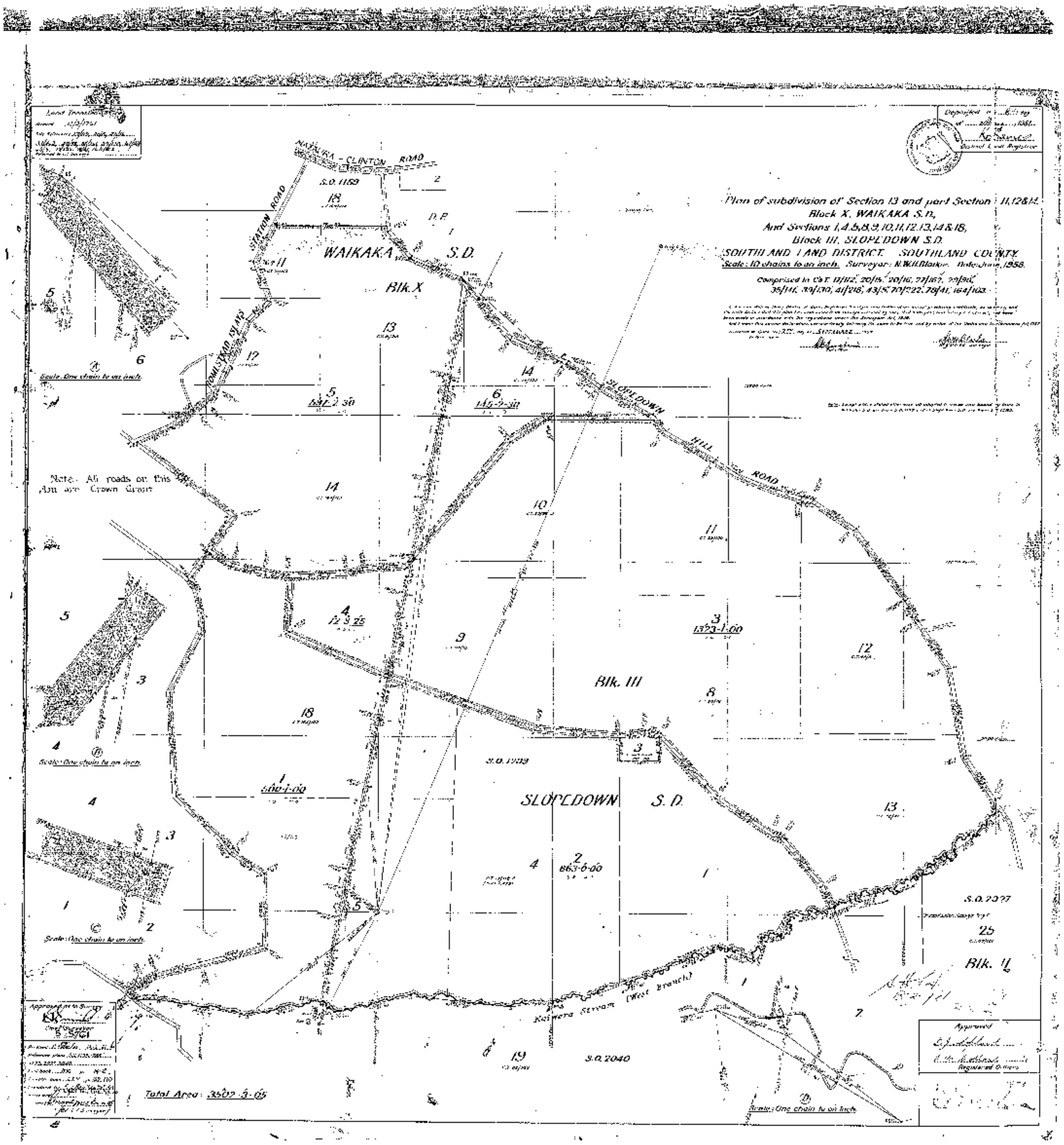
Registered Owners

NZSF Southland Farms Limited

Interests

9236042.1 Notice pursuant to Section 195(2) Climate Change Response Act 2002 - 26.11.2012 at 4:15 pm (affects Lots 1, 5 DP 5932)

10768280.3 CAVEAT BY TARARUA WIND POWER LIMITED - 21.4.2017 at 9:17 am


Plan of subdivision of Section 13 and part Section 11,12&14
Block X, WAIKAKA S.D.,
And Sections 1,4,5,8,9,10,11,12,13,14 & 18,
Block III, SLOPEDOWN S.D.
SOUTHLAND LAND DISTRICT. SOUTHLAND COUNTY.
Scale: 10 chains to an inch. Surveyor: N.W.H.Blakie. Date: June, 1958.
Comprised in C&T. 17/112, 20/15, 20/16, 27/167, 29/90, 35/141, 39/130, 41/218, 43/5, 70/222, 78/41, 164/103.
District Land Registrar
MATAURA - CLINTON ROAD
STATION ROAD
S.O. 1159
WAIKAKA S.D.
Blk. X
SLOPEDOWN HILL ROAD
Note: All roads on this Plan are Crown Grant
Scale: One chain to an inch.
Blk. III
SLOPEDOWN S.D.
S.O. 1933
S.O. 2327
Blk. II
Kaiwera Stream (West Branch)
S.O. 2040
Total Area: 3502-3-05
Approved
Registered Officers

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

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R.W. Muir
Registrar-General
of Land

Identifier **SL235/21**

Land Registration District **Southland**

Date Issued 29 September 1961

Prior References

SL164/103	SL17/112	SL20/15
SL20/16	SL29/98	SL39/130
SL41/218	SL43/5	SL70/222
SL78/41		

Estate Fee Simple

Area 943.7016 hectares more or less

Legal Description Lot 2-3 and Lot 6 Deposited Plan 5932

Registered Owners

Rossland Properties Limited

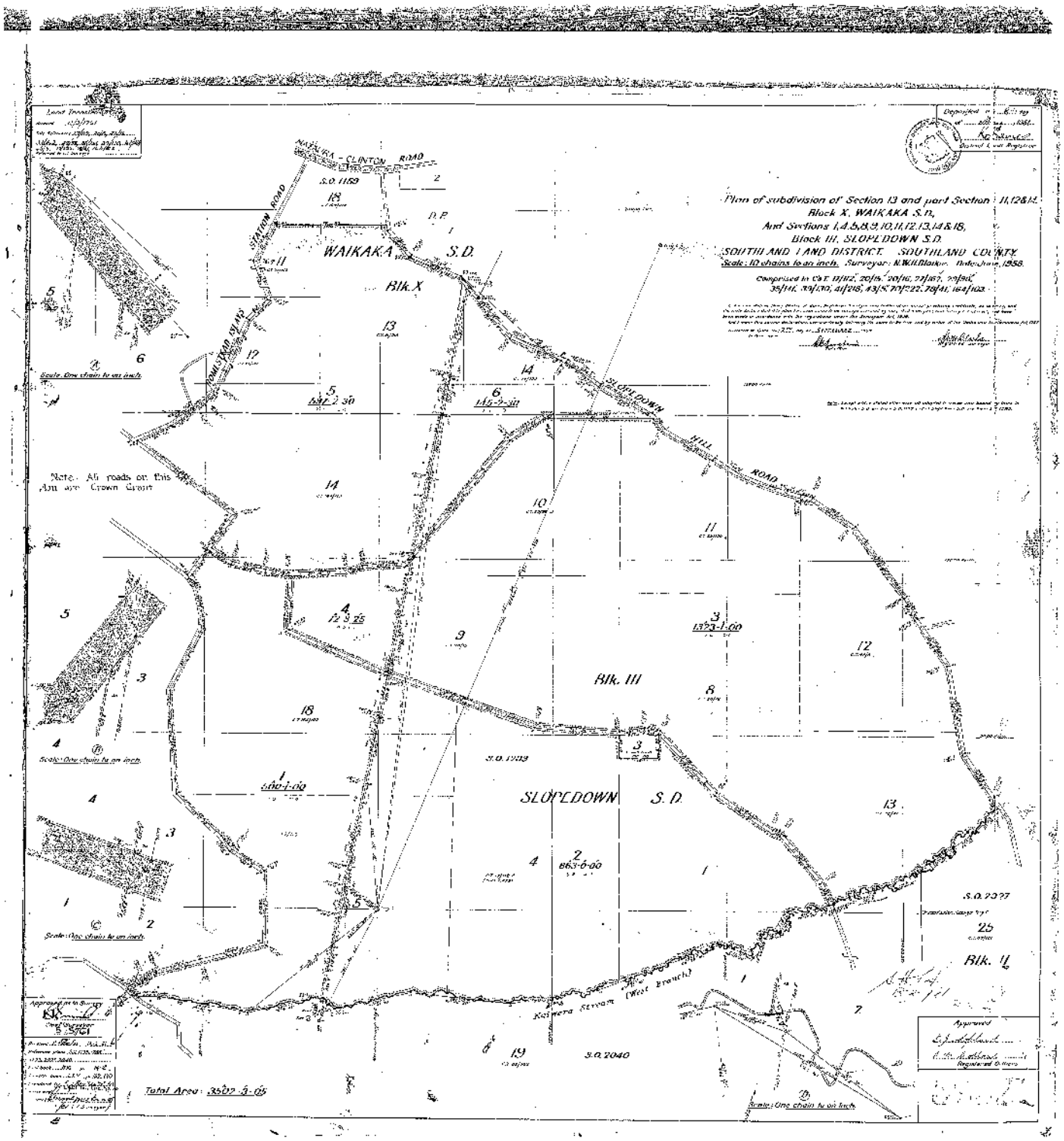
Interests

8802102.3 Mortgage to Rabobank New Zealand Limited - 11.7.2011 at 10:15 am

10699857.3 CAVEAT BY TARARUA WIND POWER LIMITED - 31.3.2017 at 9:07 am

10699857.4 CAVEAT BY TARARUA WIND POWER LIMITED - 31.3.2017 at 9:07 am

12360736.1 Variation of Mortgage 8802102.3 - 25.1.2022 at 3:42 pm


Plan of subdivision of Section 13 and part Section 11,12&14,
Block X, WAIKAKA S.D.,
And Sections 1,4,5,8,9,10,11,12,13,14&18,
Block III, SLOPEDOWN S.D.
SOUTHLAND LAND DISTRICT. SOUTHLAND COUNTY.
Scale: 10 chains to an inch. Surveyor: N.W.H.Blaikie. Balclutha, 1958.
WAIKAKA S.D.
Blk. X
SLOPEDOWN S.D.
Blk. III
Blk. IV
WAIKAKA - CLINTON ROAD
STATION ROAD
DOWLING ROAD
SLOPEDOWN HILL ROAD
Note. All roads on this Plan are Crown Grant
Kaiwera Stream (West Branch)
S.O. 1159
S.O. 1913
S.O. 2040
S.O. 2077
Total Area: 3507-3-05

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

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R.W. Muir
Registrar-General
of Land

Identifier **SL235/22**

Part-Cancelled

Land Registration District **Southland**

Date Issued 29 September 1961

Prior References
SL140/157

Estate	Fee Simple
Area	49.5462 hectares more or less
Legal Description	Lot 1-2 Deposited Plan 5933 and Part Section 1 Block X Waikaka Survey District

Registered Owners
Rossland Properties Limited

Interests

040406.1 Gazette Notice proclaiming part lot 2 DP 5933 (1454m2) as road - 25.10.1978 at 11.23 am

5041591.1 Gazette Notice (2001/1044) declaring the adjoining road (State Highway 93) to be a limited access road - 11.5.2001 at 9:31 am

5064535.1 Notice pursuant to Section 91 Transit New Zealand Act 1989 - 26.7.2001 at 12:43 pm

5064535.2 Notice pursuant to Section 91 Transit New Zealand Act 1989 - 26.7.2001 at 12:43 pm

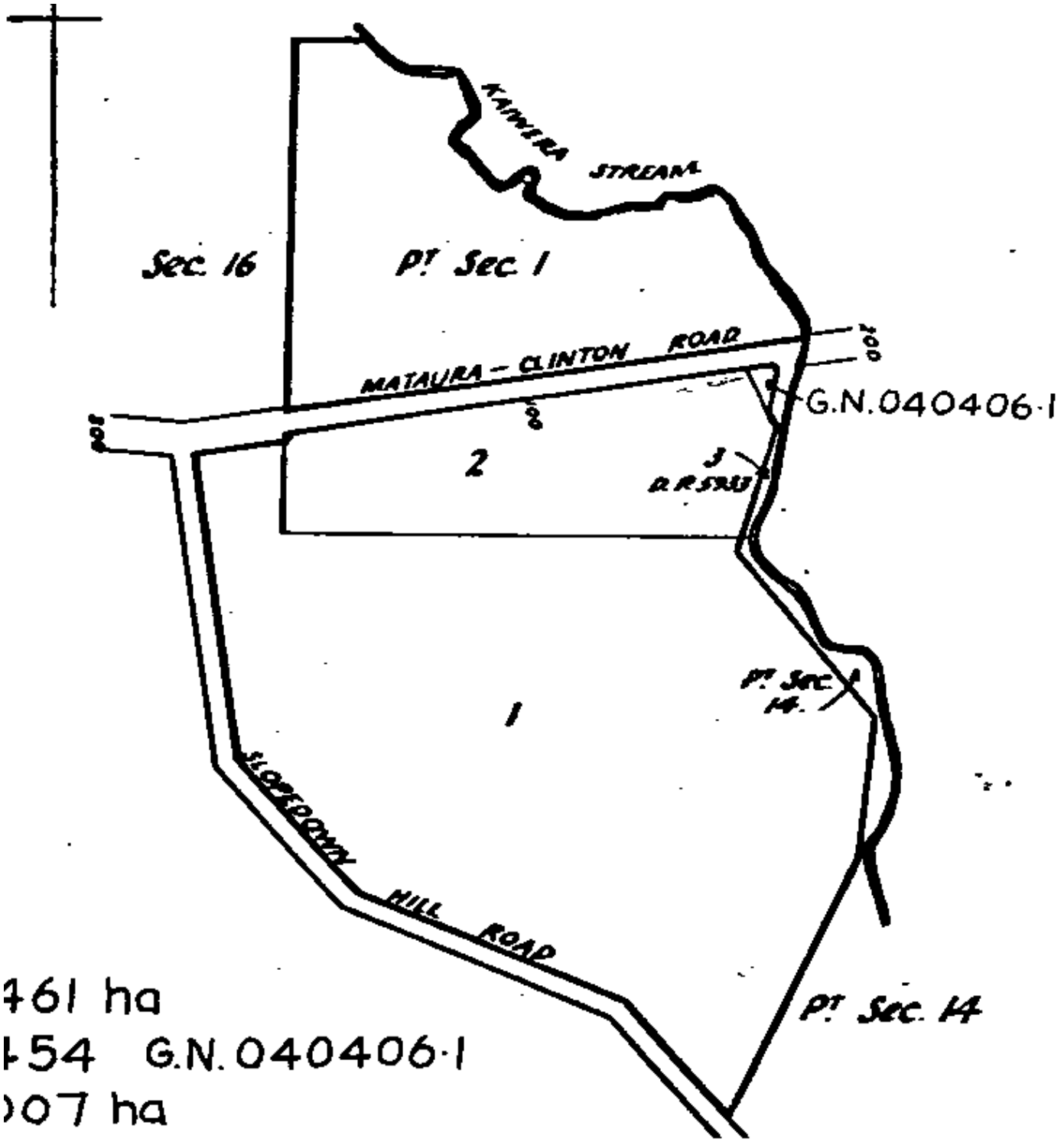
5064473.1 Notice pursuant to Section 91 Transit New Zealand Act 1989 - 26.7.2001 at 12:43 pm

8802102.3 Mortgage to Rabobank New Zealand Limited - 11.7.2011 at 10:15 am

10699857.3 CAVEAT BY TARARUA WIND POWER LIMITED - 31.3.2017 at 9:07 am (affects part)

10699857.4 CAVEAT BY TARARUA WIND POWER LIMITED - 31.3.2017 at 9:07 am (affects part)

12360736.1 Variation of Mortgage 8802102.3 - 25.1.2022 at 3:42 pm


KAIWERA STREAM
Sec. 16
Pt Sec. 1
MATAURA – CLINTON ROAD
G.N.040406·1
2
1
Pt Sec. 14
SLOPETOWN HILL ROAD
461 ha
154 G.N.040406·1
)07 ha
Pt Sec. 14

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

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R.W. Muir
Registrar-General
of Land

Identifier	**475352**
Land Registration District	**Southland**
Date Issued	19 January 2010

Prior References

493142 SL6D/466 SL7A/196

Estate	Fee Simple
Area	586.1686 hectares more or less
Legal Description	Lot 1 Deposited Plan 419768 and Lot 2 Deposited Plan 421469 and Section 10 Waiarikiki Settlement and Part Section 6 Waiarikiki Settlement

Registered Owners

Lester Garnett Dickie and Hilary Kay Dickie

Interests

Subject to Section 206 Land Act 1924 (affects part section 6 and section 10 Waiarikiki settlement and Lot 2 DP 421469 herein)

Subject to Section 8 Coal Mines Amendment Act 1950 (affects part section 6 and section 10 Waiarikiki settlement and Lot 2 DP 421469 herein)

271947.3 Forestry Right pursuant to the Forestry Rights Registration Act 1983 over part to Lester Garnett Dickie and Hilary Kay Dickie for a term of 30 years commencing 18.2.2000 - 21.3.2000 at 2.34 pm (Affects Part Sections 6 Waiarikiki Settlement herein)

Subject to a right to convey electricity over part marked E on DP 421469 created by Easement Instrument 8266940.3 - 30.11.2009 at 12:15 pm

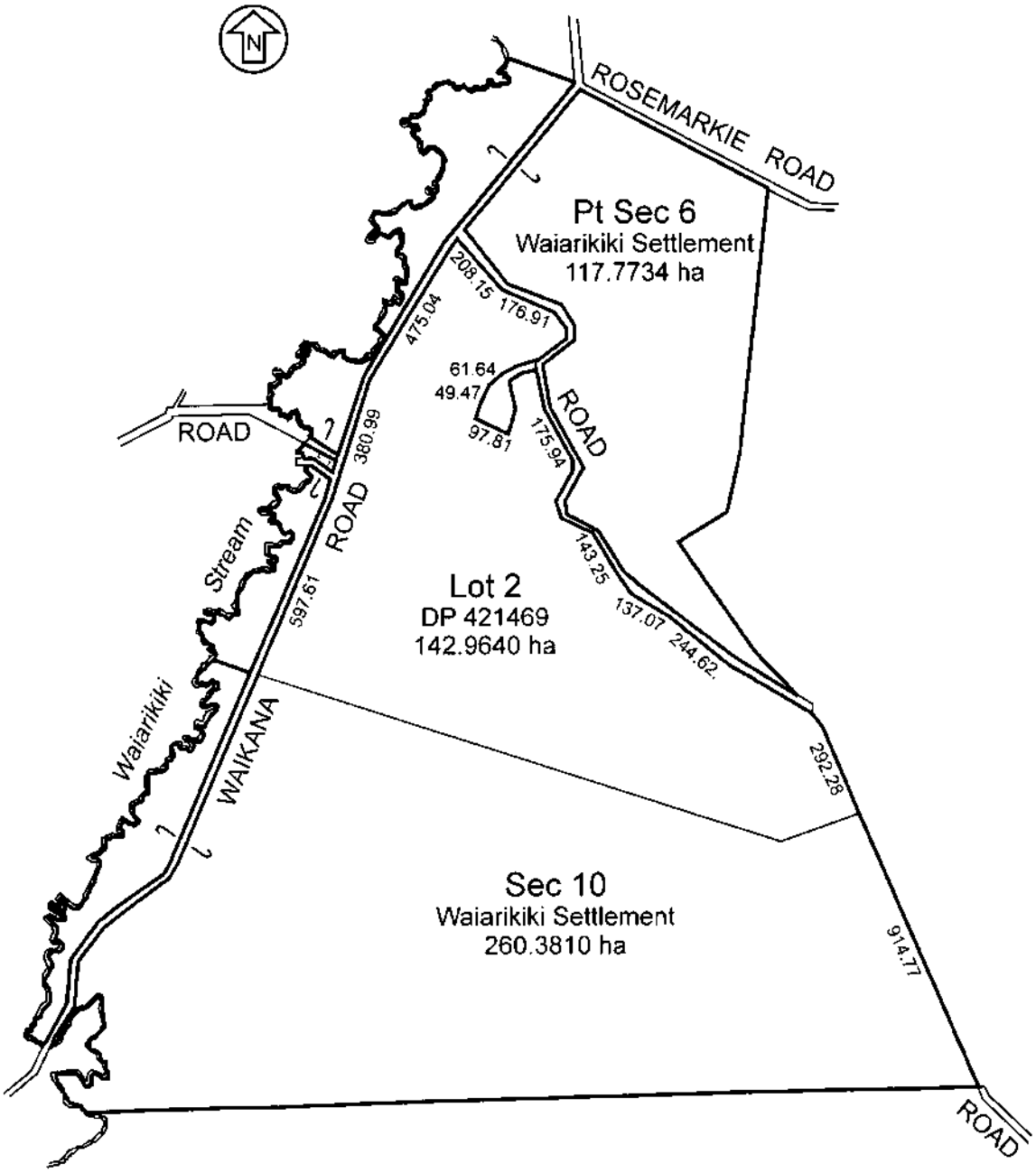
The easements created by Easement Instrument 8266940.3 are subject to Section 243 (a) Resource Management Act 1991

Subject to Section 241(2) and 242 (1) Resource Management Act 1991 (affects DP 421469)

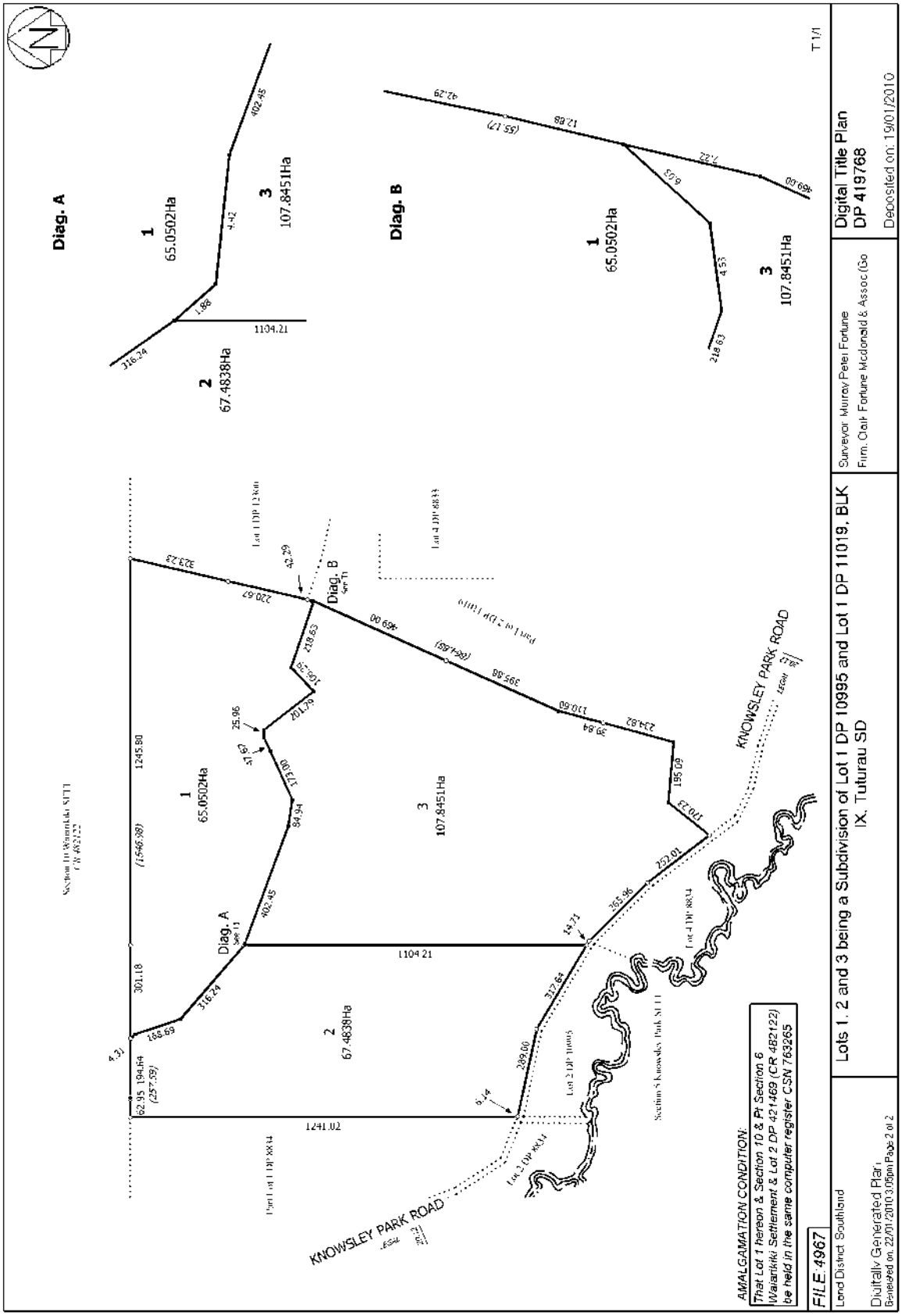
10698733.2 CAVEAT BY TARARUA WIND POWER LIMITED - 31.3.2017 at 9:12 am

11390063.3 Mortgage to Southland Building Society - 12.8.2019 at 9:56 am

Title Diagram 493142
Cpy – 01/01, Pgs – 001, 07/12/09, 10:33
DocID: 111005191



TOTAL CT AREA: 521.1184 ha


Diag. A
1
65.0502Ha
2
67.4838Ha
3
107.8451Ha
1104.21
Diag. B
KNOWSLEY PARK ROAD
AMALGAMATION CONDITION:
That Lot 1 hereon & Section 10 & Pt Section 6 Waiarikiki Settlement & Lot 2 DP 421469 (CR 482122) be held in the same computer register CSN 763265
FILE 4967
Land District Southland
Lots 1, 2 and 3 being a Subdivision of Lot 1 DP 10995 and Lot 1 DP 11019, BLK IX, Tuturau SD
Digitally Generated Plan
Surveyor Murray Peter Fortune
Firm Cook Fortune Mcdonald & Assoc (Go
Digital Title Plan
DP 419768
Deposited on: 19/01/2010

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**475353**
Land Registration District	**Southland**
Date Issued	19 January 2010

Prior References
SL6D/466

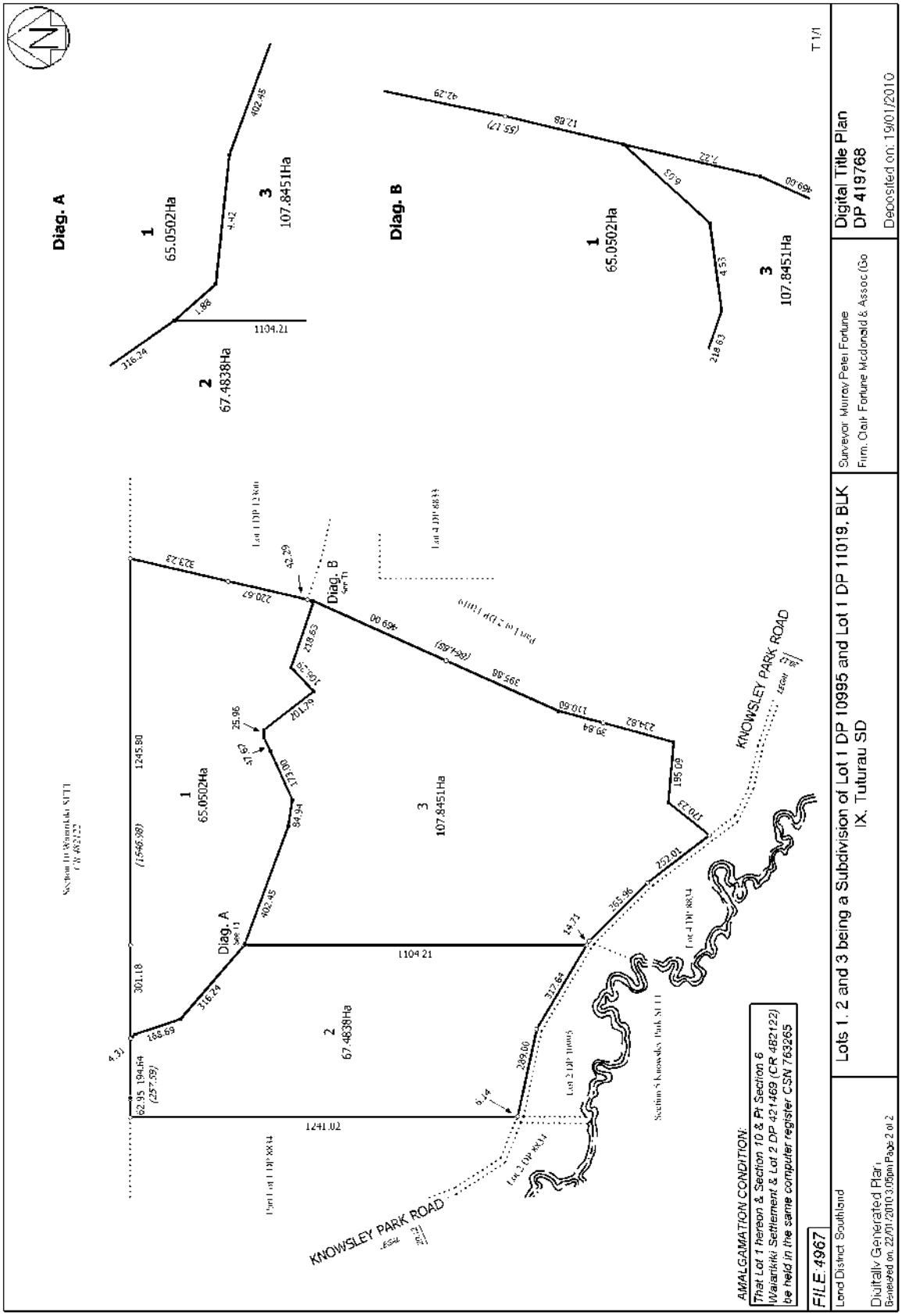
Estate	Fee Simple
Area	67.4838 hectares more or less
Legal Description	Lot 2 Deposited Plan 419768
Registered Owners	

Belmont Farm (2008) Limited

Interests

8386624.5 Encumbrance to (now) Tararua Wind Power Limited - 19.1.2010 at 2:04 pm

10447059.2 Mortgage to Southland Building Society - 1.6.2016 at 2:16 pm


Diag. A
1
65.0502Ha
2
67.4838Ha
3
107.8451Ha
1104.21
Diag. B
KNOWSLEY PARK ROAD
AMALGAMATION CONDITION:
That Lot 1 hereon & Section 10 & Pt Section 6 Waiarikiki Settlement & Lot 2 DP 421469 (CR 482122) be held in the same computer register CSN 763265
FILE 4967
Land District Southland
Lots 1, 2 and 3 being a Subdivision of Lot 1 DP 10995 and Lot 1 DP 11019, BLK IX, Tuturau SD
Digitally Generated Plan
Surveyor Murray Peter Fortune
Firm Clark Fortune Mcdonald & Assoc (Go
Digital Title Plan
DP 419768
Deposited on: 19/01/2010

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier **475354**
Land Registration District **Southland**
Date Issued 19 January 2010

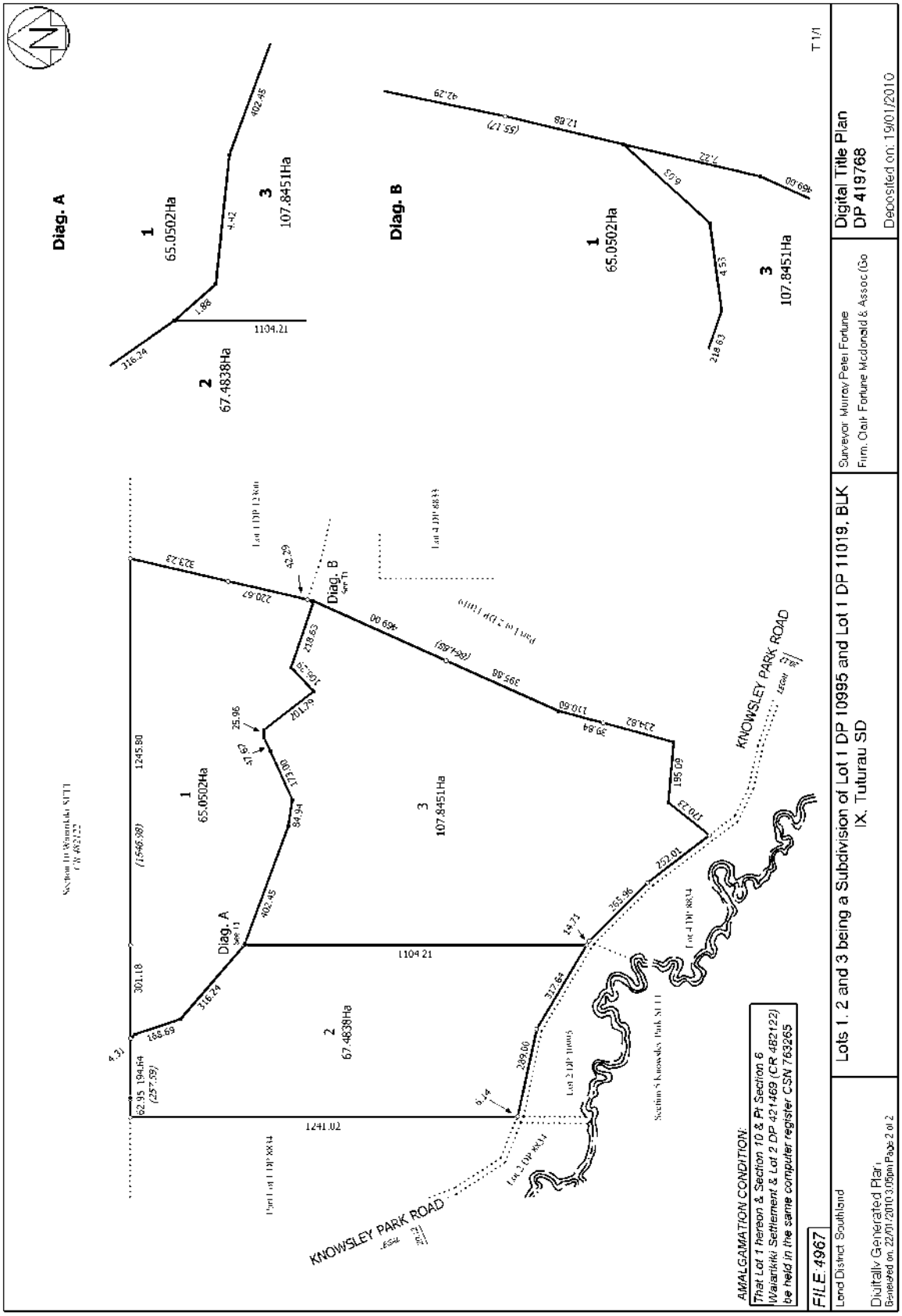
Prior References
SL7A/196

Estate Fee Simple
Area 107.8451 hectares more or less
Legal Description Lot 3 Deposited Plan 419768
Registered Owners
Belmont Farm (2008) Limited

Interests

8386624.5 Encumbrance to (now) Tararua Wind Power Limited - 19.1.2010 at 2:04 pm

10447059.2 Mortgage to Southland Building Society - 1.6.2016 at 2:16 pm


Diag. A
1
65.0502Ha
2
67.4838Ha
3
107.8451Ha
1104.21
Diag. B
KNOWSLEY PARK ROAD
AMALGAMATION CONDITION:
That Lot 1 hereon & Section 10 & Pt Section 6 Waiarikiki Settlement & Lot 2 DP 421469 (CR 482122) be held in the same computer register CSN 763265
FILE 4967
Land District Southland
Lots 1, 2 and 3 being a Subdivision of Lot 1 DP 10995 and Lot 1 DP 11019, BLK IX, Tuturau SD
Surveyor Murray Peter Fortune
Firm Cook Fortune Mcdonald & Assoc (Go
Digital Title Plan
DP 419768
Deposited on: 19/01/2010
Digitally Generated Plan
Generated on 22/01/2010 3:05pm Page 2 of 2

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**482121**
Land Registration District	**Southland**
Date Issued	30 November 2009

Prior References
SL175/236

Estate	Fee Simple
Area	1.1373 hectares more or less
Legal Description	Lot 1 Deposited Plan 421469
Registered Owners	

Belmont Farm (2008) Limited

Interests

Subject to Section 206 Land Act 1924

Subject to Section 8 Coal Mines Amendment Act 1950

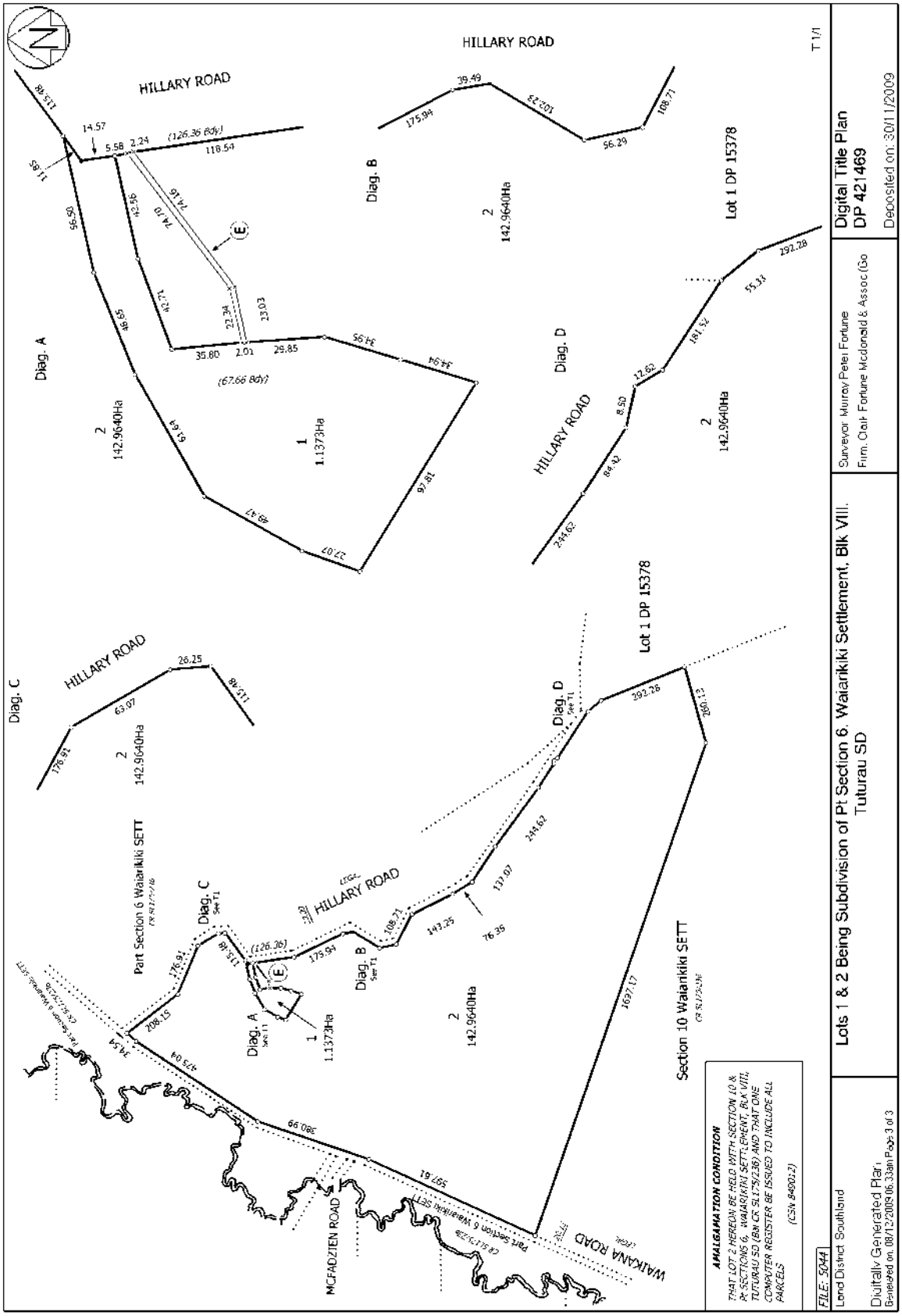
8266940.1 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 30.11.2009 at 12:15 pm

Appurtenant hereto is a right to convey electricity created by Easement Instrument 8266940.3 - 30.11.2009 at 12:15 pm

The easements created by Easement Instrument 8266940.3 are subject to Section 243 (a) Resource Management Act 1991

8386624.5 Encumbrance to (now) Tararua Wind Power Limited - 19.1.2010 at 2:04 pm

11927848.1 Mortgage to Southland Building Society - 30.11.2020 at 3:00 pm


HILLARY ROAD
Diag. A
Diag. B
Diag. C
Diag. D
Lot 1 DP 15378
Section 10 Waiarikiki SETT
Part Section 6 Waiarikiki SETT
MCFADZIEN ROAD
WAIKANA ROAD
AMALGAMATION CONDITION
THAT LOT 2 HEREON, BE HELD WITH SECTION 10 &
Pt SECTIONS 6, WAIARIKIKI SETT, BLK VIII,
TUTURAU SD (BN CR 5L175/236) AND THAT ONE
COMPUTER REGISTER BE ISSUED TO INCLUDE ALL
PARCELS
(CSN 8490012)
Lots 1 & 2 Being Subdivision of Pt Section 6, Waiarikiki Settlement, Blk VIII, Tuturau SD
Digital Title Plan
DP 421469
Deposited on: 30/11/2009
Surveyor Murray Peter Fortune
Firm Clark Fortune Mcdonald & Assoc (Go
FILE: 5044
Land District Southland
Digitally Generated Plan
Generated on 08/12/2009 06:33am Page 3 of 3

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
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R.W. Muir
Registrar-General of Land

Identifier	**525482**
Land Registration District	**Southland**
Date Issued	17 January 2011

Prior References
SL6C/102

Estate	Fee Simple
Area	26.3980 hectares more or less
Legal Description	Lot 2 Deposited Plan 432760
Registered Owners	

Lester Garnett Dickie and Hilary Kay Dickie

Interests

Subject to Section 8 Mining Act 1971

Subject to Section 5 Coal Mines Act 1979

5041591.1 Gazette Notice (2001/1044) declaring the adjoining road (State Highway 93) to be a limited access road - 11.5.2001 at 9:31 am

5064531.1 Notice pursuant to Section 91 Transit New Zealand Act 1989 - 26.7.2001 at 12:43 pm

5064531.2 Notice pursuant to Section 91 Transit New Zealand Act 1989 - 26.7.2001 at 12:43 pm

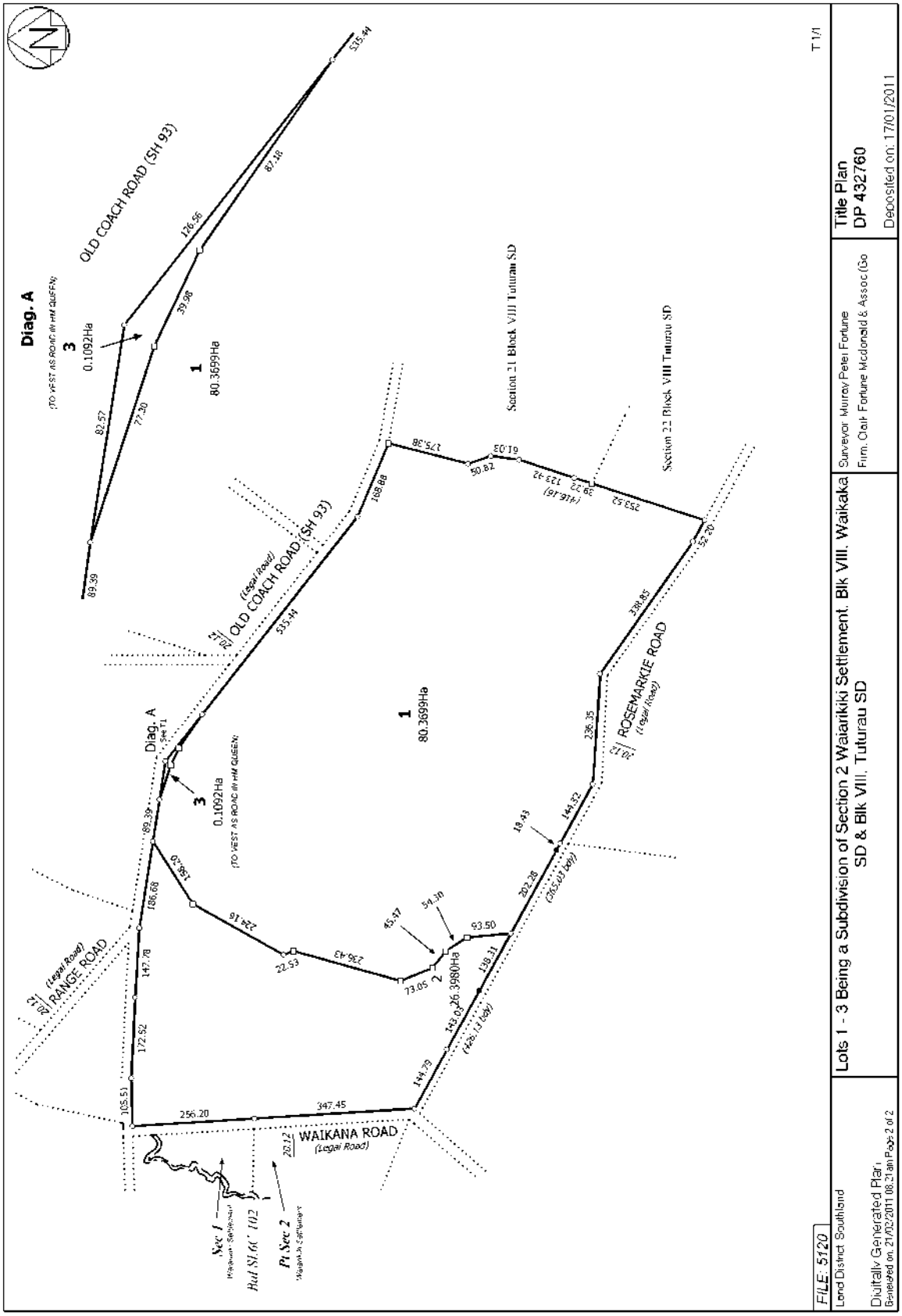
5064531.3 Notice pursuant to Section 91 Transit New Zealand Act 1989 - 26.7.2001 at 12:43 pm

5064531.4 Notice pursuant to Section 91 Transit New Zealand Act 1989 - 26.7.2001 at 12:43 pm

8664562.4 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 17.1.2011 at 9:37 am

10698733.2 CAVEAT BY TARARUA WIND POWER LIMITED - 31.3.2017 at 9:12 am

11390063.3 Mortgage to Southland Building Society - 12.8.2019 at 9:56 am


Diag. A
(TO VEST AS ROAD IN HM QUEEN)
3
0.1092Ha
OLD COACH ROAD (SH 93)
1
80.3699Ha
Section 21 Block VIII Tuturau SD
Section 22 Block VIII Tuturau SD
(Legal Road)
OLD COACH ROAD (SH 93)
Diag. A
See T1
3
0.1092Ha
(TO VEST AS ROAD IN HM QUEEN)
1
80.3699Ha
ROSEMARKIE ROAD
(Legal Road)
RANGE ROAD
(Legal Road)
2
26.3980Ha
WAIKANA ROAD
(Legal Road)
Sec 1
Pt Sec 2
Rut Sht 102
T1/1
FILE: 5120
Land District Southland
Digitally Generated Plan
Title Plan
DP 432760
Deposited on: 17/01/2011
Lots 1 - 3 Being a Subdivision of Section 2 Waiarikiki Settlement, Blk VIII, Waikaka SD & Blk VIII, Tuturau SD
Surveyor Murray Peter Fortune
Firm Clark Fortune Mcdonald & Assoc (Go

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

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R.W. Muir
Registrar-General
of Land

Identifier	**544990**
Land Registration District	**Southland**
Date Issued	17 January 2011

Prior References
SL6C/102

Estate	Fee Simple
Area	8.3748 hectares more or less
Legal Description	Section 1 and Part Section 2 Waiarikiki Settlement

Registered Owners
Lester Garnett Dickie and Hilary Kay Dickie

Interests

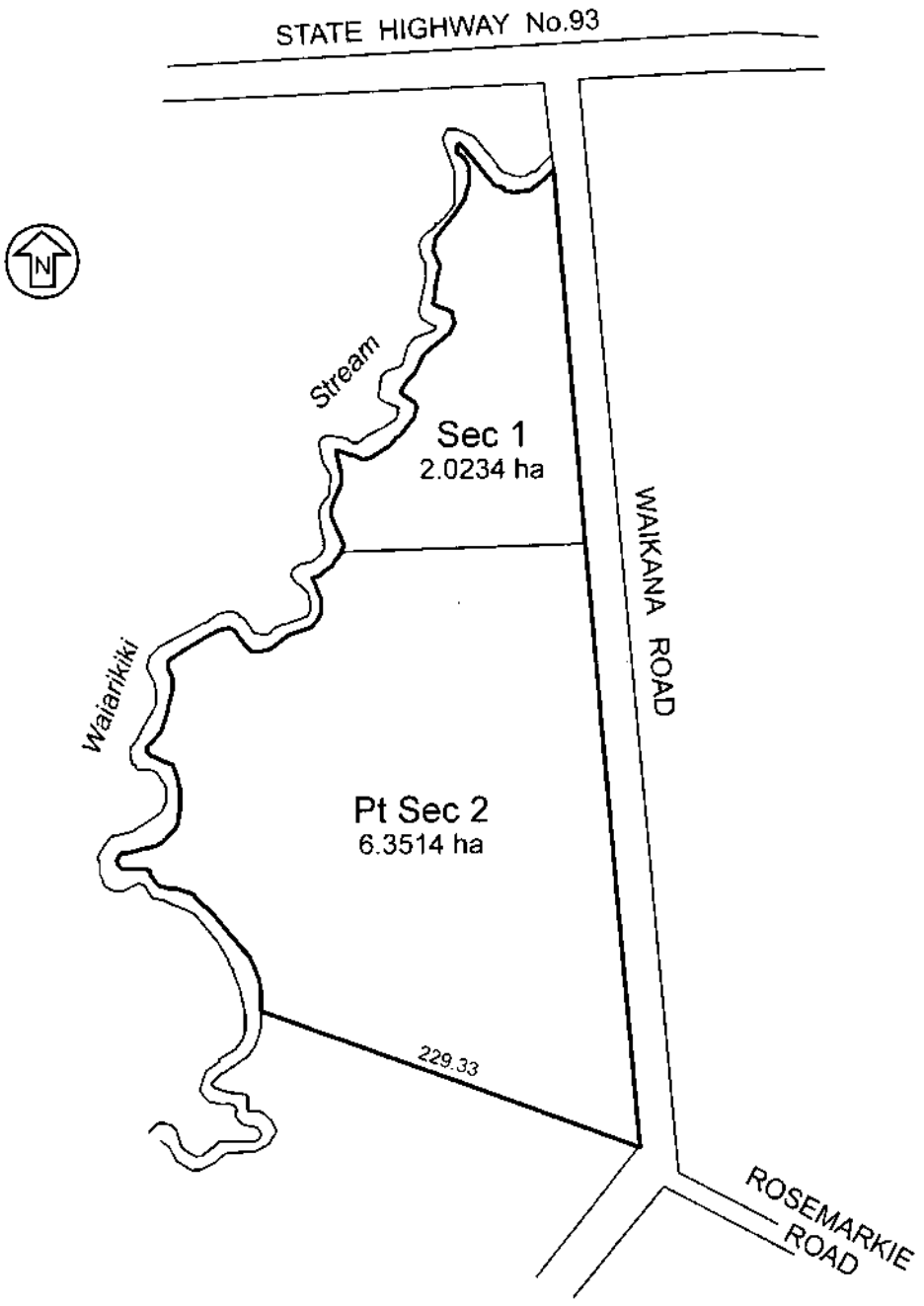
Subject to Section 8 Mining Act 1971

Subject to Section 5 Coal Mines Act 1979

10698733.2 CAVEAT BY TARARUA WIND POWER LIMITED - 31.3.2017 at 9:12 am

11390063.3 Mortgage to Southland Building Society - 12.8.2019 at 9:56 am

Title Diagram 544990
Cpy - 01/01, Pgs - 001, 21/02/11, 06:47
DocID 212762123



TOTAL CT AREA: 8.3748 ha

WAIARIKIKI SETTLEMENT

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**668424**
Land Registration District	**Southland**
Date Issued	03 October 2014

Prior References

454792 662714 SL9C/1000

Estate	Fee Simple
Area	87.6153 hectares more or less
Legal Description	Lot 1-2 Deposited Plan 12300 and Lot 1 Deposited Plan 414572 and Section 1 Survey Office Plan 453068

Registered Owners

Valerie Mary Dickie

Interests

Subject to Section 206 Land Act 1924 (affects Lot 1 DP 414572)

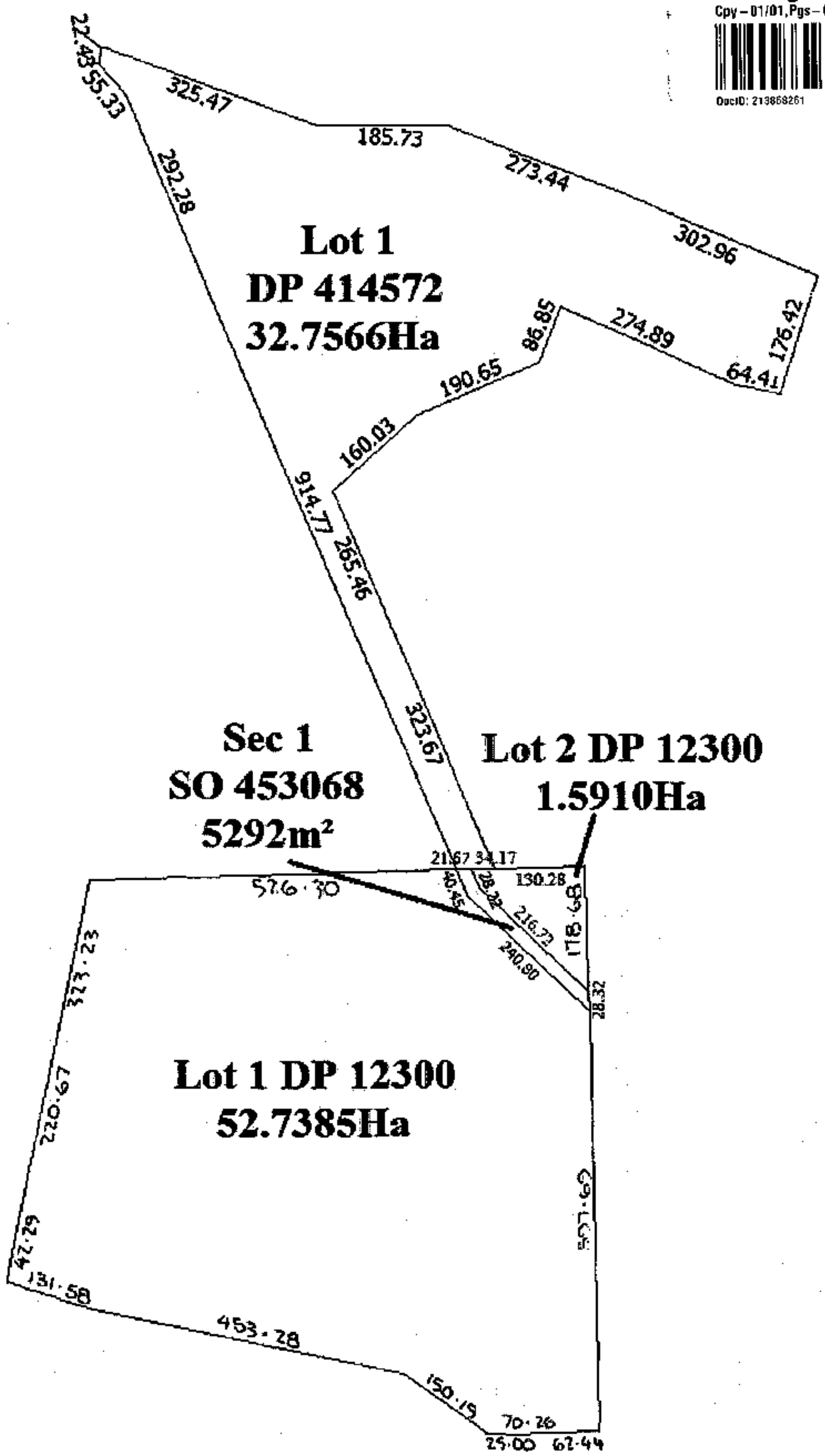
Subject to Section 308(4) Local Government Act 1974 (see DP 12300)

5691910.2 Mortgage of Lots 1-2 DP 12300 & Lot 1 DP 414572 to ASB Bank Limited - 13.8.2003 at 9:00 am

9115122.1 Notice pursuant to Section 195(2) Climate Change Response Act 2002 - 5.7.2012 at 3:09 pm (affects Lot 1 DP 12300)

10698816.2 CAVEAT AGAINST LOTS 1-2 DP 12300 & LOT 1 DP 414572 BY TARARUA WIND POWER LIMITED- 31.3.2017 at 8:49 am

Title Diagram 668424
Cpy - 01/01, Pgs - 001, 09/10/14, 15:50
DocID: 213868261



RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

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R.W. Muir
Registrar-General
of Land

Identifier	**668425**
Land Registration District	**Southland**
Date Issued	15 October 2014

Prior References

662715 SL10A/731

Estate	Fee Simple
Area	279.9846 hectares more or less
Legal Description	Section 34-35 Block IX Tuturau Survey District and Section 2 Survey Office Plan 453068

Registered Owners

David Colin Story, Diane Catherine Story and Jeffrey Bernard Walker

Interests

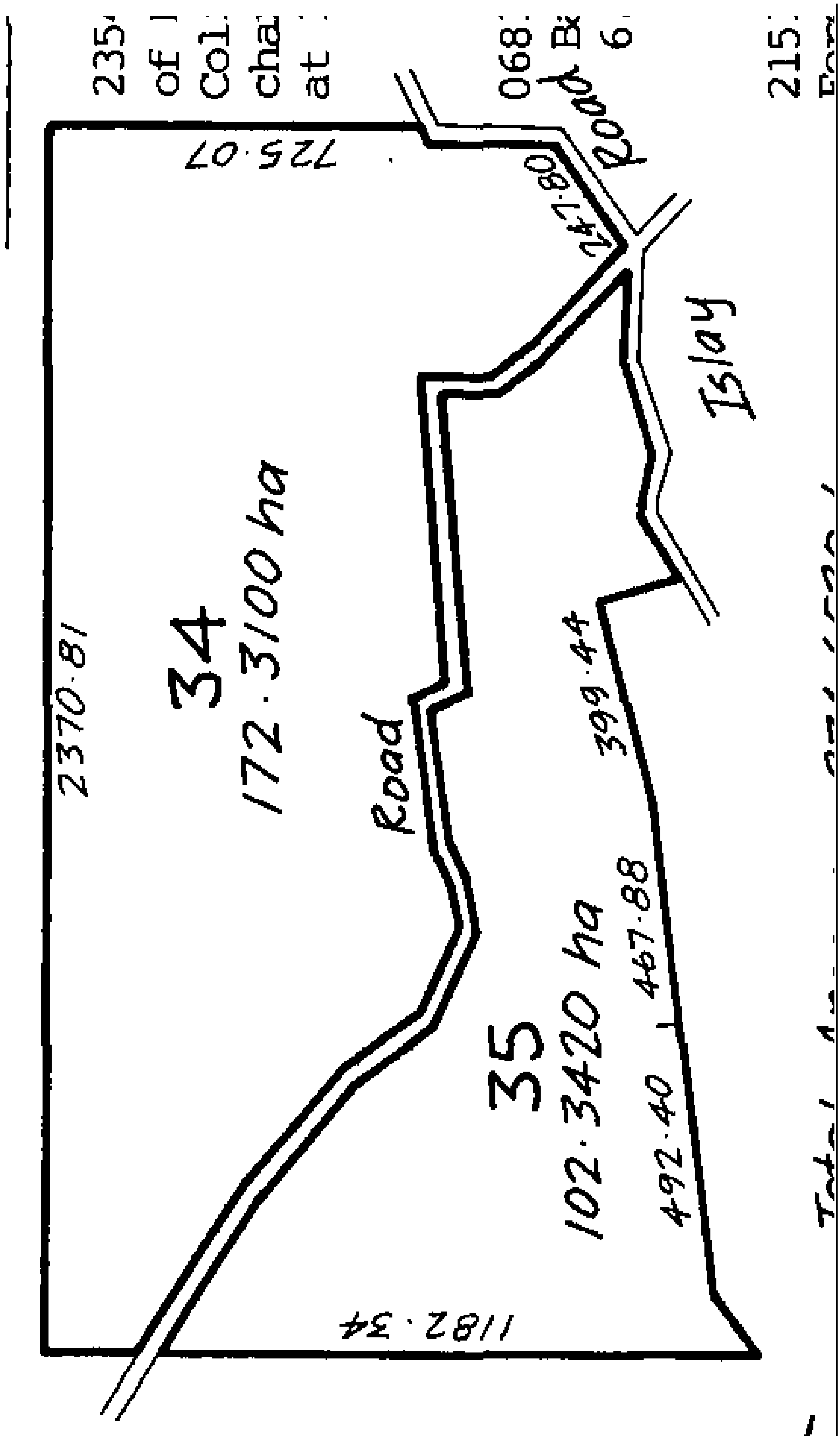
Subject to Part IV A Conservation Act 1987 (Affects Sections 34-35 Block IX Tuturau Survey District)

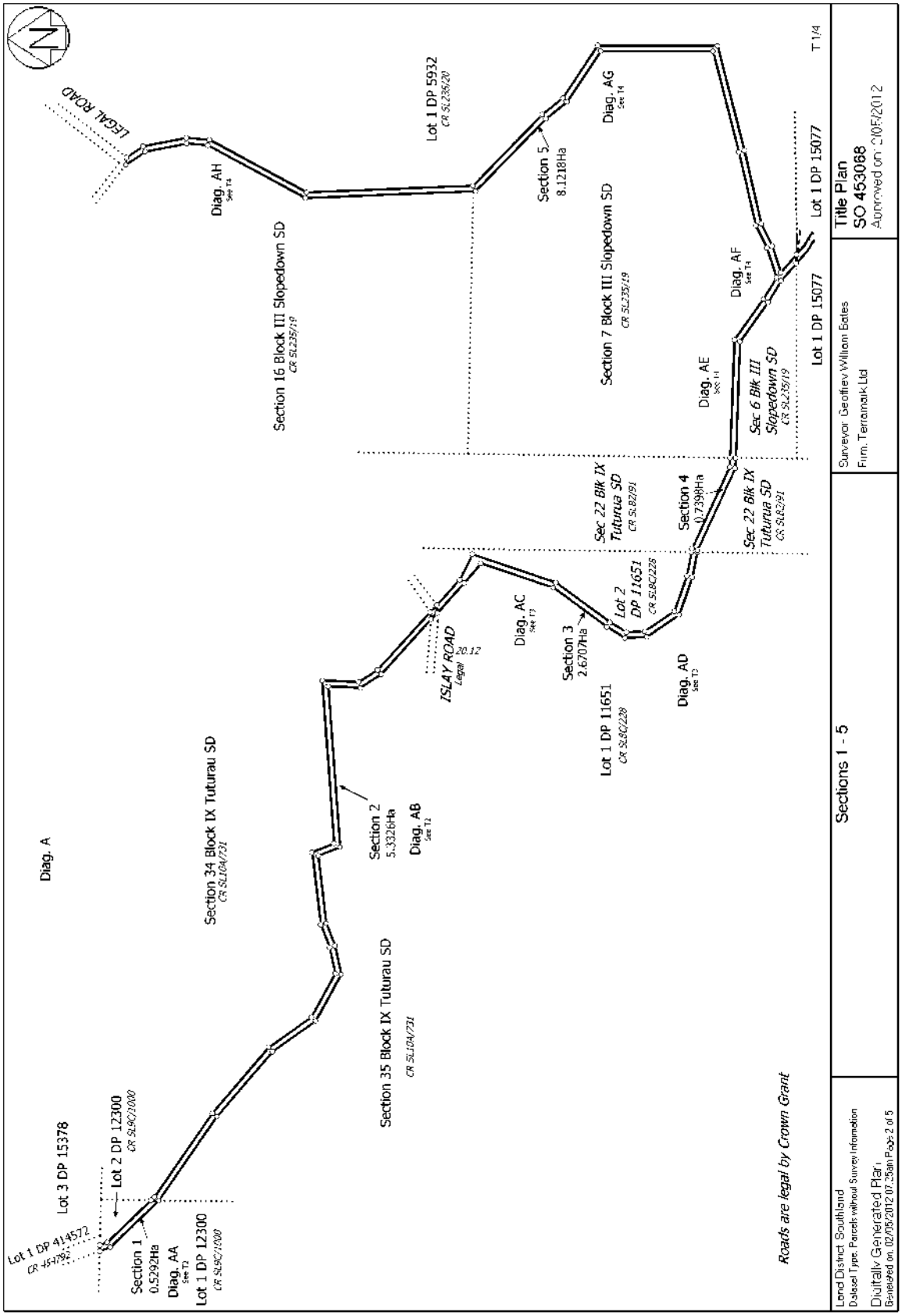
Subject to Section 11 Crown Minerals Act 1991 (Affects Sections 34-35 Block IX Tuturau Survey District)

215143.1 Forestry Right pursuant to the Forestry Rights Registration Act 1983 to (now) Southland Plantation Forest Company of New Zealand Limited commencing 1.5.1990 and terminating 31.3.2025 - 30.11.1993 at 11:55 am (Affects Sections 34-35 Block IX Tuturau Survey District)

9211553.1 Notice pursuant to Section 195(2) Climate Change Response Act 2002 - 17.10.2012 at 11:24 am (Affects Sections 34-35 Block IX Tuturau Survey District)

10698837.2 CAVEAT BY TARARUA WIND POWER LIMITED (AFFECTS SECTIONS 34-35 BLOCK IX TUTURAU SURVEY DISTRICT) - 31.3.2017 at 9:05 am


725·07
Road
147·80
Islay
2370·81
34
172·3100 ha
Road
399·44
467·88
35
102·3420 ha
492·40
1182·34


Diag. A
Lot 3 DP 15378
Lot 2 DP 12300
CR SL9C/1000
Lot 1 DP 414572
CR 457/82
Section 1
0.5292Ha
Diag. AA
See T2
Lot 1 DP 12300
CR SL9C/1000
Section 34 Block IX Tuturau SD
CR SL10A/731
Section 35 Block IX Tuturau SD
CR SL10A/731
Section 2
5.3326Ha
Diag. AB
See T2
ISLAY ROAD
Legal
20.12
Diag. AC
See T3
Section 3
2.6707Ha
Lot 1 DP 11651
CR SL8C/228
Lot 2
DP 11651
CR SL8C/228
Diag. AD
See T3
Section 4
0.7398Ha
Sec 22 Blk IX
Tuturau SD
CR SL8Z/91
Sec 22 Blk IX
Tuturau SD
CR SL8Z/91
Diag. AE
See T4
Sec 6 Blk III
Slopedown SD
CR SL235/19
Section 7 Block III Slopedown SD
CR SL235/19
Diag. AF
See T4
Section 5
8.1218Ha
Diag. AG
See T4
Section 16 Block III Slopedown SD
CR SL235/19
Diag. AH
See T4
LEGAL ROAD
Lot 1 DP 5932
CR SL238/20
Lot 1 DP 15077
Lot 1 DP 15077
T 1/4
Roads are legal by Crown Grant
Sections 1 - 5
Land District Southland
Dataset Type: Parcels without Survey Information
Digitally Generated Plan
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Surveyor Geoffrey William Bates
Firm Terranouk Ltd
Title Plan
SO 453068
Approved on 2/05/2012

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of Land

Identifier	**668426**
Land Registration District	**Southland**
Date Issued	04 February 2015

Prior References
662716 SL8C/228

Estate	Fee Simple
Area	392.8887 hectares more or less
Legal Description	Lot 1-3 Deposited Plan 11651 and Section 3 Survey Office Plan 453068

Registered Owners
Aron Glyn Perkins and Lisa Jane Perkins

Interests

Subject to Section 308 (4) Local Government Act 1974 (affects Lots 1-3 DP 11651)

Appurtenant to Lot 1 DP 11651 herein is a right of way specified in Easement Certificate 142831.11 - 24.7.1987 at 2:27 pm

The easements specified in Easement Certificate 142831.11 are subject to Section 309 (1) (a) Local Government Act 1974

Subject to a right of way (in gross) to use airstrip and to use superbin over part Lot 1 DP 11651 marked A, B and C on attached diagram in favour of Harvey David Perkins and others created by Transfer 142831.14 - 24.7.1987 at 2:27 pm

7222871.2 Transfer granting a Forestry Right pursuant to Forestry Rights Registration Act 1983 over part Lot 1 DP 11651 marked F9 on the attached diagram for a term commencing on 11.12.2006 and expiring on 31.12.2026 to Jennifer Ann Perkins,Graham Peter Butcher and Alan Vernon Burton - 8.2.2007 at 9:00 am

7222871.2 Transfer granting exclusive right to quarry and take for their own use and benefit all minerals defined in the Crown Minerals Act 1991 in upon and under Lots 1-3 DP 11651 to Jennifer Ann Perkins, Graham Peter Butcher and Alan Vernon Burton - 8.2.2007 at 9:00 am

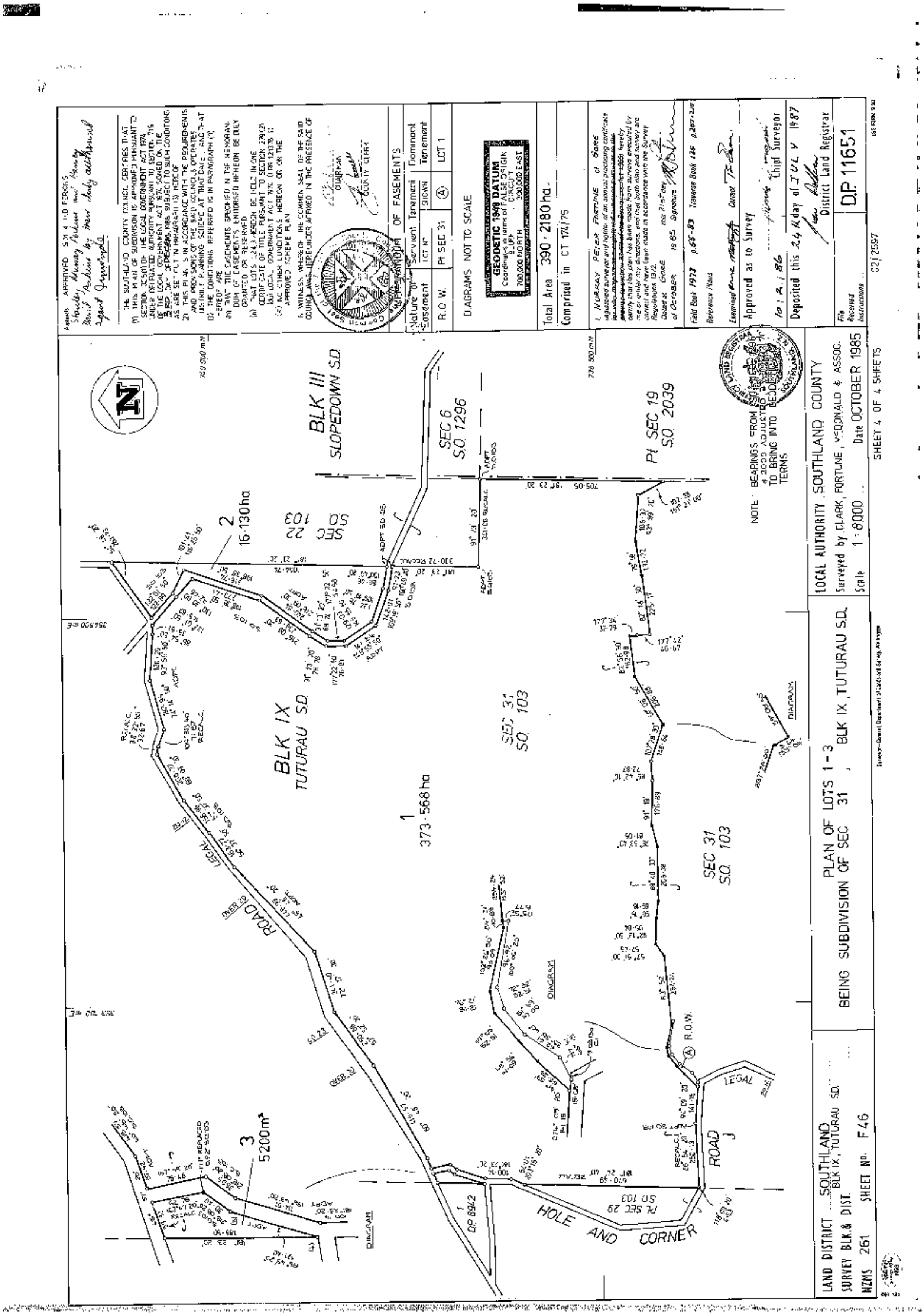
7222871.3 Mortgage to ANZ National Bank Limited - 8.2.2007 at 9:00 am (affects Lots 1-3 DP 11651)

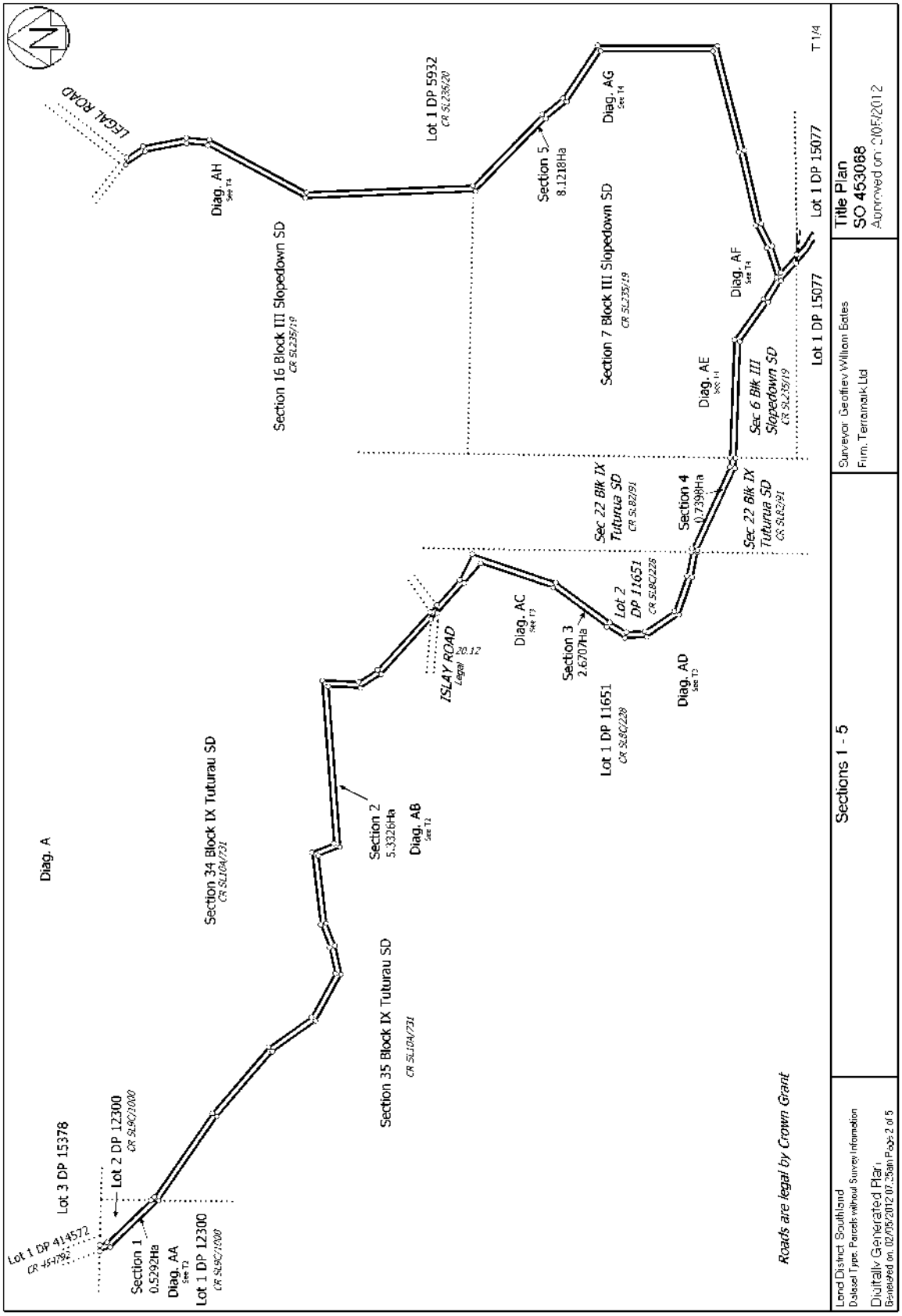
9097411.1 Notice pursuant to Section 195(2) Climate Change Response Act 2002 - - 15.6.2012 at 10:58 am (affects Lot 1 DP 11651)

9820336.4 Mortgage to Graham Peter Butcher, Alan Vernon Burton and Jennifer Ann Perkins - 4.2.2015 at 3:42 pm

10699655.2 CAVEAT BY TARARUA WIND POWER LIMITED (affects part) - 31.3.2017 at 8:51 am

12490805.1 Variation of Mortgage 7222871.3 - 29.8.2022 at 2:54 pm


DP 11651
PLAN OF LOTS 1 - 3
BEING SUBDIVISION OF SEC 31, BLK IX, TUTURAU S.D.
LOCAL AUTHORITY SOUTHLAND COUNTY
Scale 1 : 8000
Date OCTOBER 1985
SHEET 4 OF 4 SHEETS
LAND DISTRICT SOUTHLAND
SURVEY BLK & DIST. BLK IX, TUTURAU S.D.
NZMS 261 SHEET No. F46
BLK IX TUTURAU S.D.
BLK III SLOPEDOWN S.D.
SEC 31 S.O. 103
SEC 22 S.O. 103
SEC 6 S.O. 1296
Pt SEC 19 S.O. 2039
Pt SEC 29 S.O. 103
DP 8962
1
373·568 ha
2
16·130 ha
3
5200 m²
LEGAL ROAD
HOLE AND CORNER ROAD
GEODETIC 1949 DATUM
DIAGRAMS NOT TO SCALE
Total Area 390·2180 ha
Comprised in CT 17A/75
Approved as to Survey
Chief Surveyor
District Land Registrar


Lot 1 DP 5932
CR SL236/20
LEGAL ROAD
Diag. AH
See T4
Section 16 Block III Slopedown SD
CR SL235/19
Section 5
8.1218Ha
Diag. AG
See T4
Section 7 Block III Slopedown SD
CR SL235/19
Diag. AF
See T4
Lot 1 DP 15077
T1/4
Diag. AE
See T4
Sec 6 Blk III
Slopedown SD
CR SL235/19
Sec 22 Blk IX
Tuturau SD
CR SL82/91
Section 4
0.7398Ha
Sec 22 Blk IX
Tuturau SD
CR SL82/91
Lot 2
DP 11651
CR SL8C/228
Section 3
2.6707Ha
Diag. AC
See T3
ISLAY ROAD
Legal
20.12
Diag. AD
See T3
Lot 1 DP 11651
CR SL8C/228
Section 2
5.3326Ha
Diag. AB
See T2
Section 34 Block IX Tuturau SD
CR SL10A/731
Section 35 Block IX Tuturau SD
CR SL10A/731
Diag. A
Lot 3 DP 15378
Lot 2 DP 12300
CR SL9C/1000
Lot 1 DP 414572
CR 457/82
Section 1
0.5292Ha
Diag. AA
See T2
Lot 1 DP 12300
CR SL9C/1000
Roads are legal by Crown Grant
Sections 1 - 5
Land District Southland
Dataset Type: Parcels without Survey Information
Digitally Generated Plan
Generated on 02/05/2012 07:28am Page 2 of 5
Surveyor: Geoffrey William Bates
Firm: Terramouk Ltd
Title Plan
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Approved on 2/05/2012

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Registrar-General
of Land

Identifier **668427**

Land Registration District **Southland**

Date Issued 03 November 2014

Prior References

662717 SLB2/91

Estate Fee Simple

Area 244.0343 hectares more or less

Legal Description Section 15A, 16A, 17 Block VIII and Section 22 Block IX Tuturau Survey District and Section 10 Block X Waikaka Survey District and Section 4 Survey Office Plan 453068

Registered Owners

NZSF Southland Farms Limited

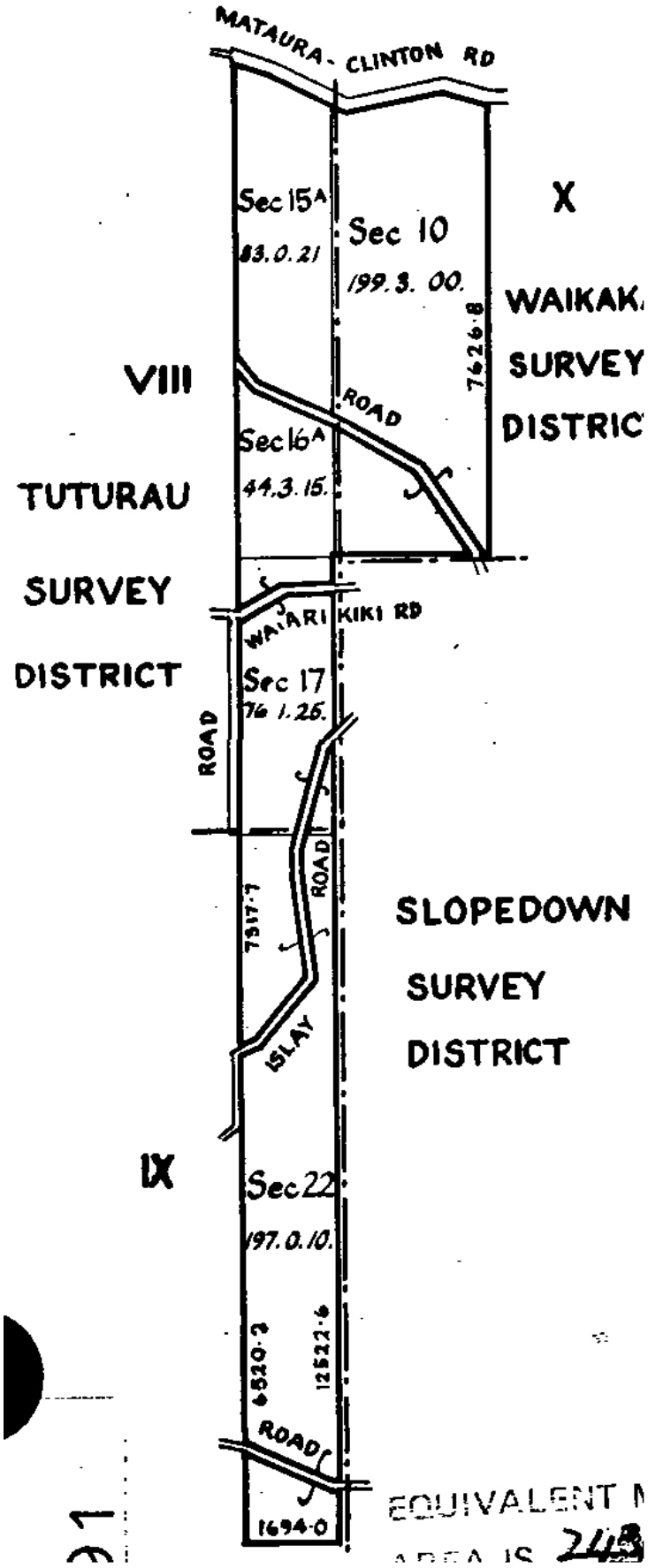
Interests

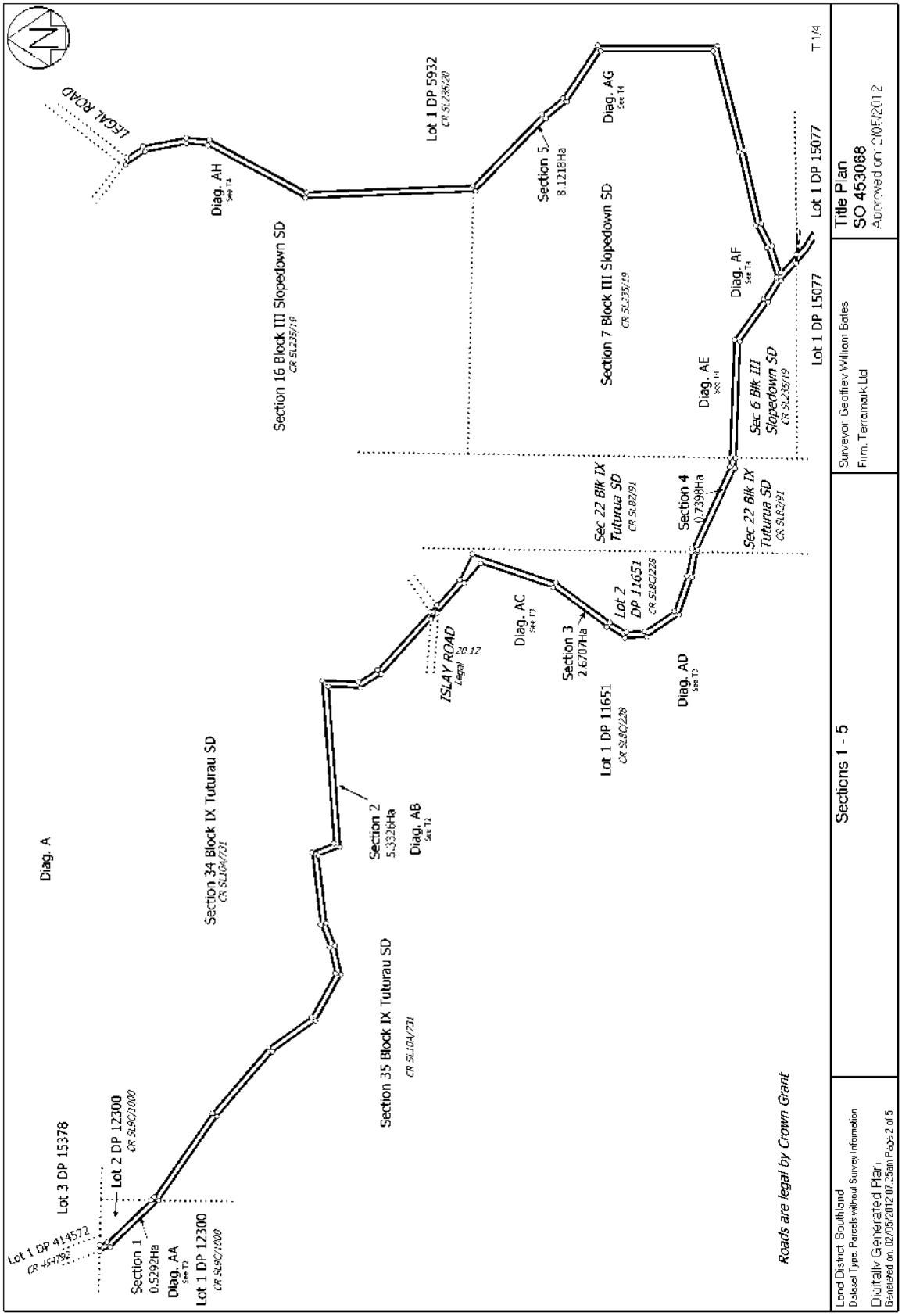
5041591.1 Gazette Notice (2001/1044) declaring the adjoining road (State Highway 93) to be a limited access road - 11.5.2001 at 9:31 am

5064410.3 Notice pursuant to Section 91 Transit New Zealand Act 1989 - 26.7.2001 at 12:43 pm (affects Section 15A, 16A and 17 Blk VIII Tuturau SD, Sec 22 Blk IX Tuturau SD and Sec 10 Blk X Waikaka SD)

5064410.4 Notice pursuant to Section 91 Transit New Zealand Act 1989 - 26.7.2001 at 12:43 pm (affects Section 15A, 16A and 17 Blk VIII Tuturau SD, Sec 22 Blk IX Tuturau SD and Sec 10 Blk X Waikaka SD)

10768280.3 CAVEAT BY TARARUA WIND POWER LIMITED - 21.4.2017 at 9:17 am (AFFECTS SECTION 22 BLOCK IX TUTURAU SURVEY DISTRICT)


MATAURA - CLINTON RD
Sec 15A
83.0.21
Sec 10
199.3.00
X
WAIKAK
SURVEY
DISTRIC
7626·8
VIII
ROAD
Sec 16A
44.3.15.
TUTURAU
SURVEY
DISTRICT
WAIARI KIKI RD
Sec 17
76 1.26.
ROAD
ROAD
7317·7
SLOPEDOWN
SURVEY
DISTRICT
ISLAY
IX
Sec 22
197.0.10.
6520·2
12522·6
ROAD
1694·0
EQUIVALENT
AREA IS 24


LEGAL ROAD
Diag. AH
See T4
Lot 1 DP 5932
CR SL238/20
Section 5
8.1218Ha
Diag. AG
See T4
Section 16 Block III Slopedown SD
CR SL235/19
Section 7 Block III Slopedown SD
CR SL235/19
Diag. AF
See T4
Diag. AE
See T4
Sec 6 Blk III
Slopedown SD
CR SL235/19
Lot 1 DP 15077
T 1/4
Lot 1 DP 15077
Sec 22 Blk IX
Tuturau SD
CR SL82/91
Section 4
0.7398Ha
Sec 22 Blk IX
Tuturau SD
CR SL82/91
Lot 2
DP 11651
CR SL8C/228
ISLAY ROAD
Legal
20.12
Diag. AC
See T3
Section 3
2.6707Ha
Diag. AD
See T3
Lot 1 DP 11651
CR SL8C/228
Section 2
5.3326Ha
Diag. AB
See T2
Section 34 Block IX Tuturau SD
CR SL10A/731
Section 35 Block IX Tuturau SD
CR SL10A/731
Diag. A
Lot 3 DP 15378
Lot 2 DP 12300
CR SL9C/1000
Lot 1 DP 414572
CR 457/82
Section 1
0.5292Ha
Diag. AA
See T2
Lot 1 DP 12300
CR SL9C/1000
Roads are legal by Crown Grant
Sections 1 - 5
Surveyor Geoffrey William Bates
Firm. Terranouk Ltd
Title Plan
SO 453068
Approved on 20/5/2012
Land District Southland
Dataset Type. Parcels without Survey Information
Digitally Generated Plan
Generated on 02/05/2012 07:28am Page 2 of 5

RECORD OF TITLE
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Identifier	**668428**
Land Registration District	**Southland**
Date Issued	03 November 2014

Prior References

662718 SL235/19

Estate	Fee Simple
Area	320.9514 hectares more or less
Legal Description	Section 6-7, 16-17 Block III Slopedown Survey District and Section 5 Survey Office Plan 453068

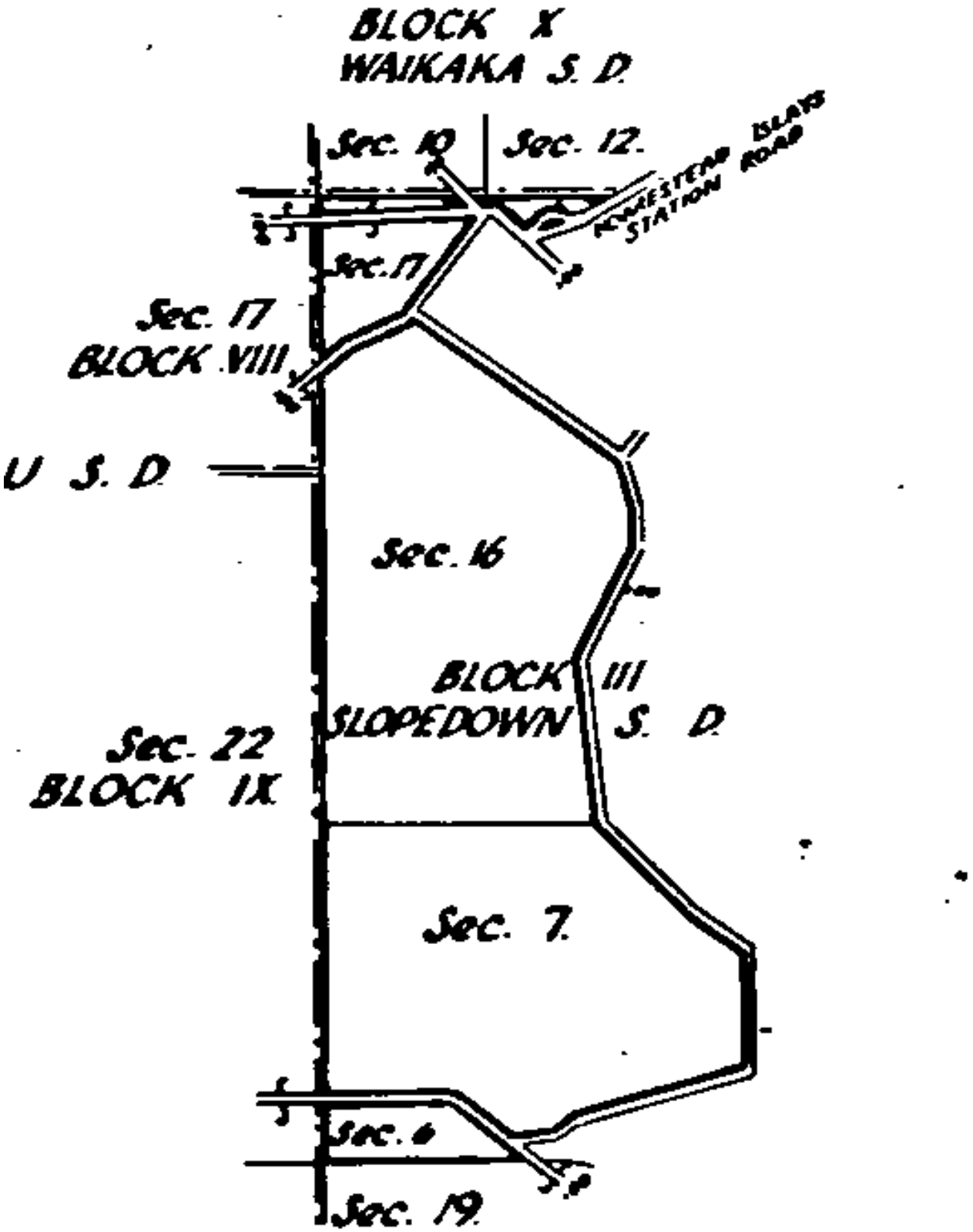
Registered Owners

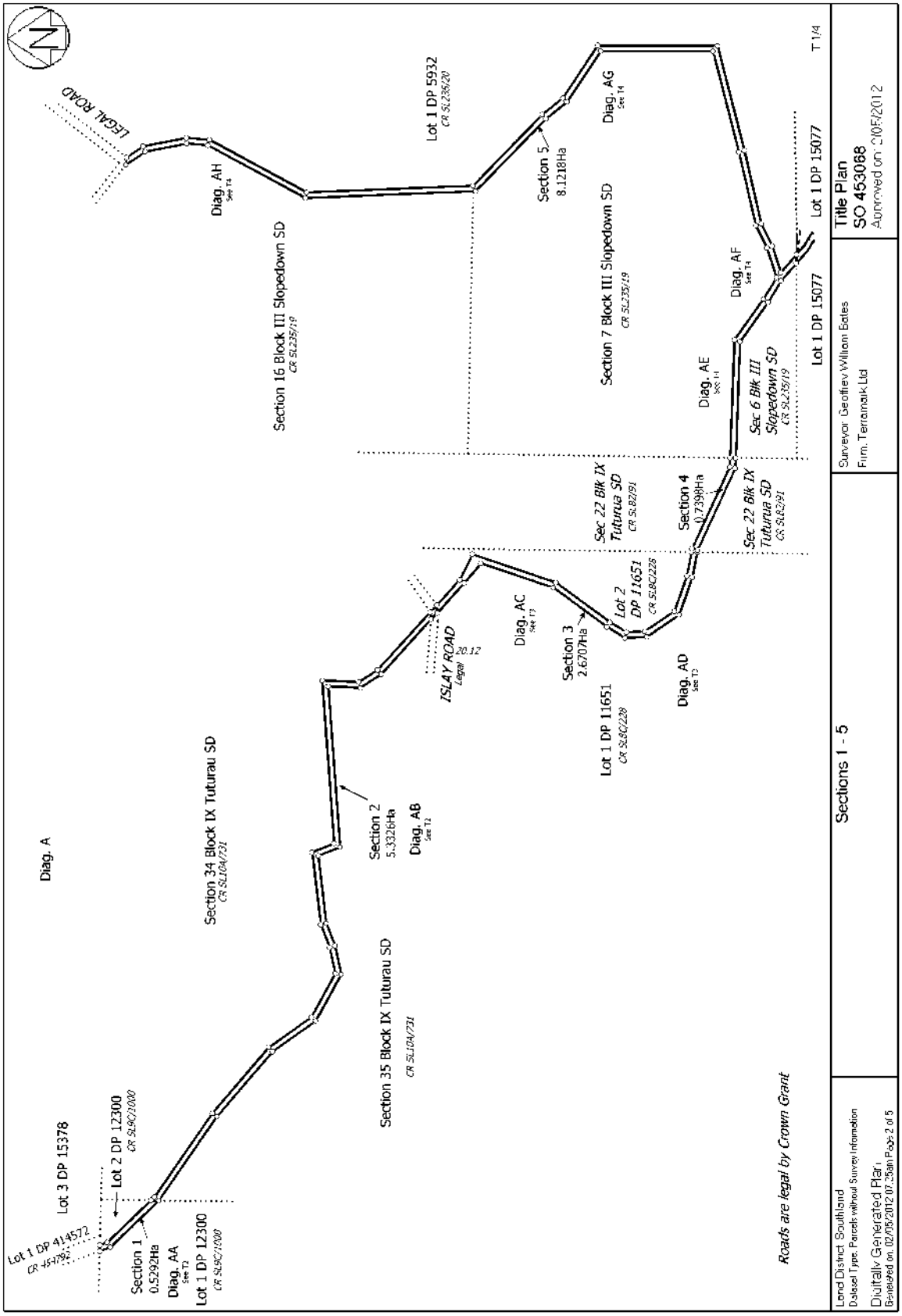
NZSF Southland Farms Limited

Interests

9236042.1 Notice pursuant to Section 195(2) Climate Change Response Act 2002 - 26.11.2012 at 4:15 pm (affects Section 16 Blk III Slopedown SD)

10768280.3 CAVEAT BY TARARUA WIND POWER LIMITED - 21.4.2017 at 9:17 am (AFFECTS SECTION 6-7 AND SECTION 16 BLOCK III SLOPEDOWN SURVEY DISTRICT)


BLOCK X
WAIKAKA S. D.
Sec. 10
Sec. 12.
FORRESTERS STATION
ISLAYS ROAD
Sec. 17
Sec. 17
BLOCK VIII
U S. D.
Sec. 16
BLOCK III
SLOPEDOWN S. D.
Sec. 22
BLOCK IX
Sec. 7.
Sec. 6
Sec. 19


Lot 3 DP 15378
Lot 2 DP 12300
CR SL9C/1000
Lot 1 DP 414572
CR 457/82
Section 1
0.5292Ha
Diag. AA
See T2
Lot 1 DP 12300
CR SL9C/1000
Diag. A
Section 34 Block IX Tuturau SD
CR SL10A/731
Section 35 Block IX Tuturau SD
CR SL10A/731
Section 2
5.3326Ha
Diag. AB
See T2
ISLAY ROAD
Legal
20.12
Diag. AC
See T3
Section 3
2.6707Ha
Lot 1 DP 11651
CR SL8C/228
Lot 2
DP 11651
CR SL8C/228
Diag. AD
See T3
Section 4
0.7398Ha
Sec 22 Blk IX
Tuturau SD
CR SL8Z/91
Sec 22 Blk IX
Tuturau SD
CR SL8Z/91
Diag. AE
See T4
Sec 6 Blk III
Slopedown SD
CR SL235/19
Diag. AF
See T4
Section 7 Block III Slopedown SD
CR SL235/19
Section 5
8.1218Ha
Diag. AG
See T4
Section 16 Block III Slopedown SD
CR SL235/19
Diag. AH
See T4
Lot 1 DP 5932
CR SL238/20
LEGAL ROAD
Lot 1 DP 15077
Lot 1 DP 15077
T 1/4
Roads are legal by Crown Grant
Sections 1 - 5
Land District Southland
Dataset Type: Parcels without Survey Information
Digitally Generated Plan
Generated on 02/05/2012 07:28am Page 2 of 5
Surveyor Geoffrey William Bates
Firm Terranouk Ltd
Title Plan
SO 453068
Approved on 2/05/2012

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of Land

Identifier **668562**
Land Registration District **Southland**
Date Issued 22 October 2015

Prior References
662719 SL12A/629 SL5B/1196

Estate Fee Simple
Area 1125.8684 hectares more or less
Legal Description Lot 5-7 Deposited Plan 15076 and Lot 1-4
Deposited Plan 15077 and Section 6
Survey Office Plan 453069 and Section 20
Block III Slopedown Survey District

Registered Owners
Suzanne Dorothy Wilson, Allen David Wilson and Liza Claire Wilson

---

Interests

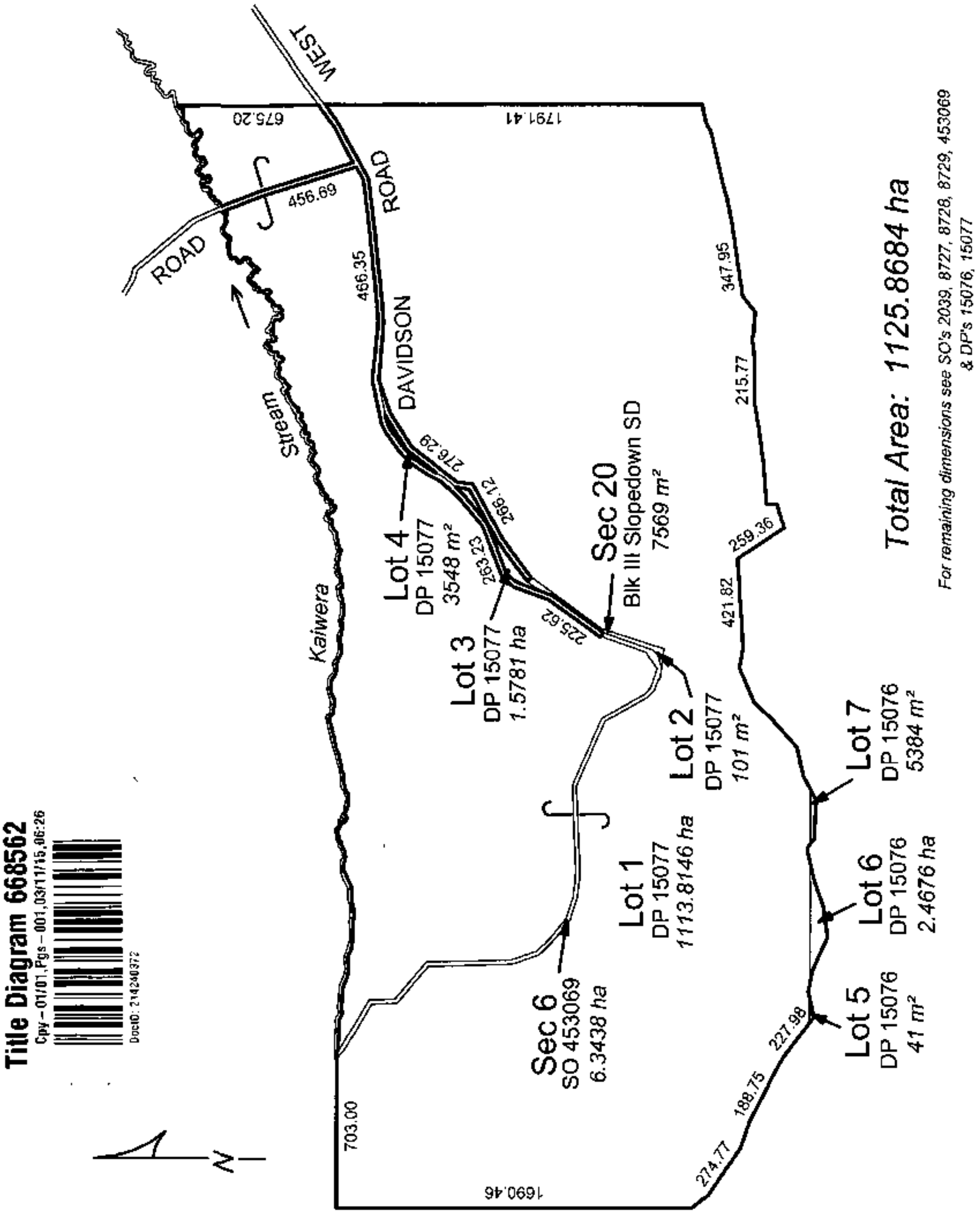
Subject to Sections 241(2) and Section 242(1) & (2) Resource Management Act 1991 by Gore District Council (affects DP 15076) (Excludes Section 6 SO 453069 and Section 20 Block III Slopedown Survey District)

Appurtenant hereto is a right of way created by Transfer 270683.3 - 20.1.2000 at 1:55 pm (Excludes Section 6 SO 453069 and Section 20 Block III Slopedown Survey District)

Appurtenant hereto is a right of way created by Transfer 270683.4 - 20.1.2000 at 1:55 pm (Excludes Section 6 SO 453069 and Section 20 Block III Slopedown Survey District)

10699689.2 CAVEAT BY TARARUA WIND POWER LIMITED - 3.4.2017 at 8:52 am (Excludes Section 6 SO 453069 and Section 20 Block III Slopedown SD)

11634658.3 Mortgage to Rabobank New Zealand Limited - 16.12.2019 at 3:38 pm


Title Diagram 668562
Cpy - 01/01, Pgs - 001, 03/11/15, 06:26
DocID: 214240372
WEST
ROAD
DAVIDSON
ROAD
Kaiwera
Stream
675.20
1791.41
456.69
466.35
347.95
215.77
276.29
266.12
263.23
259.36
421.82
225.62
703.00
1690.46
274.77
188.75
227.98
Lot 4
DP 15077
3548 m²
Lot 3
DP 15077
1.5781 ha
Sec 20
Blk III Slopedown SD
7569 m²
Lot 2
DP 15077
101 m²
Lot 1
DP 15077
1113.8146 ha
Sec 6
SO 453069
6.3438 ha
Lot 7
DP 15076
5384 m²
Lot 6
DP 15076
2.4676 ha
Lot 5
DP 15076
41 m²
N
Total Area: 1125.8684 ha
For remaining dimensions see SO's 2039, 8727, 8728, 8729, 453069 & DP's 15076, 15077

D

APPENDIX D

New Dwellings within 7km of Kaiwera Downs Wind Farm Turbine Envelope – Mitchell Daysh

New Dwellings Constructed within 7 km of Project Envelope Post-2007

Colour on Map	Address	Legal Description	Distance from Project Envelope
	90 Rosemarkle Road, Ferndale	Lot 1 DP 15379 and Lot 2 DP 414572	0.3 km
	28 Range Road, Ferndale	Part Section 1 Block VIII, Waikaka SD	2.07 km
	919A Old Coach Road, Ferndale	Lot 1 DP 14266 and Lot 1 DP 14315	2.2 km
	1170A Crawford Road, Waikana	Section 3 Knowsley Park Settlement and Part Section 4 Knowsley Park Settlement	2.3 km
	895 Old Coach Road, Ferndale	Lot 1 DP 14322	2.12 km
	40 Bristow Road, Ferndale	Lot 2 DP 10197	3.54 km
	831 Diamond Peak Road, Kaiwera	Lot 1 DP 452778	4.3 km
	221-357 Nithdale Road, Kaiwera	Section 2 Block X Waikaka SD	4.49 km
	401 Waddle Road, Waikana	Lot 1 DP 415941	6.93 km
	270 Pullar Road, Kaiwera	Section 9 Block 1X Waikaka SD	6.95 km

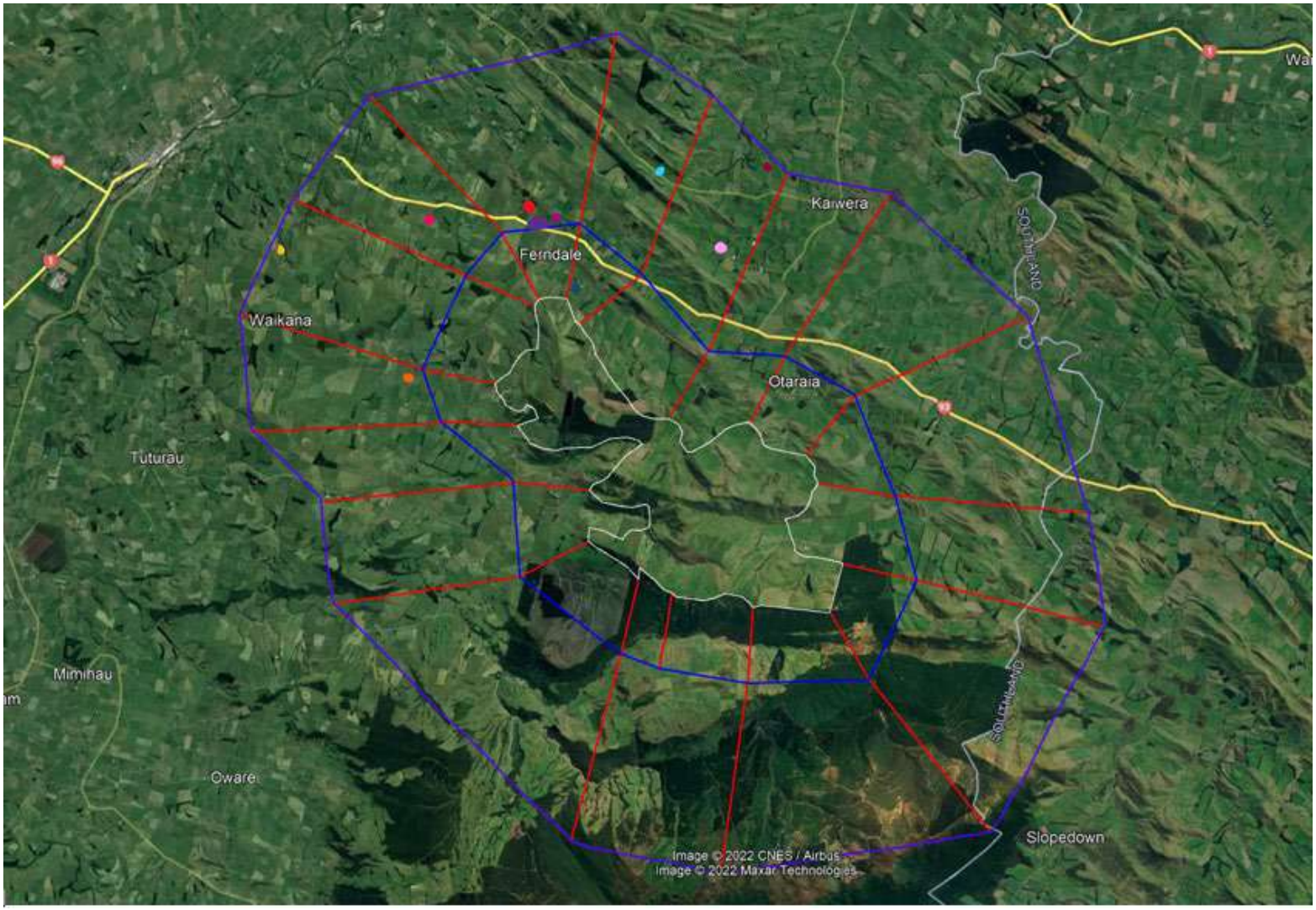


Figure 1: **Location Map of New Dwellings within 7 km of the Project Envelope**

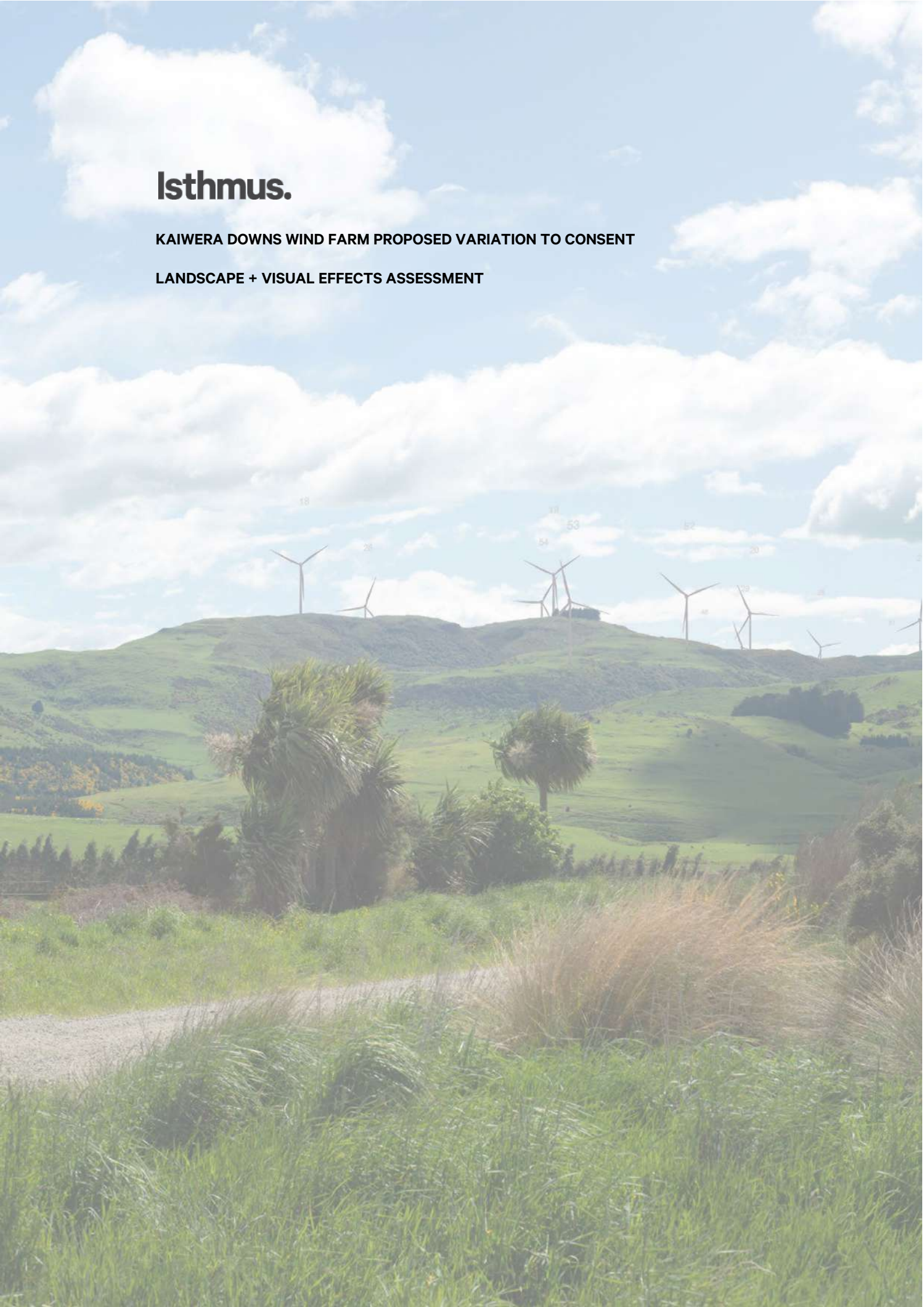
APPENDIX E

Landscape and Visual Effects Assessment - Isthmus

Isthmus.

KAIWERA DOWNS WIND FARM PROPOSED VARIATION TO CONSENT

LANDSCAPE + VISUAL EFFECTS ASSESSMENT



Client:	Mercury (NZ) Ltd
Project:	Kaiwera Downs Wind Farm Proposed Variation to Consent
No:	4777
Report:	Landscape + Visual Effects Assessment
Status:	Final
Date:	24 February 2023

Author: Gavin Lister
Isthmus
PO Box 90 366
Auckland 1142
+64 9 309 7281
+64 27 435 7844
gavin.lister@isthmus.co.nz

CONTENTS

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1 EXECUTIVE SUMMARY

1.1 Stage 1 of the Kaiwera Downs Wind Farm is currently under construction with 145m wind turbines, consistent with the existing consent issued by the Gore District Council. Mercury is now seeking to change the consent conditions to allow 165m wind turbines for the construction of Stage 2, and to reduce the total number of wind turbines provided for under the consent from 83 to 66.

1.2 The proposed taller Stage 2 wind turbines will have a similar rotor diameter and appearance as the Stage 1 wind turbines. The difference - the taller tower and larger gap between the rotors and ground - will not be apparent because Stage 1 will be separated on a different hill from the subsequent Stage 2 wind turbines, and the base of each wind turbine will be over the crest of the hills from most viewpoints. For these reasons all the wind turbines in the wind farm will appear similar in size and appearance as required by Condition 19.

1.3 The difference in wind turbine height will also be less apparent than the 14% increase might suggest because wind turbines have a scaleable shape and absence of scale references. In practice, differences in height may only be noticed with the aid of before and after photo simulations. In any event, the difference will have negligible adverse effects on landscape values including such aspects as visual dominance, scale relationship to the landscape, aesthetic coherence, and rural character and amenity values. At the same time, the 20% fewer wind turbines will have positive effects of a slightly more spacious and less cluttered appearance.

1.4 Potential effects were assessed from twelve representative public viewpoints illustrated with photo simulations. Potential effects were also assessed (using aerial photos, topographic maps, and road-side observation) for all houses within approximately 4km of the wind farm,[1] and for houses beyond 4km on properties of submitters to the original consent. In each case any adverse effects from increased height will be (at most) very low (negligible, or less than minor), and in most cases the effects will be either neutral or positive because of the benefits of fewer wind turbines within the wind farm.

[1] i.e. the consented envelope

2 INTRODUCTION

2.1 Mercury holds a consent at Kaiwera Downs for 83 wind turbines with a maximum tip height of 145m. It has commenced construction of Stage 1 of the wind farm - which comprises ten Vestas V136 wind turbines. The wind turbines have a hub height of 77m, rotor diameter of 136m (i.e. 68m radius), a maximum tip height of 145m, and a ground clearance of 9m. Stage 1 is consistent with the consent issued by the Gore District Council.

2.2 Mercury wishes to construct Stage 2 of the wind farm in the future with similar wind turbines (i.e. similar rotor diameter and type of wind turbine) but to increase the tip height to 165m to allow a greater ground clearance, and at the same time to reduce the number of consented wind turbines from 83 to 66. That is, the proposal is a 14% increase in height and a 20% decrease in the number of wind turbines. The situation has arisen because of advances in wind turbine design.

2.3 The turbine model being used for Stage 1 has a larger rotor diameter, less ground clearance, and generates more electricity than the model envisaged at the time the consent was granted. The proposed increase in hub height would increase the ground clearance which would help to avoid the turbulence and wind drag close to the ground and allow a more even wind flow across the rotors.

3 EXISTING LANDSCAPE CHARACTER AND VALUES

3.1 The underlying landscape characteristics and values of the wider environment were described in the landscape assessment prepared in 2007[2] for the current consent.

3.2 Since then, Mercury has given effect to the resource consents held for the Kaiwera Downs Wind Farm through commencement of Stage 1. Under s127(3) of the Resource Management Act 1991, it is the effects of the change in conditions that is to be considered and this involves consideration of the effects of the proposed change against the consented activity.

3.3 The Kaiwera Downs Wind Farm is amongst broken hill country. The hills are characterised by south-facing scarps, and shallower dip slopes to the north (i.e. they are a 'cuesta' type of hill).

3.4 The wind farm occupies two blocks of hills, each block comprising two ridges. The wind turbines are located on the north-facing dip slopes of each ridge:

- Western block comprising the north and south 'Forestry' ridges
- Eastern block comprising 'Jacksons' and 'Kaiwera' ridges

3.5 The wind farm is within a band of hills that collectively comprise the Southland Syncline. The Murihiku Escarpment, which rises sharply from the Waimea Plains and backdrops places such as Clinton, is the northern edge of the hill country. The hills in the northern limb of the Syncline have a strong linear pattern of steep ridges parallel with the escarpment. Those in the southern limb of the Syncline in the vicinity of the wind farm, in contrast, comprise a more broken field of cuesta hills as described above.

3.6 The hills are productive ("working") farmland, comprising mainly beef, sheep and dairy-support farming on the hills, with dairy farming and cropping on the lower slopes. Small pine plantations and shelter belts are also characteristic elements.

[2] Kaiwera Downs Wind Farm, Landscape and Visual Assessment, Boffa Miskell, October 2007

3.7 There are relatively few dwellings in the area, and visibility is restricted by the hill country. SH93 - the Old Coach Road (or 'Back Road') between Mataura and Clinton - travels along a valley two to three kilometres north of the site and provides the main public views of the wind farm.[3] The road follows an historic route between Balclutha and Invercargill. Otherwise, public visibility is limited to local rural roads, often no-exit and unsealed.

3.8 The 2007 Boffa Miskell assessment states that discussions with Te Ao Marama and Hokonui Runanga at the time indicated that, while tangata whenua have a close association with the whole region, the site did not have particular cultural significance. The assessment notes that Kaiwera is a corruption of a personal name 'Kahu-wera' and that the nearby hill Otaraia is named after Kahu-wera's son Taraia. Otaraia was a coaching stop on the Old Coach Road (adjacent to the Kaiwera Stream crossing).

3.9 Relevant provisions and other matters are summarised in **Appendix One** to help frame the landscape and visual assessment. In short, the wind farm is in the rural zone and has no District Plan overlays.

4 EFFECTS OF PROPOSED CHANGES

Potential effects

4.1 Assessment of potential **adverse effects** on landscape values from increasing the wind turbine height include consideration of such matters as dominance, the scale relationship of the wind turbines with the landscape, aesthetic coherence, and effects on rural character and amenity values. Assessment of potential **positive effects** on landscape values from reduced wind turbine numbers include consideration of such matters as spaciousness and visual clutter. Each of these is analysed below.

Dominance

4.2 The increased height will have a negligible effect with respect to dominance for the following reasons:

- The wind turbines are separated by some distance from roads and houses. In most instances houses and roads in the area are greater than 2km from the wind farm.[4]
- The 14% increase in wind turbine height will also not be as apparent as the percent increase might suggest because wind turbines have a generic and scaleable shape, and they lack other ready scale references in the landscape. The bases of the wind turbines are also obscured beyond the crest of the hills in many instances which limits the ability to see the whole wind turbine. The difference in height may not be noticed in practice without the aid of before and after photo simulations.

Scale relationship with landscape

4.3 Wind turbines typically have a scale relationship with the whole underlying landscape because of the absence of other scale references. The scale relationship with the whole landscape entails both vertical and horizontal landscape dimensions.

- The roughly 250m - 300m height of the scarp ridges will remain dominant compared to the wind turbines' 165m tip height - especially given that i) the overall scale of the scarps is larger because

[3] The valley is along the axis - the low point - of the Southland Syncline and separates the northern and southern limbs of the Syncline. As discussed, the hills in the southern limb are a broken field of cuestas, while those in the northern limb have a pattern of linear ridges aligned northwest-southeast parallel with the Murihiku Escarpment.
4 Distance to wind farm means to the consented wind farm envelope unless stated otherwise.

they comprise both vertical and horizontal dimensions, and ii) one's eyes tend to be drawn to the hub (nacelle) which is fixed and more solid, rather than the thinner, moving rotor tips.[5]

- The pattern of wind turbines will remain consistent with the four dip slope surfaces. The wind turbines will continue to be slender elements visually anchored by the mass of the hills.

Aesthetic coherence

4.4 The wind turbines will be within the same project envelope and maintain a similar pattern with respect to landform as discussed above. Aesthetic coherence will be retained between the wind farm and landform.

4.5 Aesthetic coherence will also be maintained between all the wind turbines within the wind farm:

- As discussed, all wind turbines will have a similar rotor diameter and appearance. The differences between the proposed wind turbines for Stage 2 and those being installed as part of Stage 1 will be a taller tower and a larger gap between the rotors and ground. From most viewpoints, the bases of the wind turbines will be obscured beyond the brow of the hills and therefore the differences in gap between rotors and ground will not be apparent.
- In addition, Stage 1 is on a different landform from the subsequent stage. Stage 1 is confined to the north Forestry Ridge –no other wind turbines will be located on this ridge. Stage 2 wind turbines will be on the separate south Forestry Ridge (which is slightly lower in elevation and set back further than the north Forestry Ridge from most public viewpoints), and on Jacksons and Kaiwera Ridges which are separate hills to the east. This is illustrated, for example, by the photo simulation from Viewpoint B in which the Stage 1 wind turbines (on the foreground ridge) appear similar to the more distant Stage 2 wind turbines, and Viewpoint L in which the Stage 1 wind turbines on the ridge to the left of the photo appear similar to the Stage 2 wind turbines at a similar distance on the ridge to the right of the photo.

Rural character and amenity

4.6 The increase in height will have no effect on rural character and rural amenity values compared to the consented wind farm. The underlying pasture and farming activities will continue beneath the wind turbines. The wind farm will remain appropriate with respect to landscape values for the same reasons as for the existing consent.

Positive effects of fewer wind turbines

4.7 At the same time, approximately 20% fewer wind turbines are proposed compared to the consented wind farm. It is now intended to install a maximum of 66 wind turbines with the same footprint as the consented 83 wind turbines. It will mean a more spacious pattern and slightly less cluttered appearance. When considering the indicative layouts for the wind farm within the consented footprint, the proportional reduction is greater for the Forestry Ridge sections of the wind farm (western part) and lesser for the Jacksons and Kaiwera Ridge sections (eastern part). Table 1 below compares the proposed indicative layout with the indicative layout utilised when the wind farm was consented.

[5] Of a wind turbine's dimensions, changes in rotor diameter are more obvious than overall height. The proposed wind turbines will have similar rotor diameter and appearance as those being installed in Stage 1 under the current consent.

	Consented indicative	Proposed indicative
North Forestry Ridge	18	10
South Forestry Ridge	10	7
Jacksons Ridge	25	21
Kaiwera Ridge	30	28

Table 1: Wind turbine numbers for consented and proposed indicative layouts

4.8 The fewer wind turbine numbers will also mean less landform modification because of fewer wind turbine platforms and associated access stub roads.

4.9 The larger rotor diameter wind turbine models (as are being installed at Stage 1) are also more efficient than the models envisaged at the time the wind farm was consented and have some aesthetic benefits from their slower rotation (for a given wind speed and in terms of maximum rotation speed). The slower rotation appears more graceful.

Visibility and public views

4.10 Potential adverse landscape and visual effects will continue to be confined to roads and properties in the wind farm's rural setting, typically between 1km and 4km from the wind farm.

4.11 Photo simulations from 12 representative public viewpoints are attached (Appendix Four (separate A3 document)) to illustrate the proposed changes. Seven of the viewpoints are the same as used for the Boffa Miskell assessment for the initial consent, the other five were selected to best represent public viewpoints from each direction.[6] The pair of photo simulations ('before and after') for each viewpoint depict the following:

- 83 wind turbines at 145m (i.e. the consented number of wind turbines and consented tip height on the indicative layout used during the original consenting).
- 66 wind turbines comprising the 10 Stage 1 wind turbines currently under construction at 145m and the balance at the proposed 165m height. The 66 wind turbines are on a new indicative layout within the same project envelope as that provided for in the consent.

4.12 Photo simulations depict an approximate 110° field of view at the correct scale for a 400m reading distance when printed across 2 x A3 pages. This provides a good field of view at a correct scale in a practical format.

4.13 It is worth noting that it is not difference per se that is relevant, rather whether there are differences in **effects** on landscape and amenity values. Difference is also more apparent with the before and after format of photo simulations - actual experience would not entail such comparison. The following is a commentary on each viewpoint.

Viewpoint A. Old Coach Road (SH93) approximately 2km west of intersection with Waikana Road (Viewpoint 38 in Boffa Miskell Report)

4.14 The viewpoint is approximately 20m east of eastern boundary 788 Old Coach Road. It represents one of the first views from SH93 travelling east. It is 3.9km to the nearest wind turbines depicted in

[6] The viewpoints are ordered in clockwise manner starting from the north-west approach on SH93. In this case, the viewpoints are referenced alphabetically to avoid confusion but with cross-reference to the Boffa Miskell viewpoints.

the proposed indicative layout.[7] The view emerges because of a break in the middle-ground hill. It precedes the clearer and closer viewpoint B below. The nearest wind turbines are those on the north Forestry Ridge already under construction, but there is also a view to south Forestry Ridge dip slope and to wind turbines in the distance on Jacksons Ridge.

4.15 The nearest wind turbines (Stage 1) are under construction. The differences in height between the Stage 1 and Stage 2 wind turbines will be barely discernible because all wind turbines will have the similar rotor diameter and the bases of the towers will be obscured beyond the crests of the hills. There will be no adverse effects on landscape values including such characteristics as dominance, scale relationship, or coherence with landform. The more noticeable change will be the reduction in wind turbine numbers, and the consequent more spacious appearance. Overall, there would be a low degree of positive effect.

Viewpoint B. Old Coach Road (SH93) approximately 400m west of intersection with Waikana Road (Viewpoint 16 Boffa Miskell photo simulations)

4.16 The viewpoint is opposite 919 Old Coach Road (which is on the hill above the road) and a little to the east of 944 Old Coach Road. It represents one of the clearest and closest views (3.0km from the nearest wind turbine depicted in the proposed indicative layout) [8] from SH93. Travelling east, it is from a slightly elevated location where the view to the wind farm opens out across the valley of the Waiarikiki Stream. The nearest wind turbines are the Stage 1 wind turbines on the north Forestry Ridge,[9] while those on Jacksons Ridge are visible along the valley in the distance (approximately 6.5 km).

4.17 The nearest wind turbines are already being constructed as part of Stage 1 . The proposed increased height of the more distant wind turbines will be barely discernible and will not affect the landscape values including such characteristics as scale relationship, coherence with landform, or rural character. A factor that helps to avoid potential adverse effects is that the taller wind turbines are in the distance and beyond the Stage 1 wind turbines, and that the bases of the wind turbines are obscured beyond the crest of the hills. The most noticeable change will be the reduction in wind turbine numbers, and the consequent more spacious appearance. Overall, there would be a low degree of positive effect.

Viewpoint C: Junction of Old Coach Road (SH93) and Range Road. (Viewpoint 19 Boffa Miskell photo simulations)

4.18 The viewpoint is opposite 1043 Old Coach Road. It represents a clear and relatively close (2.8km to nearest indicative wind turbine)[10] view from SH93 - approximately 500m east of viewpoint B. For context, as one travels further east of this viewpoint on SH93, the foreground hills in the left of the photo progressively restrict views of the wind farm.

4.19 SH93 is elevated and has an open view across the headwater valley of the Waiarikiki Stream. The nearest wind turbines are already being constructed as part of Stage 1. The base of the Stage 1 wind turbines will be obscured beyond the crest of the hill meaning that their difference in height from proposed taller and more distant wind turbines on Jackson's Ridge (left part of the photo simulation) will not be apparent and will not affect the landscape values including such characteristics as dominance, scale relationship, or coherence with landform. The most noticeable

[7] The viewpoint is approximately 3.6 km from the consented wind farm envelope
[8] The viewpoint is approximately 3.0km from the consented wind farm envelope.
[9] Wind turbines 1 - 10 in the indicative layout on page 5 of the separate A3 photo simulation document (Appendix Four)
[10] The viewpoint is approximately 2.7 km from the consented wind farm envelope

change will be the reduction in wind turbine numbers, and the consequent more spacious appearance. Overall, there would be a low degree positive effect.

Viewpoint D. Old Coach Road (SH93) (Viewpoint 39 Boffa Miskell photo simulations)

4.20 The viewpoint is opposite #1115 Old Coach Road. It represents a view approximately 720m further east along SH93 from viewpoint C at a point where the middle-ground ridge is beginning to restrict views (the extent of such screening increases as one travels further east beyond this point). The main part of the wind farm visible will be Stage 1 which is already being constructed and will be consistent with the current consent. The nearest wind turbine depicted in the proposed indicative layout is approximately 2.4km away.[11] The lower portions of the Stage 1 wind turbines will be obscured by the middle-ground hill and only the tops of one or two wind turbines on Jackson's Ridge will be visible. Any effects of the proposed additional height will, to most intents and purposes, be screened by the topography and vegetation. Overall, there would be no effect on the landscape or amenity values of the view.

Viewpoint E: Junction of Old Coach Road and Kaiwera Road (Boffa Miskell photosimulation Viewpoint 9)

4.21 This viewpoint is from approximately 4.9km further east along SH93 from Viewpoint D, where a view is afforded because of a break in the foreground hills. It is the first and clear close view (2.7km to the nearest indicative wind turbine)[12] travelling west (foreground hills restrict previous views as one approaches the wind farm travelling west). The view is primarily to wind turbines on the Jacksons and Kaiwera Ridges at the western end of the wind farm.

4.22 The wind turbines are beyond the middle-ground hills which will provide some perspective depth (which will be more apparent in actual experience than in the photo). The increased height of the wind turbines will be apparent, but there would be no difference in effects on landscape values or dominance given the distance and perspective depth, and little effect on scale relationship with the landscape. The reduction in wind turbine numbers will not be noticeable from this angle. Overall, there would be a very low degree (negligible) of adverse effect.

Viewpoint F. Junction of Clement Road and Waipahi Station Road[13] (Viewpoint 5 Boffa Miskell photo simulations)

4.23 This viewpoint represents a distant (10.5km to the farm) and elevated location to the north from where most of the wind turbines will be visible. From closer viewpoints, intervening hills typically restrict views to only a part of the wind farm.

4.24 From this distance the difference in wind turbine height will be difficult to discern without the benefit of before and after photo simulations. There would be no effects on landscape values or dominance. The reduction in wind turbine numbers likewise will hardly be noticeable from this direction. Overall, there would be no landscape effect.

[11] The viewpoint is approximately 2.3 km from the consented wind farm envelope
[12] The viewpoint is approximately 2.7 km from the consented wind farm envelope
[13] Incorrectly labelled the intersection of Clement Road and Jeff Road in Boffa Miskell document

Viewpoint G. Davidson Road East (Viewpoint 17 Boffa Miskell photosimulations)

4.25 The viewpoint is adjacent to #57 Davidson Road East and approximately 400m east of #16 Davidson Road East. This viewpoint is from a no-exit, unsealed road, and is included to represent views from the east, and from the vicinity of the two properties on Davidson Road East.

4.26 The nearest wind turbines depicted in the proposed indicative layout (approximately 2.0 km)[14] will be on the dip slope of the Kaiwera Ridge to the southwest 'behind' the two properties. The wind turbines on Jacksons Ridge (3.8 km) to the west will also be part of the outlook, although their bases will be obscured beyond the crest of the scarp. The increased height of the wind turbines will be discernible but will not affect landscape values including such characteristics as dominance, scale relationship, or coherence with landform. The reduction in wind turbine numbers (and therefore any positive effects from a more spacious layout) will be less apparent from this direction. Overall, there would be a 'very low' (negligible) degree of adverse effects.

Viewpoint H. Tinker Road approximately 1.4km east of intersection with Waiarikiki Road

4.27 The viewpoint is approximately 850m east of #58 Tinker Road. It represents one of the clearest and closer views from south of Kaiwera Ridge. It provides an open view of both the south Forestry Ridge and Kaiwera Ridge from an elevated location. It provides a clearer and closer view than the equivalent Viewpoint 42 in the Boffa Miskell photo simulations from the south. Tinker Road is a no-exit, unsealed road. The viewpoint is xx from the consented wind farm envelope.

4.28 The indicative wind turbines will be on the dip slope beyond the crest of the scarp which will contribute to perspective depth. The increased wind turbine height will be discernible but there will be no difference in effects on landscape values or dominance given the distance and perspective depth. The reduction in wind turbine numbers would also be discernible along with the slightly more spacious appearance, although the difference from this direction would be less noticeable than from other viewpoints. Overall, there would be no difference in effects.

Viewpoint I. Frazer Road approximately 400m east of intersection with Henderson Road

4.29 The viewpoint is below #19 Frazer Road, Boffa Miskell photo simulation Viewpoint 30. The viewpoint represents a relatively distant view to the south-west (approximately 5.6 km to the consented wind farm envelope, and 5.9km to the nearest wind turbine depicted in the proposed indicative layout), but one that provides a clear view from an elevated location along a valley to most of the south Forestry Ridge and Kaiwera Ridge.

4.30 The increased height of the wind turbines may not be discernible without the benefit of before and after photo simulations. In any event, there would be no difference in effects on landscape values or dominance given the distance and perspective depth - the base of most wind turbines being beyond the crest of the scarp. The reduction in wind turbine numbers may be more discernible along with the slightly more spacious appearance, although the difference from this direction would be less noticeable than from other viewpoints. Overall, there would be no difference in effects.

Viewpoint J. End of Woodrow Road

4.31 The viewpoint is at the end of Woodrow Road adjacent to the entrance to 148 Knowsley Park Road. It represents one of the closest views immediately south of the south Forestry Ridge scarp. It is where wind turbines are closest and most elevated relative to viewpoint. (The viewpoint is

[14] The viewpoint is approximately 1.8 km from consented wind farm envelope

approximately 1.8km from the consented wind farm envelope and 2.0 km from the nearest wind turbine in the proposed indicative layout). The viewpoint was selected as a replacement to Viewpoint 37 in the Boffa Miskell photo simulations because it provides a clearer view.

4.32 The nearest indicative wind turbines are over the crest of the south Forestry Ridge scarp so that their full extent is not apparent. There are also 'side on' views to the Kaiwera Ridge dip slope in the background (4.8km). The increased height of the wind turbines may be discernible although the location of the base of the wind turbines beyond the crest of the scarp would reduce the ability to appreciate the difference without the aid of before and after photo simulations (it may be more apparent with the distant wind turbines on Kaiwera Ridge to the east). The difference in height will not affect the landscape values including such characteristics as dominance, scale relationship with landform, or coherence with landform. The more noticeable difference will be the reduction in wind turbine numbers, and a slightly more spacious appearance. Overall, there would be a low degree positive effect.

Viewpoint K. Crawford Road approximately 950m south-west of intersection with Waikana Road

4.33 The viewpoint is near 1086, 1170A, 1170B, and 1187 Crawford Road. Viewpoints 32, 33, and 34 in the Boffa Miskell document are photo simulations from these properties. It illustrates a relatively close and clear view from a local, unsealed road to the south-west. The viewpoint is approximately 3.1 km from the consented wind farm envelope.

4.34 The bases of the nearest wind turbines (3.1 km) will be over the crest of the south Forestry Ridge scarp. There will be more distant (greater than 5.8 km) views to the wind turbines on the dip slope of the Kaiwera Ridges to the east. The additional height of the wind turbines will be discernible although the bases of the wind turbines will be obscured beyond the crest of the scarp which would reduce the ability to appreciate the difference (it may be more apparent with the distant wind turbines on Kaiwera Ridge to the east). In any event, the difference in height will not affect the landscape values including such characteristics as dominance, scale relationship with landform, or coherence with landform. The more noticeable difference would be the reduction in wind turbine numbers, and a slightly more spacious appearance. Overall, there would be a low degree positive effect.

Viewpoint L Waikana Road approximately 3.1km south of intersection with SH93

4.35 The viewpoint represents one of the closest clear views from the west (approximately 1.7km to nearest wind turbine in the proposed indicative layout). The viewpoint was selected to also represent a viewpoint between the 145m Stage 1 wind turbines and the proposed 165m wind turbines. The scarp behind north Forestry Ridge is in the left of the photo, with a side on view to the scarp of south Forestry Ridge to the right of the gates.

4.36 The difference in height between the proposed 165m wind turbines (to the right) and the 145m consented wind turbines (to the left) will not be apparent because of the similar rotor diameters and because the bases of the wind turbines will be obscured beyond the crest of the scarp.

4.37 The increase in height of the Stage 2 wind turbines will not affect the landscape values including such characteristics as dominance, scale relationship with landform, or coherence with landform. The more noticeable change will be the reduction in wind turbine numbers and slightly more spacious appearance. Overall, there would be a low degree positive effect.

Summary of visual effects public views

4.38 Any adverse effects of additional wind turbine height on the amenity values of public views will be at most 'very low' (negligible or 'less than minor'). In most instances such effects will be offset by the benefits of fewer wind turbine numbers so that there will typically be 'very low' or 'low' positive effects, or no effects at all. The benefits will be experienced more at the western end of the wind farm.

Private views from dwellings

4.39 The following table summarises visual effects of the proposed changes to wind turbine height and numbers from houses within approximately 4km as identified in Plan 3, Appendix Four, Plans and Photo Simulations (Separate A3 Document). The effects are estimated from roadside observations and desk-top analysis (photo simulations, topographic plans, aerial photos). Notes: The second column identifies individual submitters and those who were part of the group submission by 'Concerned Neighbours of the Kaiwera Downs Wind Farm'. Wind farm landowners' properties are included for completeness and identified by grey shading.

#	*Address*	*Distance*[15]	*Comment nature of effect*	*Degree*
	North-west			
1	764 Old Coach Road Submitter 47, in opposition. Part of group submission 'Concerned Neighbours of the Kaiwera Downs Wind Farm' (06)	3.7 km	House appears oriented N in opposite direction. Some foreground trees to SE in direction of wind farm. The nearest wind turbines in the proposed indicative layout are approximately 4.0 km away. These nearest wind turbines will be Stage 1 and consistent with existing resource consent 145m height. Proposed taller wind turbines will be more distant (approximately 4.3 km) and beyond the Stage 1 wind turbines. Lower parts of proposed wind turbines will be screened by topography. Difference in proposed height likely to be barely perceptible. There will be benefits from fewer wind turbines than provided for in the consented wind farm.	very low positive
2	788 Old Coach Road Submitter 34, neutral	3.5 km	Houses appears oriented N, E and S to garden setting. Foreground trees to SE in direction of wind farm. The nearest wind turbines in the proposed indicative layout are approximately 3.8 km away. Nearest wind turbines will be Stage 1 and consistent with existing resource consent 145m height. Proposed taller wind turbines will be more distant (approximately 4.2 km) and beyond the Stage 1 wind turbines. Lower parts of proposed wind turbines will be screened by topography. Difference in proposed height likely to be barely perceptible. There will be benefits from fewer wind turbines than provided for in the consented wind farm. Also a cottage near the front of the property, on the opposite side of the main house to the wind farm, and with additional vegetation screening.	very low positive

[15] To the consented wind farm envelope excluding the constraint areas in which wind turbines are not permitted.

#	Address	Distance[15]	Comment nature of effect	Degree
			The photo simulation from Viewpoint A is from SH93 adjacent to this property.	
3	841 Old Coach Road Submitter 46, in opposition. Part of group submission 'Concerned Neighbours of the Kaiwera Downs Wind Farm' (23)	3.4 km	House appears oriented NW in opposite direction. Surrounded by trees in parkland grounds. Foreground shelter hedge to SE in direction of wind farm. The nearest wind turbines in the proposed indicative layout are approximately 3.6 km away. Nearest wind turbines will be Stage 1 and consistent with existing resource consent 145m height. Proposed taller wind turbines will be more distant (approximately 4.3 km away) and beyond the Stage 1 wind turbines. Lower parts of proposed wind turbines will be screened by topography. Difference in proposed height likely to be barely perceptible. There will be benefits from fewer Stage 1 wind turbines than provided for in the consented wind farm.	very low positive
4	895 Old Coach Road Part of group submission 'Concerned Neighbours of the Kaiwera Downs Wind Farm' (10)	3.3 km	House appears oriented NE in opposite direction. Surrounded by trees in parkland grounds. Foreground trees to SE in direction of wind farm. The nearest wind turbines in the proposed indicative layout are approximately 3.5 km away. Nearest wind turbines will be Stage 1 and consistent with existing resource consent 145m height. Proposed taller wind turbines will be more distant (approximately 4.4 km) and beyond complying wind turbines. Lower parts of proposed wind turbines will be screened by topography. Difference in proposed height likely to be barely perceptible. There will be benefits from fewer wind turbines than provided for in the consented wind farm.	very low positive
5	919A Old Coach Road	3.0 km	House orientation unclear. Middle-ground trees and house to SE in direction of wind farm (on opposite side of 944 Old Coach Road from wind farm). The nearest wind turbines in the proposed indicative layout are approximately 3.1 km away. Nearest wind turbines will be Stage 1 and consistent with existing resource consent 145m height. Proposed taller wind turbines will be more distant (approximately 4 km) and beyond the Stage 1 wind turbines. Lower parts of proposed wind turbines will be screened by topography. Difference in proposed height likely to be barely perceptible. There will be benefits from fewer wind turbines than provided for in the consented wind farm, although benefit reduced by limited visibility.	very low positive
6	919 Old Coach Road	2.9 km	New house is elevated above road. Appears oriented NE in opposite direction, but entrance and open outlook to SE towards wind farm. The nearest wind turbines in the proposed indicative layout are approximately 2.9 km away. Nearest wind turbines will be Stage 1 and consistent with existing resource	low positive

#	Address	Distance[15]	Comment nature of effect	Degree
			consent 145m height. Proposed taller wind turbines will be more distant (approximately 3.9 km) and beyond Stage 1 wind turbines. Lower parts of proposed wind turbines will be screened by topography. Difference in proposed height likely to be barely perceptible. There will be benefits from fewer Stage 1 wind turbines than provided for in the consented wind farm. The photo simulation from Viewpoint B is from SH93 opposite this property.	
7	944 Old Coach Road	2.8 km	House appears oriented NE in opposite direction. Foreground trees in direction of wind farm. The nearest wind turbines in the proposed indicative layout are approximately 2.9 km away. Nearest wind turbines will be Stage 1 and consistent with existing resource consent 145m height. Proposed taller wind turbines will be more distant (approximately 3.8 km) and beyond Stage 1 wind turbines. Lower parts of proposed wind turbines will be screened by topography. Difference in proposed height likely to be barely perceptible. There will be benefits from fewer wind turbines than provided for in the consented wind farm. The photo simulation from Viewpoint B is from SH93 adjacent to this property.	low positive
8	Range Road (new house)	3.1 km	New house elevated on hill at end of Range Road. Appears oriented NE in opposite direction, but clear outlook to SE towards wind farm. The nearest wind turbines in the proposed indicative layout are approximately 3.2 km away. Nearest wind turbines will be Stage 1 and consistent with existing resource consent 145m height. Proposed taller wind turbines will be more distant (approximately 4.1 km) and beyond Stage 1 wind turbines. Difference in proposed height likely to be barely perceptible. At the same time, there will be benefits from fewer wind turbines than provided for in the consented wind farm.	low positive
9	1043 Old Coach Road Submitter 52, in opposition. Part of group submission 'Concerned Neighbours of the Kaiwera Downs Wind Farm' (19)	2.7 km	House appears oriented E and N. Shelter belt trees to S in direction of wind farm. The nearest wind turbines in the proposed indicative layout are approximately 2.8 km away. Nearest wind turbines will be Stage 1 and consistent with existing resource consent height. Proposed taller wind turbines will be more distant (approximately 3.8 km) and beyond Stage 1 wind turbines. Lower parts of proposed wind turbines will be screened by topography. Difference in proposed height likely to be barely perceptible. There will be benefits from fewer wind turbines than provided for in the consented wind farm.	low positive

#	Address	Distance[15]	Comment nature of effect	Degree
			The photo simulation from Viewpoint C is opposite this property and illustrates the potential view if there were no hedging to the property.	
	North			
10	1115 Old Coach Road Part of group submission 'Concerned Neighbours of the Kaiwera Downs Wind Farm' (20)	2.3 km	House appears oriented E and N. Some shelter hedging to SW, but outlook to SE towards wind farm. The nearest wind turbines in the proposed indicative layout are approximately 2.4 km away. Nearest wind turbines will be Stage 1 and consistent with existing resource consent 145m height. Proposed taller wind turbines will be more distant (approximately 3.8 km) and beyond Stage 1 wind turbines. Lower parts of proposed wind turbines will be screened by topography. Difference in proposed height likely to be barely perceptible. There will be benefits from fewer Stage 1 wind turbines than provided for in the consented wind farm. The photo simulation from Viewpoint D is opposite this property and illustrates the potential view if there were no hedging.	neutral
11	1144 Old Coach Road Submitter 45, in opposition.	2.1 km	House appears oriented NE in opposite direction. Some trees and sheds to S and SE in direction of wind farm. Middle-ground ridge will screen lower parts of wind turbines. The nearest wind turbines in the proposed indicative layout are approximately 2.2 km away. Difference in proposed height unlikely to be discernible given middle-ground ridge and distance. There will be benefits from fewer wind turbines than provided for in the consented wind farm.	very low positive
12	1162 Old Coach Road	1.7 km	House appears oriented N in opposite direction. Foreground trees and shelter belt to S in direction of wind farm. Low foreground ridge. Wind turbines would be visible from other parts of property on dip-slope to S. Similar angle to 90 Rosemarkie Road. The nearest wind turbines in the proposed indicative layout are approximately 1.8 km away. Nearest wind turbines will be Stage 1 and consistent with existing resource consent 145m height. Proposed taller wind turbines will be more distant (approximately 3.0 km), and beyond Stage 1 wind turbines. Lower parts of proposed wind turbines will be screened by topography. There will be benefits from fewer wind turbines than provided for in the consented wind farm.	very low positive
13	1280 Old Coach Road	2.1 km	House appears oriented N in opposite direction. Some trees and sheds to S and SE in direction of wind farm. The nearest wind turbines in the proposed indicative layout are approximately 2.5 km away. Foreground ridge will likely screen wind turbines. Difference in proposed height unlikely to be	neutral

#	Address	Distance[15]	Comment nature of effect	Degree
			discernible even if wind turbines are visible given distance and middle-ground ridge. There will be benefits from fewer wind turbines than provided for in the consented wind farm.	
14	1564 Old Coach Road Wind farm landowner	2.5 km	House appears unoccupied. House appears oriented N in opposite direction. Middle-ground ridge to S and SW in direction of wind farm. The nearest wind turbines in the proposed indicative layout are approximately 2.6 km away. The proposed increase in tower height likely to be barely perceptible given the distance and perspective depth. There would be no effect on landscape values including scale relationship of wind turbines to landscape, coherence, and rural character. There will be some benefits from fewer wind turbines than provided for in the consented wind farm.	neutral
15	43 Isla Road Submitter 14, in support Wind farm landowner	2.2 km	House appears oriented N and W in opposite direction. Foreground shelter belts and sheds to S and SW in direction of wind farm. Middle-ground ridge, but views through valley gap in ridge. The nearest wind turbines in the proposed indicative layout are approximately 2.2 km away. The proposed increase in tower height may be discernible but would make little difference to prominence or dominance given the distance, screening, and perspective depth. There would be no effect on landscape values including scale relationship of wind turbines to landscape, coherence, and rural character. There will be some benefits from fewer wind turbines than provided for in the consented wind farm.	neutral
16	54 Isla Road Submitter 15, in support Wind farm landowner	2.1 km	House appears oriented NW in opposite direction. Foreground tall shelter trees to S and SW in direction of wind farm. Middle-ground ridge, but views through valley gap in ridge. The nearest wind turbines in the proposed indicative layout are approximately 2.1 km away. The proposed increase in tower height may be discernible but would make little difference to prominence or dominance given the distance, screening, and perspective depth. There would be no effect on landscape values including scale relationship of wind turbines to landscape, coherence, and rural character. There will be some benefits from fewer wind turbines than provided for in the consented wind farm.	neutral
	North-east			
17	1845 Old Coach Road	3.9 km	House appears oriented NE in opposite direction. Shelter belt to SW in direction of wind farm. Foreground hill will likely screen wind turbines to SW through S. May be potential glimpse through valley to WSW - but middle-ground ridge in that direction. The nearest wind turbines in the proposed indicative layout are approximately 4.2 km away. The proposed	neutral

#	Address	Distance[15]	Comment nature of effect	Degree
			increase in height unlikely to be discernible even where there might be glimpses given distance and middle-ground ridge. There would be no effect on prominence or dominance. Likewise no effect on landscape values including scale relationship of wind turbines to landscape, coherence, and rural character. There will be some benefits from fewer wind turbines than provided for in the consented wind farm. There will be some benefits from fewer wind turbines than provided for in the consented wind farm.	
18	3 Kaiwera Downs Road Wind farm landowner	2.7 km	House appears abandoned. Oriented N in opposite direction. Foreground shelter belt to SW in direction of wind farm. Middle-ground shelter belts and ridge. The nearest wind turbines in the proposed indicative layout are approximately 2.8 km away. The proposed increase in height unlikely to be discernible even if wind turbines are glimpsed given distance and middle-ground ridge. No effect on prominence or dominance. Likewise no effect on landscape values including scale relationship of wind turbines to landscape, coherence, and rural character. Some benefits from fewer wind turbines than provided for in the consented wind farm. The photo simulation from Viewpoint E is from SH93 adjacent to this property.	neutral
19	134 Kaiwera Downs Road 'Rossland' Wind farm landowner	2.2 km	Houses appears oriented N in opposite direction. Foreground shelter hedging and sheds to SW and S in direction of wind farm. The nearest wind turbines in the proposed indicative layout are approximately 2.5 km away. The nearest wind turbines will be beyond middle-ground hills - for example nearest wind turbine is on hill at 360m elevation but beyond middle-ground hill of similar height. There will be wind turbines framed through the valley to the S. These wind turbines will be approximately 3.0km away and at 500m elevation. The proposed increase in tower height may be discernible but would make little difference to prominence or dominance given the distance, screening, and perspective depth. Likewise no effect on landscape values including scale relationship of wind turbines to landscape, coherence, and rural character. There will be some benefits from fewer Stage 1 wind turbines than envisaged in the consented wind farm.	neutral
20	186 Kaiwera Downs Road Wind farm landowner	2.1 km	Houses appears oriented N in opposite direction. Foreground shelter hedging and plantation to S and SW in direction of nearest wind turbines. Wind turbines will also be beyond middle-ground hills. The nearest wind turbines in the proposed indicative layout are approximately 2.6 km away. The proposed increase in tower height may be discernible but would make little difference to prominence or dominance	neutral

#	Address	Distance[15]	Comment nature of effect	Degree
			given the distance, screening, and perspective depth. No effect on landscape values including scale relationship, coherence, and rural character. There will be some benefits from fewer Stage 1 wind turbines than envisaged in the consented wind farm.	
	East			
21	500 Kaiwera Downs Road Wind farm landowner	1.5 km	House appears oriented N away from wind farm - nearest wind turbines behind the house on Kaiwera Ridge to the S. Nearest wind turbines in the indicative layout are approximately 2.2 km away. Oblique views to W to wind turbines slightly further away (approximately 2.5km) on the dip slope of Jackson's Ridge. Foreground shelter trees and sheds to W and SW in direction of nearest wind turbines. The proposed increase in height will be perceptible and may be perceived as slightly more dominant. It would not affect landscape values - there would be no change to scale relationship of the wind turbines with landscape, or aesthetic coherence, or rural character. There will be some benefits from fewer wind turbines than provided for in the consented wind farm.	very low adverse
22	Davidson Road West 'Kaiwera Downs' Submitter 27 and 28, in support Wind farm landowner	350m	House is in middle of wind farm with wind turbines on the scarp to the NW, and on dip slope behind to S and W. The nearest wind turbines in the indicative layout are behind the house at approximately 850m. The proposed increase in height would be discernible and would result in a small increase in dominance. Shelter belt hedging behind house would help mitigate the effect. House appears oriented N, with oblique view also to wind turbines just over crest of distinctive scarp to NW and oblique views to wind turbines on the dip slope further to the east. The nearest of these wind turbines is approximately 2.1 km away. Scarp is approximately 200m high. Increase in tower height would be discernible and would slightly increase dominance. There would be no effect landscape values - there would be no change to scale relationship, aesthetic coherence, or rural character. There will be some benefits from fewer wind turbines than provided for in the consented wind farm. (It is assumed that written landowner approval will be provided in support of the proposed variation).	low adverse
23	16 Davidson Road East	1.5 km	House appears oriented N in opposite direction. Foreground shelter trees to S and W in direction of wind farm. The nearest wind turbines in the indicative layout are approximately 1.7km away. The nearest	very low adverse

#	Address	Distance[15]	Comment nature of effect	Degree
	Submitter 41, in opposition. Part of group submission 'Concerned Neighbours of the Kaiwera Downs Wind Farm' (16)		wind turbines will be on the dip slope of the Kaiwera Ridge to the SW 'behind' the property, with oblique views to more distant (3.5km) wind turbines on Jacksons Ridge. The proposed height increase would be discernible and might be perceived as slightly more dominant. It would not affect landscape values - there would be no effect on the scale relationship of the wind turbines with landscape, aesthetic coherence, or rural character. There will be slight benefits from fewer wind turbines than provide for in the existing consent and a slightly more spacious appearance. The photo simulation from Viewpoint G is from a similar angle and slightly further from this house.	
24	57 Davidson Road East Submitter 43, in opposition. Part of group submission 'Concerned Neighbours of the Kaiwera Downs Wind Farm' (14)	1.8 km	House appears oriented NE in opposite direction. Surrounded by trees in parkland grounds with trees and shelter planting to S and W in direction of wind farm. The nearest wind turbines[16] will be those on the dip slope of the Kaiwera Ridge to the SW 'behind' the property. The nearest wind turbines in the indicative proposed layout are approximately 2.0 km away. There are oblique views to more distant (3.9 km) wind turbines beyond distinctive peak at eastern end of Jacksons Ridge. The proposed additional height may be discernible and might be perceived as slightly more dominant. It would not affect landscape values - there would be no effect on scale relationship of the wind turbines with landscape, aesthetic coherence, or rural character. There will be some benefit from fewer wind turbines and a slightly more spacious appearance in these views. The photo simulation from Viewpoint G is opposite this property.	very low adverse
	North			
25	81 Waikana Road 'Rosemarkie Farm' Submitter 6, in support Wind farm landowner	1.9 km	House appears oriented NE and NW in opposite direction. The nearest wind turbines in the proposed indicative layout are approximately 2.0 km away. The nearest wind turbines will be Stage 1 and consistent with existing resource consent 145m height. The proposed taller wind turbines will be more distant (approximately 2.8 km) and beyond the Stage 1 wind turbines. Lower parts of proposed wind turbines will be screened by topography. Difference in proposed height likely to be barely discernible. There will be benefits from fewer wind turbines than provide for in the consented wind farm.	low positive
26	18 Rosemarkie Road	2.0 km	House appears oriented NE in opposite direction. Open outlook to SE to wind farm. The nearest wind turbines in the proposed indicative layout are	low positive

[16] The nearest wind turbines in the indicative layout are approximately 2.0 km away

#	Address	Distance[15]	Comment nature of effect	Degree
	Submitter 19, in support Wind farm landowner		approximately 2.0 km away. The nearest wind turbines will be Stage 1 and consistent with existing resource consent 145m height. Proposed taller wind turbines will be more distant (approximately 2.9 km) and beyond Stage 1 wind turbines. Lower parts of proposed wind turbines will be screened by topography. Difference in proposed height likely to be barely perceptible. There will be benefits from fewer wind turbines than provided for in the consented wind farm.	
27	90 Rosemarkie Road Submitter 70, in support Wind farm landowner	1.5 km	House appears oriented NW and NE in opposite direction. The nearest wind turbine in the proposed indicative layout will be approximately 1.6 km away. Nearest wind turbines will be Stage 1 and consistent with existing resource consent 145m height. Proposed taller wind turbines will be more distant (approximately 2.8 km) and beyond the Stage 1 wind turbines. Lower parts of proposed wind turbines will be screened by topography. Difference in proposed height likely to be barely perceptible. There will be benefits from fewer wind turbines than provided for in the consented wind farm.	low positive
28	90A Rosemarkie Road Submitter 72, in support Wind farm landowner	1.3 km	Appears oriented N and W away in opposite direction. Clear outlook to SW in direction of nearest wind turbine. The nearest wind turbine in the proposed indicative layout will be approximately 1.4 km away. The nearest wind turbines will be Stage 1 and consistent with existing resource consent 145m height. Proposed taller wind turbines will be more distant (approximately 2.6 km), beyond the Stage 1 wind turbines. Lower parts of proposed wind turbines will be screened by topography. Difference in proposed height likely to be barely perceptible. There will be benefits from wind turbines than provided for in the consented wind farm.	low positive
29	360 Rosemarkie Road Submitter 2 and 3, in support Wind farm landowner	600m	House appears oriented NW and NE in opposite direction. The nearest wind turbine in the proposed indicative layout will be approximately 1.1 km away. The nearest wind turbines will be Stage 1 and consistent with existing resource consent 145m height. Proposed taller wind turbines will be more distant as follows: • To SW (approximately 2.3 km), beyond Stage 1 wind turbines. Lower parts of proposed wind turbines will be screened by topography. • To SE (approximately 2.4km) on separate Jackson's Ridge hill. Additional height might be perceptible but is unlikely to be perceived as more dominant. dominance. There would be no effect landscape values - no change to scale relationship with landscape, aesthetic coherence, or rural character.	low positive

#	Address	Distance[15]	Comment nature of effect	Degree
			There will be benefits from fewer wind turbines than provided for in the consented wind farm.	
30	62 Hillary Road Wind farm landowner	1.3 km	Elevated on hill. Appears oriented NE and NW in opposite direction. Open outlook to SW in direction of wind farm. Nearest wind turbine in the proposed indicative layout will be approximately 1.4 km away. Nearest wind turbine will be Stage 1 and consistent with existing resource consent 145m height. Proposed taller wind turbines will be more distant (approximately 2.4 km), beyond Stage 1 wind turbines, and on the separate south Forestry Ridge. Difference in proposed height might be discernible but is unlikely to result in any change to perceived dominance given distance and closer proximity of Stage 1 wind turbines. There will be benefits from fewer Stage 1 wind turbines than envisaged in the consented wind farm.	low positive
	West and southwest			
31	55 Knowsley Park Road 'Belmont' Submitter 59, in opposition. Part of group submission 'Concerned Neighbours of the Kaiwera Downs Wind Farm' (03)	1.7 km	Nearest wind turbine in the proposed indicative layout will be approximately 1.8 km away. Nearest wind turbine will be over crest of approximate 240m scarp. Rotor diameter will be consistent with wind turbines built to existing consent. Given that the bases of the wind turbines will be obscured beyond the crest of the scarp, the proposed increase in height may be just discernible and might be perceived as slightly more dominant. There would be no effect on landscape values - there would be no change to scale relationship, aesthetic coherence, or rural character. There will be benefits from fewer wind turbines than provided for in the consented wind farm.	very low positive
32	148 Knowsley Park Road (end of Woodrow Road) Submitter 65, in opposition. Part of group submission 'Concerned Neighbours of the Kaiwera Downs Wind Farm' (24)	2.0 km	House is elevated and appears oriented N toward wind farm. Nearest wind turbine in the proposed indicative layout will be approximately 2.2 km away. The base of the nearest wind turbines will be obscured beyond the crest of the approximate 240m scarp which is the dominant landscape feature. The rotor diameter will be consistent with wind turbines built to existing consent. The proposed increase in height may be just discernible and might be perceived as slightly more dominant. There will be benefits from fewer wind turbines than provided for in the consented wind farm. The photo simulation from Viewpoint J is from the end of Woodrow Road at the entrance to this property.	low positive
33	1187 Crawford Road	3.2 km	The nearest wind turbine in the proposed indicative layout will be approximately 3.4 km away. The base of	very low positive

#	Address	Distance[15]	Comment nature of effect	Degree
	Part of group submission 'Concerned Neighbours of the Kaiwera Downs Wind Farm' (18)		the nearest wind turbines will be obscured beyond the crest of the approximate 240m scarp which is the dominant landscape feature. The proposed increase in height may be just discernible but would make little difference to dominance given the distance and screening of the base of the towers. There would be no effect on landscape values - there would be no change to scale relationship, aesthetic coherence, or rural character. There will be benefits from fewer wind turbines than provided for in the consented wind farm. The photo simulation from Viewpoint K is from Crawford Road approximately 500m south of this property.	
34	1170A Crawford Road	3.0 km	House appears oriented N. Side outlook to E towards wind farm. Wind turbines will be over crest of approximate 240m high scarp. The nearest wind turbine in the proposed indicative layout will be approximately 3.1 km away. The proposed increase in height will be barely discernible given distance and because the base of the wind turbines will be obscured beyond the crest of the scarp. It would not change dominance. There would be no effect on landscape values - there would be no change to scale relationship, aesthetic coherence, or rural character. There will be benefits from fewer wind turbines than provided for in the consented wind farm. The photo simulation from Viewpoint K is from Crawford Road near the entrance to this property.	very low positive
35	1170B Crawford Road 'Knowsley Park' Submitter 55, in opposition. Part of group submission 'Concerned Neighbours of the Kaiwera Downs Wind Farm' (12)	3.2 km	House appears oriented N. Foreground trees and shelter belts to E in direction of wind farm. Wind turbines will be over crest of approximate 240m high scarp. The nearest wind turbine in the proposed indicative layout will be approximately 3.3 km away. The proposed increase in height will be barely discernible given distance and because the base of the wind turbines will be obscured beyond the crest of the scarp. There would be no effect on landscape values - on the scale relationship of wind turbines to landscape, aesthetic coherence, or rural character. There will be benefits from fewer wind turbines than provided for in the consented wind farm. The photo simulation from Viewpoint K is from Crawford Road near the entrance to this property.	very low positive
36	1086 Crawford Road	3.7 km	House appears oriented NW and NE. Foreground trees and shelter belts to E in direction of wind farm. Wind turbines will be over crest of approximate 240m high scarp. Base of wind turbine will not be visible,	very low positive

#	Address	Distance[15]	Comment nature of effect	Degree
	Submitter 53, in opposition.		and rotor diameter will be consistent with wind turbines built to existing consent. The nearest wind turbine in the proposed indicative layout will be approximately 3.8 km away. The proposed increase in height will be barely discernible given distance and because the base of the wind turbines will be obscured beyond the crest of the scarp. There would be no effect on dominance or on landscape values - the scale relationship of wind turbines to landscape, aesthetic coherence, or rural character. There will be benefits from fewer wind turbines than provided for in the consented wind farm. By way of illustration, seven wind turbines are depicted on the nearest ridge with the proposed indicative layout compared to ten in the indicative layout used for the original consent. The photo simulation from Viewpoint K is from Crawford Road approximately 600m north-east of this property.	
37	176 McKay Road 'The Braes'	4.6 km	House appears oriented N away from wind farm. Foreground amenity trees and stand of trees to W in direction of wind farm. Wind turbines will be over crest of approximate 240m high scarp. Rotor diameter will be consistent with wind turbines built to existing consent. The nearest wind turbine in the proposed indicative layout will be approximately 4.7 km away. The proposed increase in height will be barely discernible given distance and because the base of the wind turbines will be obscured beyond the crest of the scarp. There would be no effect on dominance or on landscape values - there will be no effect on scale relationship of wind turbines to landscape, aesthetic coherence, or rural character. There will be benefits from fewer wind turbines than provided for in the consented wind farm.	very low positive
38	1023 Crawford Road Part of group submission 'Concerned Neighbours of the Kaiwera Downs Wind Farm' (13)	4.3 km	House appears oriented E towards wind farm. Middle-ground shelter belts and spurs. Wind turbines will be framed in view along valley. Wind turbines will be over crest of approximate 240m high scarp. The nearest wind turbine in the proposed indicative layout will be approximately 4.4 km away. The proposed increase in height will be barely discernible given distance and because the base of the wind turbines will be obscured beyond the crest of the scarp. There would be no adverse effect on dominance or on landscape values - there will be no effect on scale relationship of wind turbines to landscape, aesthetic coherence, or rural character. There will be benefits from fewer wind turbines than envisaged in the consented wind farm.	very low positive
	South			

#	Address	Distance[15]	Comment nature of effect	Degree
39	181A Waiarikiki Road Part of group submission 'Concerned Neighbours of the Kaiwera Downs Wind Farm' (01)	3.8 km	House appears oriented NW and NE towards wind farm. Some foreground trees. Nearest wind turbines will over crest of scarp - at lower end of scarp. Rotor diameter will be consistent with existing consent. The nearest wind turbine in the proposed indicative layout will be approximately 3.9 km away. The proposed increase in height will be barely discernible given distance and because the base of most of the wind turbines will be obscured beyond the crest of the scarp. There would be no adverse effect on dominance or on landscape values - there will be no effect on scale relationship of wind turbines to landscape, aesthetic coherence, or rural character. There will be benefits from fewer wind turbines than provided for in the consented wind farm.	very low positive
40	181B Waiarikiki Road Part of group submission 'Concerned Neighbours of the Kaiwera Downs Wind Farm' (01)	4.0 km	House appears oriented N. Shelter belt trees to NE in direction of wind farm. Nearest wind turbines will over crest of scarp - at lower end of scarp. Rotor diameter will be consistent with existing consent. The nearest wind turbine in the proposed indicative layout will be approximately 4.2 km away. The proposed increase in height will be barely discernible given distance and because the base of most of the wind turbines will be obscured beyond the crest of the scarp. There would be no adverse effect on dominance or on landscape values - there will be no effect on scale relationship of wind turbines to landscape, aesthetic coherence, or rural character. There will be benefits from fewer wind turbines than provided for in the consented wind farm.	very low positive
41	58 Tinker Road 'Woodrow' Submitter 66, in opposition. Part of group submission 'Concerned Neighbours of the Kaiwera Downs Wind Farm' (02)	3.1 km	House is elevated and appears oriented N in direction of wind farm - to scarp at back of Kaiwera Ridge, Jacksons Ridge, and south Forestry Ridge. The nearest wind turbine in the proposed indicative layout will be approximately 3.3 km away. The proposed increase in height will be barely discernible given distance and because the base of most of the wind turbines will be obscured beyond the crest of the scarp. There would be no adverse effect on dominance or on landscape values - there will be no effect on scale relationship of wind turbines to landscape, aesthetic coherence, or rural character. There will be benefits from fewer wind turbines than provided for in the consented wind farm. The photo simulation from Viewpoint H is from Tinker Road approximately 850 west of this property	very low positive

4.40 For completeness, the following table similarly summarises visual effects of the proposed changes in wind turbine height and numbers for houses beyond 4 km on properties from which submissions in opposition were made on the original application for the current consent.

#	*Address*	*Distance*[17]	*Comment nature of effect*	*Degree*
	West and North-west			
42	605 Waddle Road 'Rosehill' Part of group submission 'Concerned Neighbours of the Kaiwera Downs Wind Farm' (05)	5.6 km	House appears oriented N. Wind farm to east beyond middle-ground hills. Proposed changes in height unlikely to be discernible given distance, depth perspective, and screening of wind farm ground level. No adverse effects. The fewer number of wind turbines would, where visible, have a very low degree of positive effect.	very low positive
43	209 Crawford Road Submitter 51, in opposition	9.0 km	Houses appear oriented NW in opposite direction. Foreground and middle-ground hills to W in direction of the wind farm. Proposed changes in height unlikely to be discernible given distance, depth perspective, and screening of wind farm ground level. No adverse effects. The fewer proposed number pf wind turbines would, where visible, have a very low degree of positive effect.	very low positive
44	80 Waddle Road Submitter 54, in opposition. Part of group submission 'Concerned Neighbours of the Kaiwera Downs Wind Farm' (04)	8.9 km	House appears oriented NW in opposite direction. Middle-ground hills to SE in direction of wind farm. Proposed changes in height unlikely to be discernible given distance, depth perspective, and screening of wind farm ground level. No adverse effects. The fewer number of proposed wind turbines would, where visible, have a very low degree of positive effect.	very low positive
45	279 Waddle Road Part of group submission 'Concerned Neighbours of the Kaiwera Downs Wind Farm' (07)	7.3 km	House appears oriented N in opposite direction. Middle-ground hills to SE in direction of wind farm. Proposed changes in height unlikely to be discernible given distance, depth perspective, and screening of wind farm ground level. No adverse effects. The fewer number of proposed wind turbines would, where visible, have a very low degree of positive effect.	very low positive
46	61 Heaps Road	6.4 km	House appears oriented N in opposite direction. Middle-ground hills to SE in direction of wind farm. Proposed changes in height unlikely to be	very low positive

[17] To the consented wind farm envelope excluding the constraint areas in which wind turbines are not permitted.

	Submitter 57, in opposition. Part of group submission 'Concerned Neighbours of the Kaiwera Downs Wind Farm' (25)		discernible given distance, depth perspective, and screening of wind farm ground level. No adverse effects. The fewer number of proposed wind turbines would, where visible, have a very low degree of positive effect.	
47	535 Old Coach Road 'Karma Lodge' Submitter 61, in opposition.	5.7 km	House appears oriented N in opposite direction. Middle-ground hills to SE in direction of wind farm. Nearest part of wind farm is Stage being constructed to 145m. Proposed changes in height unlikely to be discernible given distance, depth perspective, and screening of wind farm ground level. No adverse effects. The fewer number of proposed wind turbines would, where visible, have a very low degree of positive effect.	very low positive
48	137 Cameron Road Part of group submission 'Concerned Neighbours of the Kaiwera Downs Wind Farm' (09)	5.5 km	House appears oriented N. Stage 1 wind turbines likely to be more visible through valley to E. Stage 2 wind turbines will be beyond middle-ground hill to SE. Proposed difference in height unlikely to be discernible given distance, depth perspective, and screening of wind farm ground level. No adverse effects. The fewer number of proposed wind turbines would, where visible, have a very low degree of positive effect. Second house 97 Cameron Road. Similar angle of view, but slightly further away (approximately 6.2 km), and some foreground trees to E and SE.	very low positive
49	Bristow Road Part of group submission 'Concerned Neighbours of the Kaiwera Downs Wind Farm' (09)	4.1 km	House appears oriented N and E. Foreground shelter belt to E in direction of wind farm. Nearest wind turbines are Stage 1. Proposed Stage 2 wind turbines slightly further and to SE beyond middle-ground hill. Where visible, proposed difference in height unlikely to be discernible given distance, depth perspective, and screening of wind farm ground level. No adverse effects. The fewer number of proposed wind turbines would, where visible, have a very low degree of positive effect.	very low positive
	North			
50	338 Nithdale Road 'Nithdale' Submitter 62, in opposition. Part of group submission 'Concerned Neighbours of	4.0 km	House appears oriented NE and NW in opposite direction. Foreground hill to S behind house in direction of wind farm. Views likely screened. Where visible, proposed increase in height unlikely to be discernible given distance, depth perspective, and screening of wind farm ground level beyond crest of hills. No adverse effects. The fewer number of proposed wind turbines would, where visible, have a very low degree of positive effect.	neutral

	the Kaiwera Downs Wind Farm' (22)			
51	168 Andrews Road Submitter 64 in opposition.	5.3 km	House appears oriented N, E and W in opposite direction. Middle-ground hills (Otaraia Hill) to S in direction of nearest part of wind farm. May be clearer views over lower hills to SW to more distant (approximately 7.3 km) Stage 1 wind turbines (the heights of which will not change). Proposed differences in height unlikely to be discernible given distance, depth perspective, and screening of wind farm ground level. No adverse effects. The fewer number of proposed wind turbines would, where visible, have a very low degree of positive effect.	neutral
52	151 Andrews Road Part of group submission 'Concerned Neighbours of the Kaiwera Downs Wind Farm' (15)	5.1 km	House appears oriented NE and NW in opposite direction. Middle-ground hills (Otaraia Hill) to S in direction of nearest part of wind farm. May be clearer views over lower hills to SW to more distant (approximately 7.0 km) Stage 1 wind turbines (the heights of which will not change). Proposed changes in height unlikely to be discernible given distance, depth perspective, and screening of wind farm ground level. No adverse effects. The fewer number of proposed wind turbines would, where visible, have a very low degree of positive effect.	neutral
53	718 Kaiwera Road Submitter 58, in opposition. Part of group submission 'Concerned Neighbours of the Kaiwera Downs Wind Farm' (17)	8.1 km	House appears oriented NE and W in opposite direction. Middle-ground hills to S in direction of wind farm provides perspective depth. Wind turbines will be visible on distant skyline. Proposed changes in height unlikely to be discernible given distance and depth perspective. No adverse effects. The fewer number of proposed wind turbines would, where visible, have a very low degree of positive effect.	neutral
54	89 Kaiwera Road Submitter 49, in opposition	13.5 km	Camp Columba. Appears oriented N in opposite direction. Foreground trees to S in direction of wind farm. Middle-ground rolling hills and shelter belts. Where visible, proposed changes in height unlikely to be discernible given distance and depth perspective. No adverse effects.	neutral
	South-west			
55	19 Frazer Road Submitter 56, in opposition	5.6 km	House is elevated above road and appears oriented NE and SE with outlook along valley toward wind farm mainly to scarp at back of Kaiwera Ridge and Jacksons Ridge. Proposed increase in height may be just discernible but would have no effects on dominance given the distance and that the base of most wind turbines	neutral

			will be obscured beyond the crest of the scarp. There will be no adverse effects on landscape values - the proposed changes would not affect the scale relationship with landform, aesthetic coherence, or rural character. The proposed fewer wind turbines compared to the existing consent would mean a slightly more spacious layout. The photo simulation from viewpoint I is from Frazer Road near this property.	

Summary of visual effects private views

4.41 Any adverse effects of additional wind turbine height on views from dwellings will be at most 'very low'.[18] In most instances (especially from the north, west, and south-west) such effects will be offset by the positive effects of the reduced wind turbine numbers.

5 CONCLUSIONS

5.1 While the difference in height of the proposed Stage 2 wind turbines will be perceptible compared to the consented height from some locations, it will have (at most) 'very low' (negligible or less than minor) adverse effects on landscape values including such aspects as visual dominance, scale relationship to the landscape, aesthetic coherence, and rural character and amenity values.

5.2 At the same time there will be positive effects from 20% fewer wind turbines compared to the consented wind farm (66 compared to 83) and the resultant slightly more spacious and less cluttered appearance - more so for the western part of the indicative wind farm layout. The overall result of taller and fewer wind turbines is likely to be positive effects to a 'low' or 'very low' degree.

Gavin Lister
Isthmus
24 February 2023

[18] Except for 'low' adverse effects on the nearest dwelling on Kaiwera Downs Station which is part of the wind farm landowners.

APPENDIX ONE: METHODOLOGY

Methodology

5.3 The assessment is consistent with '*Te Tangi a te Manu – Aotearoa New Zealand Landscape Assessment Guidelines*', published by Tuia Pito Ora New Zealand Institute of Landscape Architects, July 2022. It adopts the methodology (the high-level concepts, principles, and approaches) of that document, and tailors the specific method to the landscape context and purpose of the assessment.

Method

5.4 The following summarises the specific method tailored to the situation.

- Review **previous documents**, including landscape assessment and graphic attachment.
- Review **relevant statutory planning documents** and other documents that contribute to understanding the landscape values and effects (Appendix Two).
- Describe and interpret **landscape character and values**.
- Describe and interpret the proposal - i.e. the increase in wind turbine height and reduction in wind turbine numbers.
- Identify **potential effects** based on proposal, landscape values (with the consented wind farm regarded as part of the existing environment), and statutory planning documents.
- Analyse **nature and degree of effects** of the proposed changes based on site visit and desk top analysis. Effects are the consequence of the proposed changes on landscape values and amenity values (change itself is not an adverse effect). The nature of effect is described and the magnitude (degree) gauged against the following 7-point scale.

very low	low	low-mod	moderate	mod-high	high	very high

- In general, 'very low' can be characterised as negligible or 'less than minor'. 'Low' and 'low-mod' can be characterised as 'minor'. 'Moderate' can be characterised as 'more than minor'.
- Prepare **photosimulations** from representative viewpoints selected to represent the range of public viewpoints - including locations from each direction. Analyse the visual effects from each viewpoint.
- Prepare an inventory of houses within 4km of the wind farm, assess the **likely visual effects on the private views from each house** based on road-side observation and desk-top analysis (aerial photos, topographic maps, photo simulation).
- Summarise the effects and reach an overall conclusion on landscape and visual matters.

Photo simulations method

5.5 Photo simulations are prepared consistent with the NZILA Best Practice Guide 10.2. They are printed in a separate A3 Graphic Supplement. The method is explained on the last page of that supplement. The photo simulations are printed across two A3 pages to provide a field of view of approximately 110°, at correct scale for a 400mm reading distance. All photo simulations are printed to the same scale for consistency.

5.6 While photo simulations are useful tools, they do have inherent limitations that one should be aware of. People's experience is typically of being surrounded by landscapes and moving through them in a range of different light and weather conditions. Photos on the other hand are static, taken in one set of conditions, have a limited field of view, and tend to flatten perspective. Photo simulations tend to focus attention on their subject, the viewpoints tend to be places from where the proposal is most visible, and the before-and-after format can focus attention on change rather than the effects on

landscape values. The format used (as described above) is chosen to reduce these inherent limitations as far as practical.

APPENDIX TWO: RELEVANT PROVISIONS AND OTHER MATTERS

5.7 The following is a summary of statutory planning and other documents for the purpose of background and to help frame the landscape assessment. For the avoidance of doubt, it is not a planning assessment.

National Policy Statement Renewable Energy Generation

5.8 The Objective of the NPSREG is to recognise the national significance of renewable electricity generation activities by providing for the **development,** operation, maintenance and **upgrading** of new and **existing renewable electricity generation activities**, such that the proportion of New Zealand's electricity generated from renewable energy sources increases to a level that meets or exceeds the New Zealand Government's national target.

5.9 Policy A requires decision makers to have regard to benefits of renewable electricity generation including d) the **reversibility** of adverse effects on the environment of some renewable electricity generation technologies.

5.10 Policy B is that decision-makers have particularly regard to matters including (amongst other things) c) that meeting the New Zealand Government's national target **will require significant development of renewable electricity generatio**n.

5.11 Policy C1 is that decision-makers shall have particular regard to the need to locate renewable electricity generation **where the resource is**, the logistical or technical practicalities associated with developing, **upgrading**, operating or maintaining renewable energy generation, and the **location of existing structures and infrastructure**...

5.12 Policy E3 requires Regional Policy Statements and **Regional** and District Plans to include objectives, policies and methods to provide for (amongst other things) **upgrading** of existing wind energy generation activities.

Southland Regional Policy Statement 2017

5.13 The RPS has a good description of 'landscape'. It recognises that electricity generation associated with features such as wind farms...are likely to permanently change landscapes for their lifespan. (In our view, an adverse effect is the consequence of change on identified **landscape values** – change itself is not an adverse effect).

5.14 It has policies to identify, assess and **protect** outstanding natural features and landscapes from **inappropriate** subdivision, use and development, and also to identify, assess and **manage** locally distinctive and valued natural features and landscapes. However, the methods section of the RPS delegates such identification, assessment, and protection/management to other Plans.

Southland Regional Landscape Assessment 1997

5.15 The study was carried out for the Regional Council. It identifies Te Wahipounamu World Heritage Area (Fiordland) and Rakiura Steward Island as ONLs. It identified other Inland Mountains and the entire Southland Coast as 'additional' (potential) ONLs.

5.16 The study also identified 'characteristic landscapes'. It referred to the characteristics of the hills of eastern Southland as follows: *"The plains, valleys, basin and rolling hills of central and eastern Southland are the working landscapes familiar to all who live in or visit the regional. Although these lowland and hill landscapes generally lack the qualities of the outstanding landscape described earlier, they may contain many highly prized landmarks, special features, views, and remnant natural areas of importance."*

Gore District Plan

5.17 The wind farm is in the Rural Zone and has no overlays. It is not an outstanding natural landscape - the two ONLs in Gore District are the Waterfall Range (Hokonui Hills) and Mataura River.

5.18 Chapter 3 addresses Land Use Activities. Relevant objectives include (all emphasis added):

> 3.3 [1] Maintain and enhance the **amenity values** of the various localities within the District whilst respecting the **different values and characteristics** that exist within each area.
>
> 3.3 [2] Ensure that the effects of land use activities do not adversely affect the **quality of the environment** and are **compatible with the characteristics and amenity values** of each locality.

5.19 Chapter 7 addresses Utilities. However, while it addresses electricity transmission, the Plan in general is silent on electricity generation. Nevertheless, relevant objectives and policies include:

> 7.3 [1] To ensure that utilities are provided for so as to meet the economic, social, health and safety needs of individuals and the community.
>
> 7.3 [2] To ensure that the **location and design** of utilities **avoids significant adverse effects** on [**section 6 matters**]:
>
> 7.3 [3] Subject to Objective (2), to **avoid where practical, remedy or mitigate the adverse effects** of the provision of utilities.
>
> 7.4 [5] To encourage a **design and location** of utilities that **minimises adverse visual effects**, where this can be achieved without compromising operation or efficiency

New Zealand Geopreservation Inventory

5.20 There are no features identified in the vicinity of the wind farm.

Tangata Whenua

5.21 The nearest marae is O Te Ika Rama marae (also known as Hokonui marae) at 129 Charlton Road on the outskirts of Gore. The marae is connected to the Hokonui Rūnanga, and the Waitaha and Ngāti Mamoe iwi, which is understood to come under Ngāi Tahu. The marae website says that tribal authority extends over, and is derived from, the maunga Ōparure, the awa Mataura, the moana Ara a Kiwa, and the waka Tākitimu and Uruao. The marae website identifies several important puke, none of which are in the vicinity of Kaiwera Downs.

5.22 The website also includes a history of place names associated with the Mataura (Mata ura) River and Kā Rā-o-Tākitimu / Waimea Plains. It includes the following with respect to the Otakaramu Stream (the western part of Kaiwera Downs Wind Farm Site).

> ***"Otakaramu or Otakaritu:*** *This is now the name of a long stream that joins the Mataura from the East Gore side between Gore and Mataura. According to one of Beattie's informants Otakaramu was once the name of a totara tree near East Gore and was then used to refer to the hills nearby. The creek that should bear the name according to Beattie, runs through a wide valley once known as Racecourse Paddock. Totaratahi is the name of a cliff face to one side of the valley because a lone totara tree once grew there. It is the same Totara tree that was called Otakaramu, which Beattie's other informant referred to.*
>
> *Kettle and Garvie's 1856 map called this stream the Otakaritu while one of the present day Otakaramu' branches was called Okapua (see also Okapua). Beattie believed that this name Otakaritu should have been Otekaretu, as he found out from "a well informed man at Colac" that Te Karetu was a chief who lived 16 generations ago and owned land from Poupoutunoa to Te Au Nui, that a long creek running into the Mataura some distance above the falls was named after him and Tamaipi creek at Trumble's Station was named after a son of his."*

5.23 Other features in the vicinity that are listed include Otaraia - a hill with distinctive "tent shaped form" just to the east of Kaiwera Downs, and Kaiwera.

5.24 Statutory acknowledgements recognise Ngāi Tahu's mana in relation to a range of sites and areas in the South Island, and provide for this to be reflected in the management of those areas. There is a statutory acknowledgement with respect to the Mataura River.

Āpiti Hono Tātai Hono: Ngā Whenua o Ngāi Tahu ki Murihiku

5.25 We have listed what appear to be relevant matters derived from the Rūnanga Hokonui website, but acknowledge it is for tangata whenua to identify the values they associate with whenua in their rohe.

5.26 Āpiti Hono Tātai Hono is also relevant as a cultural landscape assessment method for Murihiku by Ngāi Tahu ki Murihiku. It was prepared by Te Ao Marama Inc. It says asking the significance of a landscape is a redundant question (all landscape is significant), the more meaningful question is "***what is held within a landscape***".

5.27 Rather than using physical, associative, and perceptual layers (dimensions) that are commonly used in professional landscape assessment[19], Āpiti Hono Tātai Hono promotes *Ira Atua Ira Tangata* which comprise six layers of whakapapa connecting people and whenua. The layers connect metaphysical through to human experience and are conceived of as tuakana/teina – Ira Atua informing Ira Tangata, but with duality or reciprocity. We understand that certain considerations (which might inform resource management matters) relate to each layer.

Layer	*Interpretation*	*Considerations*
Ira Atua: **Waiatatanga**	Creation narratives, cosmology, life energy and essence	• Understanding of creation and the interrelated steps • Seniority and mana of elements • Whakapapa between elements • Duality in landscape • Continuum of time.
Ira Atua: **Atuatanga**	Worlds of the Gods – physical and human archetypes – including Tangaroa, Ranginui and	• Domains and whakapapa of atua • Mauri, wairua and hauora • Mana atua, mana tūpuna, mana whenua, mana tangata

[19] As described in Te Tangi a te Manu: Aotearoa New Zealand Landscape Assessment Guidelines, Tuia Pito Ora New Zealand Institute of Landscape Architects, July 2022

	Papatūānuku, Tāne, Tāwhiri-mātea	• Reverence and utu • Ritual • Tikanga, correct conduct • Parables - understanding how the world works and how to act • Climate and natural state • Biodiversity and ecology • Evolution and change.
Ira Atua: **Ngā Tipua**	Worlds of ancestors and human precursors. This layer includes narratives relating to specific landscape features, places, names.	• Connections forged with atua, Te Waipounamu, Te Ika a Māui and Hawaiki • How/why the landform was shaped • Geology and geomorphology • Topography and hydrology • Characteristics of natural features • Mahinga kai resources • Aesthetic qualities • Pepeha and whakataukī • Wayfinding and landmarks • Modification of landscape
Ira Tangata: **Ngā Kākano**	the traditional lifeways and experience prior to Pākehā arrival	• Occupation, settlement and travel patterns, including those without physical evidence • Evolution of Ngāi Tahu ki Murihiku society from its Pacific origins • Maramataka • Cultural practices, uses and associations • Connections with Te Waipounamu, Te Ika a Māui and Hawaiki • Knowledge systems and tikanga associated with human use of the landscape • Social structures and control mechanisms such as manawhenua, rangatiratanga, rāhui and tapu • Tangible evidence of human occupation, e.g. archaeological sites, urupā, tauranga waka, rock art • Intangible evidence of human occupation, e.g. place names, cultural narratives, personification of landscape.
Ira Tangata: **Te Kerēme**	the experience of colonisation until the Treaty Claim which was signed 1997	• Occupation and travel patterns • Relocation and reordering of settlements and civic structures • Social and cultural shifts

		• Human impacts on the environment, including cumulative effects and land use change • Presence, absence and loss of species • Māori and SILNA lands • International connections through trade, travel, intermarriage and population relocation • Legislation, social norms and attitudes. • Social structures and control mechanisms • Land use change and alienation • Evidence of human occupation.
Ira Tangata: **Te Ao Marama**	the current and future experience, including acknowledging the past, reconnection, and revitalisation	• Cultural and economic redress from Treaty Settlement • Legislation, social norms, and attitudes • Occupation and travel patterns • Modern settlements and civic structures • Human impacts on the environment, including ki uta ki tai, cumulative effects and restoration • Climate change adaptation responses • Presence, absence, and loss of species • Restoration and revitalisation of environment, culture, and society • Future social, cultural, and economic aspirations • Ahi kā and the return of whānau and whenua.

5.28 Āpiti Hono Tātai Hono expands on each of these layers. It lists data sources. It includes background to cultural landscape assessment and overarching principles. The layers are set out in a template to help organise assessments of specific landscapes and effects on landscape values.

5.29 Āpiti Hono Tātai Hono Stage 1 looks ahead to a Stage 2 which will address management of the Murihiku cultural landscape such as through District Plan provisions (it proposes a Cultural landscapes Chapter), responses to proposals, collating spatial data, and development of assessment skills.

5.30 Āpiti Hono Tātai Hono has parallels and overlaps with professional (Western-based) landscape assessment but is separate and complementary. Professional landscape assessment has regard to tangata whenua matters but does not substitute for such cultural landscape assessment.

APPENDIX THREE: AUTHOR'S QUALIFICATIONS AND EXPERIENCE

5.31 My name is Gavin Lister.

5.32 I confirm that I have read the Code of Conduct for expert witnesses contained in the Environment Court Practice Note 2014. This assessment has been prepared in compliance with that Code.

5.33 My qualifications include Master of Urban Design (University of Sydney, 2007); post-graduate Diploma in Landscape Architecture (Lincoln College, 1988); and Bachelor of Arts (University of Auckland, 1985). I am a Fellow and registered member of Tuia Pito Ora New Zealand Institute of Landscape Architects (NZILA).

5.34 I am a principal and founder of Isthmus Group. I have 35 years' experience on a range of project types including infrastructure, master planning, housing and land development, public places, and landscape input to policy planning. The following selection focuses on **infrastructure projects** relevant to the proposal:

- **Wind farm experience** includes the recently constructed Waipipi Wind Farm in South Taranaki, the recently consented Kaiwaikawe Wind Farm in Northland, input on behalf of Council to the wind farms on the Maungaharuru-Te Waka Range in Hawkes Bay, and the earlier consented Hauāuru mā raki Wind Farm (Waikato), and Waitahora Wind Farm (Southern Hawke's Bay). Currently I am involved in preliminary assessments of potential wind farm sites for different generators, and of repowering the wind farms on the Tararua Ranges in Manawatu.
- **Transmission experience** includes a range of projects for Transpower. I led the landscape component (assessment, evidence, design) for the 400kV capable North Island Grid Upgrade Project (now BHL-WKM A), undergrounding of the OTA-WKM A & B lines at Flat Bush, Series Capacitor Site for the BHL-WKM A line, and North Taranaki Interconnection Project (reconfiguration and realignment of the NPL-SFD A and CST-NPL A lines) and provided input to the Transpower Auckland Strategy. I am currently involved in the Waikato Upper North Island (WUNI) upgrade project.
- Experience on **other infrastructure** includes the East-West Link Project Auckland, Transmission Gully 'Road of National Significance', Ōhau to North of Levin expressway, Tauhara II Geothermal Power Project, Ruataniwha Water Storage Project Hawke's Bay, the Additional Waitematā Harbour Crossing alternatives assessment, the Pūhoi to Warkworth RONS (technical advisor to NZTA, in progress), Auckland International Airport northern runway, and Auckland Downtown Ferry Terminal. I am currently leading the landscape and visual workstream for the Auckland Light Rail Project. I was also involved with Boards of Inquiry for the Ruakura Plan Change (on behalf of Hamilton City Council) which included a rail and freight base, and the Waterview Connection RoNS for the Environmental Protection Authority.

5.35 I am familiar with **resource management matters** with respect to the assessment of landscape, visual and natural character matters including the following relevant experience:

- Evidence to the Environment Court and Boards of Inquiry over 30 years.
- Co-author of '*Te Tangi a te Manu: Aotearoa New Zealand Landscape Assessment Guidelines*', Tuia Pito Ora New Zealand Institute of Landscape Architects, July 2022.
- Author of 'NZTA Landscape and Visual Assessment Guidelines' (in NZTA Landscape Guidelines, Final Draft September 2014) and 'NZTA Urban Design Assessment Guideline' (in Bridging the Gap, NZTA Urban Design Guidelines, October 2013). I am currently engaged by Waka Kotahi to update these guidelines.
- Decision-making as a hearing's commissioner on approximately 45 hearing panels.

- Member of Auckland Council's Urban Design Panel and Eke Panuku's Technical Advisory Group.
- Advice to the Minister of Conservation on the proposed Milford-Dart Tunnel and Fiordland Link Monorail in relation to the World Heritage 'Statement of Universal Value', 2013.

APPENDIX FOUR: PLANS AND PHOTO SIMULATIONS (SEPARATE A3 DOCUMENT)

APPENDIX F

Maps and Photo Simulations - Isthmus

Kaiwera Downs
PROPOSED VARIATION TO CONSENT
Appendix 4: Maps and Photo Simulations
Rev C

February
2023
—

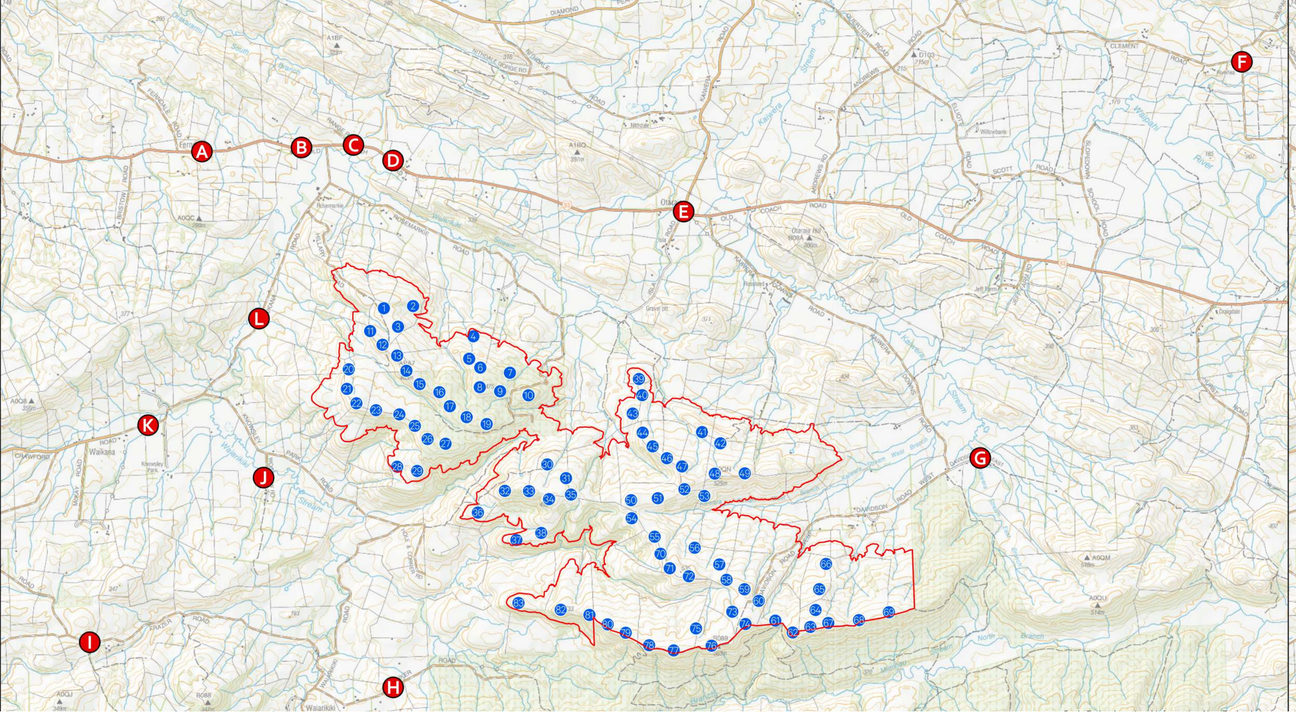
Isthmus.

Isthmus.

Document record

Issue	Revision	Author	QA	Date
Draft	A	Æ	GL	17/12/2022
Draft	B	Æ	GL	18/01/2023
Final	C	Æ	SB	21/02/2023

Contents



Map 01 - 145m Tip Height Configuration

1:50,000 at A3

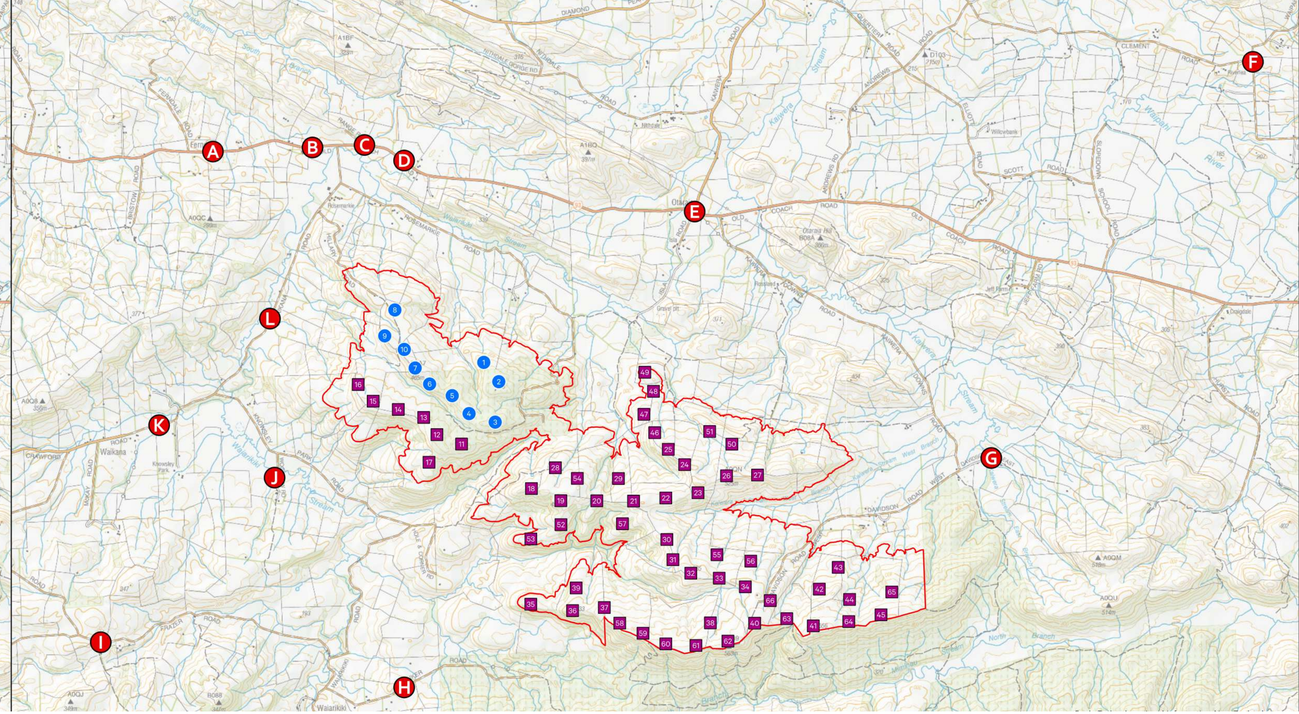
0 0.5 1 2 3 4 Kilometers

145m Tip Height Configuration

Viewpoint Location

Project Envelope

Isthmus.



Map 02 - 165m Tip Height Configuration

1:50,000 at A3

0 0.5 1 2 3 4 Kilometers

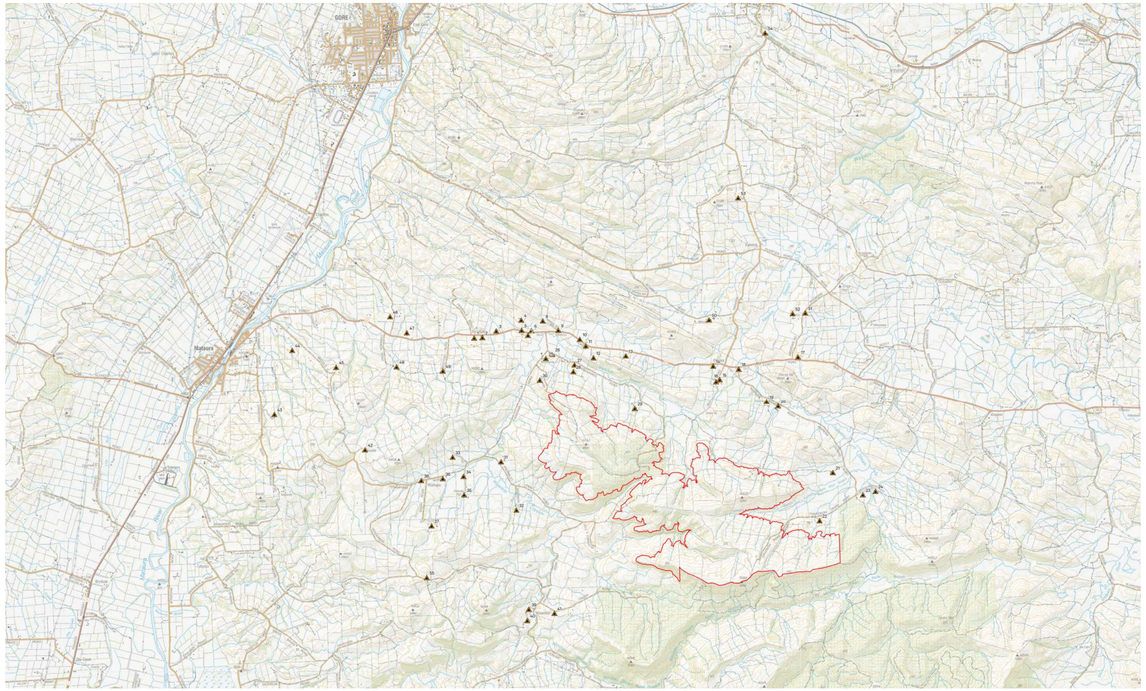
145m

165m

Viewpoint Location

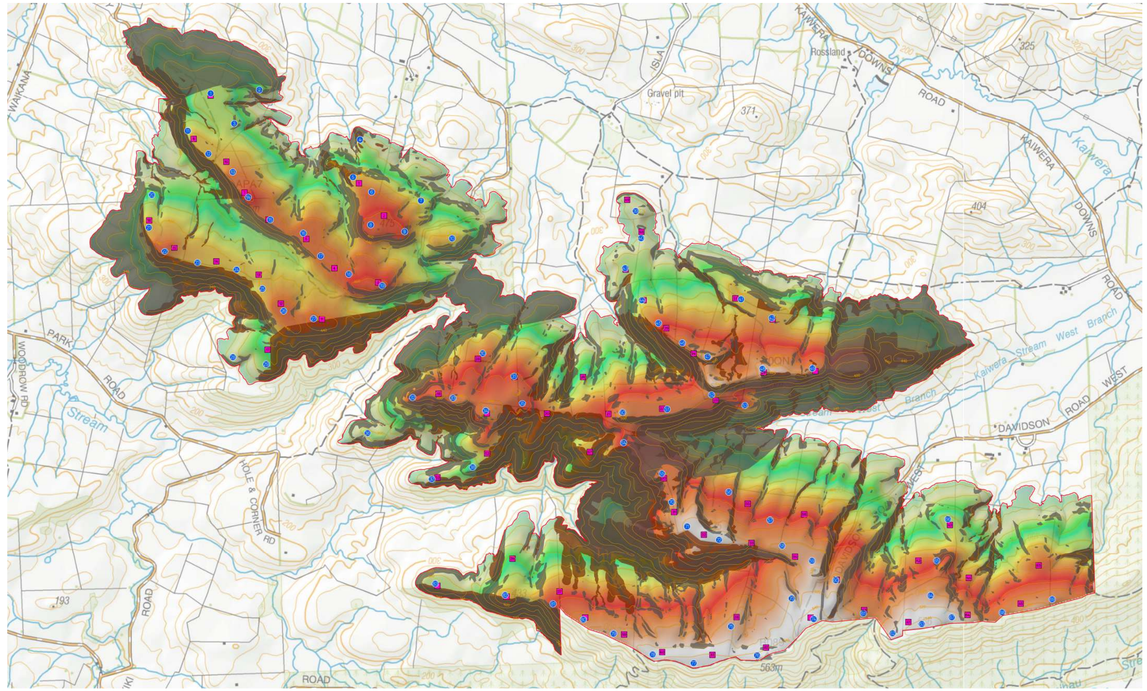
Project Envelope

Isthmus.



Map 03 - Dwelling Locations

1:100,000 at A3

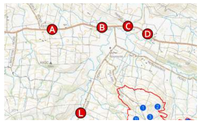


Map 04 - Heights and Contraints

1:30000 at A3

Viewpoint A - 145m Tip Height Configuration

Old Coach Road (SH93) approximately 2km west of intersection with Waikana Road (Viewpoint 38 in Boffa Miskell Report)



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Field of View Approximately 110˚ horizontal (across 2 x A3 pages)

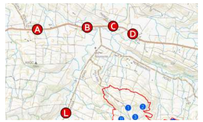
Viewpoint A - 165m Tip Height Configuration

Old Coach Road (SH93) approximately 2km west of intersection with Waikana Road (Viewpoint 38 in Boffa Miskell Report)

Original Photo SB | 50mm | DSLR Nikon D800 | 0844 am 23 November 2022 | 1292793 E, 4876828 N (NZTM)
Reading distance for correct scale: 400mm | Viewpoint Elevation: 202m
Field of View Approximately 110˚ horizontal (across 2 x A3 pages)

Viewpoint B - 145m Tip Height Configuration

Old Coach Road (SH93) approximately 400m west of intersection with Waikana Road (Viewpoint 16 Boffa Miskell photo simulations)



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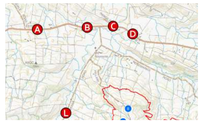
Field of View Approximately 110˚ horizontal (across 2 x A3 pages)

Viewpoint B - 165m Tip Height Configuration

Old Coach Road (SH93) approximately 400m west of intersection with Waikana Road (Viewpoint 16 Boffa Miskell photo simulations)



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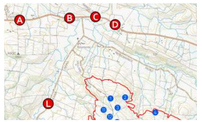
Viewpoint C - 145m Tip Height Configuration

Junction of Old Coach Road (SH93) and Range Road. (Viewpoint 19 Boffa Miskell photo simulations)



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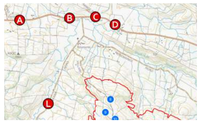
Viewpoint C - 165m Tip Height Configuration

Junction of Old Coach Road (SH93) and Range Road. (Viewpoint 19 Boffa Miskell photo simulations)



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Viewpoint D - 145m Tip Height Configuration

Old Coach Road (SH93) (Viewpoint 39 Boffa Miskell photo simulations)

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Viewpoint D - 165m Tip Height Configuration

Old Coach Road (SH93) (Viewpoint 39 Boffa Miskell photo simulations)

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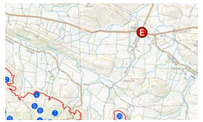
Viewpoint E - 145m Tip Height Configuration

Junction of Old Coach Road and Kaiwera Road (Boffa Miskell photosimulation Viewpoint 9)



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Viewpoint E - 165m Tip Height Configuration

Junction of Old Coach Road and Kaiwera Road (Boffa Miskell photosimulation Viewpoint 9)

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Field of View Approximately 110˚ horizontal (across 2 x A3 pages)

Viewpoint F - 145m Tip Height Configuration

Junction of Clement Road and Waipahi Station Road（Viewpoint 5 Boffa Miskell photo simulations）

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Field of View Approximately 110˚ horizontal (across 2 x A3 pages)

Viewpoint F - 165m Tip Height Configuration

Junction of Clement Road and Waipahi Station Road (Viewpoint 5 Boffa Miskell photo simulations)

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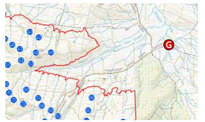
Viewpoint G - 145m Tip Height Configuration

Davidson Road East (Viewpoint 17 Boffa Miskell photosimulations)



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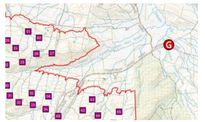
Viewpoint G - 165m Tip Height Configuration

Davidson Road East (Viewpoint 17 Boffa Miskell photosimulations)



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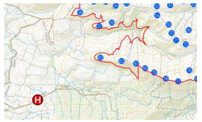
Viewpoint H - 145m Tip Height Configuration

Tinker Road approximately 1.4km east of intersection with Waiarikiki Road



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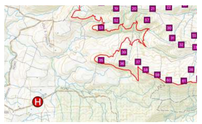
Viewpoint H - 165m Tip Height Configuration

Tinker Road approximately 1.4km east of intersection with Waiarikiki Road



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Viewpoint I - 145m Tip Height Configuration

Frazer Road approximately 400m east of intersection with Henderson Road

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Reading distance for correct scale: 400mm | Viewpoint Elevation: 163m
Field of View Approximately 110˚ horizontal (across 2 x A3 pages)

Viewpoint I - 165m Tip Height Configuration

Frazer Road approximately 400m east of intersection with Henderson Road

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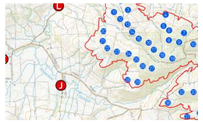
Field of View Approximately 110˚ horizontal (across 2 x A3 pages)

Viewpoint J - 145m Tip Height Configuration

End of Woodrow Road



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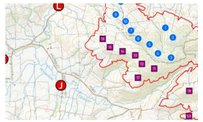
Viewpoint J - 165m Tip Height Configuration

End of Woodrow Road



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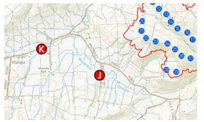
Viewpoint K - 145m Tip Height Configuration

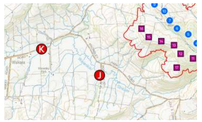
Crawford Road approximately 950m south-west of intersection with Waikana Road



Original Photo SB | 50mm | DSLR Nikon D800 | 0928 am 23 November 2022 | 1288796 E, 4872517 N (NZTM)
Reading distance for correct scale: 400mm | Viewpoint Elevation: 163m
Field of View Approximately 110˚ horizontal (across 2 x A3 pages)

Viewpoint K - 165m Tip Height Configuration

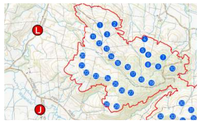
Crawford Road approximately 950m south-west of intersection with Waikana Road



Original Photo SB | 50mm | DSLR Nikon D800 | 0928 am 23 November 2022 | 1288796 E, 4872517 N (NZTM)
Reading distance for correct scale: 400mm | Viewpoint Elevation: 163m
Field of View Approximately 110 ° horizontal (across 2 x A3 pages)

Viewpoint L - 145m Tip Height Configuration

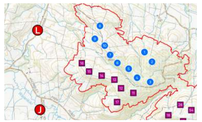
Waikana Road approximately 3.1km south of intersection with SH93



Original Photo SB | 50mm | DSLR Nikon D800 | 0834 am 23 November 2022 | 1290603 E, 4874252 N (NZTM)
Reading distance for correct scale: 400mm | Viewpoint Elevation: 210m
Field of View Approximately 110˚ horizontal (across 2 x A3 pages)

Viewpoint L - 165m Tip Height Configuration

Waikana Road approximately 3.1km south of intersection with SH93



Original Photo SB | 50mm | DSLR Nikon D800 | 0834 am 23 November 2022 | 1290603 E, 4874252 N (NZTM)
Reading distance for correct scale: 400mm | Viewpoint Elevation: 210m
Field of View Approximately 110˚ horizontal (across 2 x A3 pages)

Photosimulation Methodology Statement

- Photos were taken with a fixed lens on DSLR camera. Locations were fixed using a handheld GPS unit with accuracy of 5m. Reference points in the landscape were also located to assist referencing of photo to digital terrain model.
- A sequence of photos was taken from each viewpoint and stitched to form panoramas. Photos were overlapped by approximately 30% and edges cropped prior to stitching to eliminate edge distortion.
- A digital model was created incorporating 3D models of the schemes. Computer images were generated within the digital model from the same locations as the photos. The image was overlaid and aligned with the photo using reference points and visual matching. (Photos were imported in RAW format to avoid degradation of the image, requiring resizing to match the computer image).
- The wire-frame was then switched off leaving the proposed development in its correct location and scale relative to the photo. Lower parts of the proposed development were erased using Photoshop software where they would be behind foreground topography or vegetation.
- The time and weather when the photo was taken was entered to the programme in order to replicate lighting conditions.
- The completed photomontage is presented over two pages:
  - The photos are produced to replicate correct scale at the nominated reading distance (in this case 400mm).
  - Each photomontage is printed across two facing pages to illustrate a field of view of approximately 110° at a reading distance of 400mm. This approximates the field of human binocular vision. (But not peripheral vision which extends to approximately 200°)

Notes on use of Photosimulations:

- The Photosimulations are a useful tool but they cannot precisely reproduce real life for the following reasons:
  - 2D Photography flattens an image compared to binocular vision.
  - Photography is static, whereas the human vision can scan and remember information.
  - Photographs are passive, whereas the eye seeks out detail.
  - The human eye can see more contrast than can be reproduced through photography.
  - Physical resolution of photography and printing is less than that of the human eye.

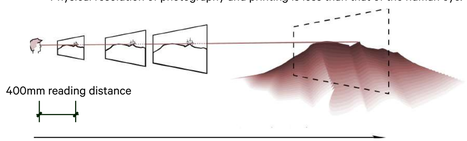


Figure 01: The relationship between reading distance and real life scale.

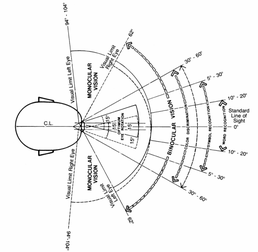


Figure 02: Binocular vision is approximately 124°. Field of view is approximately 110° across 2 x A3 pages at correct scale image for 400mm reading distance (vertical field of view is approximately 33°)

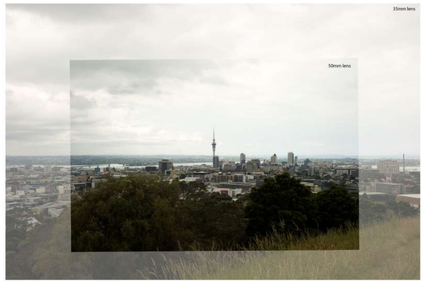


Figure 03: Comparison of 35mm lens and 50mm lens

Two images from the same location. With 35mm and 50mm lenses perspective is influenced by field of view, not by lens focal length. The overlaid portion is identical.

Methodology

G

APPENDIX G

Ecological Assessment – Boffa Miskell

Memorandum

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Attention:	Stephanie Cook
Date:	7 March 2023
From:	Stephen Fuller
Message Ref:	Kaiwera Downs; application for our tip height amendment. Ecological considerations.
Project No:	BM210767_KSi_Kaiwera_Downs

Please find attached our assessment of the effects of the proposed changes to the turbine size, and number of turbines at the Kaiwera Downs Wind Farm in Gore.

1 Summary of Findings

Mercury NZ is seeking a variation to increase the tip height and reduce the number of turbines at the Kaiwera Downs wind farm. This assessment seeks to determine if that change will have an adverse ecological effect.

On the basis that there are no changes to the extent of the consented project envelope, or to the established environmental constraints, we conclude that:

- While the increase in tip height would allow for a greater rotor swept area per turbine, this is more than offset by the reduction in turbine numbers (83 turbines to 66 turbines).
- Collision risk modelling was used to test the effect of changes to both turbine number and to the turbine tip height, and it concluded that the proposed changes are likely to result in a reduction in predicted collision risk of approximately 17%.
- These findings are consistent with national and international literature.
- Therefore, the change in consent conditions to allow an increase in tip height from 145m to 165m and a reduction in turbine numbers from 83 to 66, is likely to reduce any potential effects to indigenous birds, specifically the New Zealand Falcon.

2 Background

Boffa Miskell has been asked by Mercury NZ Ltd (Mercury) to consider the ecological implications of changing the consented tip height from 145m to 165m and reducing turbine numbers from 83 to 66 for Stage 2 of the Kaiwera Downs Wind Farm. Stage 1 of the Kaiwera Downs Wind Farm, comprising 10 turbines, is currently under construction.

The existing resource consent specifies a project envelope, which all project infrastructure must remain within, conditional on a set of visual and ecological constraints that are supplied in the consent. Mercury are not seeking any changes to the consented project envelope or the set of the visual or ecological constraints.

The variation is only to increase the wind turbine tip height and reduce the wind turbine numbers, and therefore could only have an ecological effect, whether positive or negative, on local birdlife. Therefore, the focus of this memorandum is on avifauna generally, and the New Zealand Falcon specifically.

The New Zealand falcon has a national threat status of At Risk – Recovering. This species is present at the site in low numbers and is being monitored as required by conditions of consent.

In addition to a general assessment of the potential changes to the layout of the wind farm within the project envelope, this memorandum reviews publications for other sites, both internationally and within New Zealand, where a change in turbine size and number has been assessed.

Collision risk modelling is often used in these investigations and so has also been used here to support the review. The modelling compares the turbine proposed for Stage 1 of the Kaiwera Downs Wind Farm (Vesta V136) to a larger turbine that could be realistically used for Stage 2 of the project.

We note that this is a desktop assessment and that the site has not been visited. We have relied on existing documentation, aerial imagery and information supplied by Mercury.

2.1 Scope of Change

The proposed changes are as follows:

- No change to the consented project envelope.
- No change to the ecological constraints for protection of indigenous vegetation.
- Increase of the maximum tip height from 145m to 165m.
- Reduction in turbine number from 83 to 66.

3 Review of Existing Ecological Assessment

3.1 Terrestrial Vegetation & Habitats

We have reviewed the Golder Associates 2007 "Kaiwera Downs Wind Farm Assessment of Terrestrial Ecological Effects" that was undertaken as part of the Assessment of Environmental Effects. That assessment found that the majority of the project envelope is covered in highly productive exotic pastureland (72%) or plantation forestry (11%). The remaining areas were made up of regenerating indigenous forest, forest scrub and grey shrublands, small to moderate sized patches of fire-induced Chionochloa rubra (red tussock) and Festuca novae-zelandiae (hard tussock). It was recommended that disturbance of higher value areas of indigenous vegetation be avoided during construction. Constraint areas were described and identified in the Golder 2007 Terrestrial Ecological Effects assessment and are referred to in the consent via Condition 26. As a result, the potential adverse environmental effects associated with indigenous vegetation loss, wildlife habitat loss and habitat fragmentation have been largely eliminated.

Looking at the current farming landscape within and surrounding the site and comparing the vegetation in the 2007 assessment with the vegetation today, we see that there have been some changes to the areas of plantation pine both within and adjacent to the project with some areas being harvested and replanted, some other areas being harvested and converted to pasture, and some new areas being planted (See Attachment A). However, despite these changes the extent and location of plantation pine and improved pasture within the wind farm site remains fairly similar. Stage 2 of the project remains dominated by improved pasture, the plantation pine being largely confined to Stage 1 and to areas surrounding the site.

Importantly, the areas of regenerating forest, scrub and grey shrublands which do not appear to have changed in extent since the 2007 assessment. These areas are protected by a constraint areas established to protect areas of high value indigenous vegetation. The consent variation being sought will not affect the constraint areas, so there will be no impact on the previous findings of this part of the assessment.

3.2 Avifauna

The original assessment found that the avifauna values of the proposed site is relatively low, with no species of concern being considered a collision risk. The only species identified as being at possible risk from the project were kereru and New Zealand Falcon.

3.2.1 Kereru

Regarding kereru, the assessment recommended avoiding the placement of turbines within, or directly along the margins of, the indigenous forest areas which comprise the main kereru habitat to reduce the impact on this species. Setbacks were therefore incorporated into the ecological constraints. The consent variation does not seek to change the constraint area for the protection of kereru, so there is no impact on the previous findings of this part of the assessment.

It should also be noted that at the time of the Golder Assessment the 2005 Threat Classification[1] identified kereru as having the threat status of "At-Risk, Gradual Decline". This classification changed to "Not Threatened" with the reissue of this classification in 2008 and this classification remains[2]. This change signifies an increase of the national population to the point where small perturbations do not pose a threat nationally.

3.2.2 Falcon

Regarding the New Zealand falcon, the assessment suggested there was habitat that would be suitable for falcon, and they were potentially present at the site although in low numbers. It then provided a number of recommendations for inclusion in conditions of consent, to monitor for falcon and potential interruptions to falcon breeding.

As for the kereru, the threat status for falcon has reduced commensurate with current estimates of population size and growth since the 2007 assessment. In 2005 it was classified as "*Nationally Endangered*". Today its status is "*At-Risk, Recovering*", also suggesting a more robust national population.

Since consent was granted, and in accordance with Condition 30, further investigations of falcon have been carried out. These investigations have confirmed both the presence of at least one pair of falcon which forage within the site, and the presence of a nest site which lies within the wind farm footprint. Monitoring is ongoing in accordance with conditions of consent.

This assessment is therefore focused on falcon as the only matter identified in the 2007 assessment that we consider to be potentially affected by the proposed change.

Looking to studies of similar (analogue) species of falcon in the UK which are far more numerous, the collision risk for this group of raptors (hunting birds) is generally found to be very low, at least in part because falcon have a very high avoidance rate[3].

Currently, in New Zealand, post construction collision studies have been carried out at four wind farms with a fifth underway[4]. Falcon were observed at two and were likely present in low numbers or rarely, at several of the others. No mortalities of falcon have been recorded to date during post construction studies at these sites; acknowledging that this is a small sample size.

[1] (Hitchmough et al., 2007)
[2] (Robertson et al., 2021)
[3] (Scottish Natural Heritage, 2018)
[4] Project West Wind (Bull et al., 2013), Mahinerangi Wind Farm (Golder Associates, 2013), Te Apiti Wind Farm (Meridian Evidence) and Te Uku Wind Farm (Boffa Miskell Ltd, 2014), Waipipi (Boffa Miskell Ltd, 2022).

4 Potential Effects of Changing Turbine Size

Looking specifically at the effects of a) changing turbine tip height, and b) reducing turbine numbers within a wind farm, there are international and national assessments which have considered this question.

Local Examples

In New Zealand we are aware of two sites where collision risk was reviewed due to a shift to a larger, more modern wind turbines, within the originally consented footprint.

Harapaki Wind Farm

The Harapaki Windfarm was in a situation very similar to Kaiwera Downs. The application sought to have increase the maximum tip height to allow use of larger and newer turbines. Also, like Kaiwera Downs, kereru and falcon were the two bird species of concern at the Harapaki site[5].

A review was undertaken of falcon flight height observations at the site (a reasonably small sample size of 27 flights) which was then tested the flight height data against four turbine options that would meet the consented maximum blade tip height (120m), and a larger more modern turbine which exceeded the consented maximum by 25m. For each turbine option it presented the proportion of flight activity within the RSA or Rotor Swept Area, which equates to the rotor diameter and its height above ground as shown:

Figure 1: Table taken from Titiokura Assessment (Boffa Miskell Ltd, 2019a).

Table 9: Flight height statistics and proportion of NZ falcon and kereru observations within different RSAs.

Species	No. birds	Min-min (m)	Ave-min (m)	Ave-max (m)	Max-max (m)	CONSENTED				PROPOSED
						% RSA 40-130	% RSA 30-120	% RSA 20-110	% RSA 10-100	% RSA 19-145
Falcon	27	0	8	23	150	15%	26%	33%	67%	33%
Kereru	227	0	19	36	150	41%	54%	71%	86%	71%

The average minimum and average maximum heights lie between 8m and 36m suggesting a majority of flight activity occurs in this region.

Looking specifically at the effect of an increase in the maximum blade tip height, the key result from this table is the proportion of flights within RSA for the consented turbine Option 3 (RSA 20m – 110m), and the proposed Option 5 (RSA 20-145m). Both have an identical lower blade tip height, but the upper tip height differs by 35m. Despite this difference, the proportion of flights within RSA are identical for both options. This suggests that the flights above 110m are rare and so upper blade height is not a key factor in collision risk for this species. The larger turbine design was subsequently consented.

Waipipi Wind Farm

At the Waverley (Waipipi) Wind Farm a layout with 48 'generic' turbines was consented, but during procurement the option was explored to replace them with 31 larger turbines, a 35% reduction in turbine number. The alternative turbine model had different physical parameters to the generic turbine that was

[5] (Boffa Miskell Ltd, 2019a).

used for modelling during consenting, including an increased blade size from 112m to 130m, a reduced lower blade tip from 48m to 30m, and a faster rotation period with RPM reducing from 6 to 4.8 seconds.

The original assessment used collision risk modelling, and this modelling was repeated for the new turbine layout for two species, the South Island pied oystercatcher and the Australasian pied stilt. The modelling concluded that the increased risk of larger turbines and reduced blade tip clearance was effectively offset by the reduction from 48 to 31 turbines, the turbines being much more widely spaced so providing space for birds to move through and between them.[6]

International

There are a number of international studies looking at the impacts of wind farm re-powering, i.e., where a wind farm has reached the end of its life and the original turbine layout is to be replaced by a reduced number of more modern, larger, and fewer turbines within the same footprint.[7]

Generally, these assessments conclude that replacing old, smaller, faster rotating turbines with fewer, larger, slower rotating turbines can result in a reduction in collision risk for most species.

Several authors recommend caution in automatically assuming risk will be reduced under every circumstance as some species may be less affected by changes, and there may be specific site geometries that limit or negate any benefits of change.[8] This is not a matter of concern for this site given the absence of critical species, with the exception of the falcon which is already being monitored and will continue to be monitored through construction and post construction.

Amongst these studies, several authors have used modelling to test collision risk against blade design and wind farm layout. The results of this modelling have generally supported the observational findings of other studies.[9] We have also carried out collision risk modelling for falcon as part of this review (Section 5). This has provided some additional confidence in our assessment.

Overall, the international literature suggests that with thoughtful design and layout, there are benefits to re-powering old wind farms with newer, fewer, and larger turbines. What is proposed here can be considered in a similar light.

5 Collision Risk Modelling

Using the above examples as precedent, we have supported this assessment by carrying out collision risk modelling using hypothetical falcon activity. This has been used simply to identify any change to the level of collision risk that could occur by shifting from the V136 turbines currently being constructed in Stage 1 of the project, to a larger rotor diameter turbine that could realistically be used on the site. To do this a 150m rotor diameter turbine was assumed.

In the UK, the most frequently used avian collision risk model is known as 'the Band model' developed for onshore wind turbines[10] and promoted as guidance by Scottish Natural Heritage[11]. While all models have their limitations, the Band model has been trialled and improved over time and is considered to be statistically robust[12]. It continues to be used widely in the UK and has been used by the author at three consented wind farms in New Zealand

[6] (Boffa Miskell Ltd, 2019b).
[7] (Dahl et al., 2015)
[8] (Hötker, 2006; Scottish Natural Heritage, 2014).
[9] (Shimada, 2021)
[10] (Band et al., 2007)
[11] (Scottish Natural Heritage, 2005)
[12] (Chamberlain et al., 2005; Masden & Cook, 2016)

(Taharoa, Waipipi, and Kaiwaikawe Wind Farms) and by others at the Hauāuru mā raki wind farm. In each application the model implementation was subject to expert review.

Attachment B provides the details of the modelling we have undertaken for this site and shows the modelling results for each turbine type and layout.

The modelled results mirror those from the Waipipi Wind Farm, i.e. the increase in turbine size is offset by the reduction in the number of turbines. Specifically the modelling for this site resulted in the following modelling outputs;

- Despite the increase in turbine size and blade length, the decrease in turbine numbers has resulted in a reduction in the ratio between the total risk volume and the risk volume swept by a rotor of 12%.
- This results in an equivalent reduction in bird transits through the rotor of 12%.
- Other changes to the metrics inherent with a larger turbine, in particular the slower rotational speed of larger blades, also contribute to a reductions in collision risk.
- Overall, the final modelling result showed that the proposed change was likely to result in a reduction in collision risk in the order of 17% for the New Zealand falcon.

6 Conclusions

- As there are no proposed changes to the project envelope or the ecological constraints layer established to protect indigenous vegetation, there are unlikely to be any notable changes to the findings to the Golder Associates ecological assessment for these aspects of the consent[13].
- Similarly there are no proposed changes to the constraints layer established to buffer kereru from the wind farm and so this aspect of the project will remain unchanged.
- The only native bird species identified as being potentially present and at risk by the 2007 assessment was the New Zealand falcon. We now know this species hunts within the wind farm site and has a nest site within the wind farm. It is therefore the only species with potential to be impacted with regard to this proposed change of tip height and is the focus for this assessment.
- Internationally, it is generally recognised that larger, more widely spaced modern turbines have a lower collision risk for most species of avifauna than older turbines which are smaller, more closely spaced, and which have blades with higher rotation speeds. In New Zealand this was modelled at the Waipipi Wind Farm and the shift to a larger turbine did not increase collision risk.
- In New Zealand some limited assessment of falcon flight height has also been considered and this suggests that falcon do not fly frequently at heights above 150m where an increase in tip height would be of concern.
- To test these conclusions for the potential changes to the Kaiwera Downs turbine, we have modelled two turbine designs using a hypothetical number of falcon traverses. This was done using a statistical model, that has been used for this type of study before. We have sought the best available data to ensure the modelling is as accurate as possible.
- The results of the modelling suggest that collision risk will be reduced in the order of 17% based on the indicative turbine and layout. Speaking specifically from the point of view of the risk to falcon, this is a positive outcome.
- Given this result we are satisfied that the proposed increase in tip height, combined with a reduction in turbine number will not increase risks to resident falcon and is likely to reduce risk.

[13] (Golder Associates, 2007)

7 References used in text

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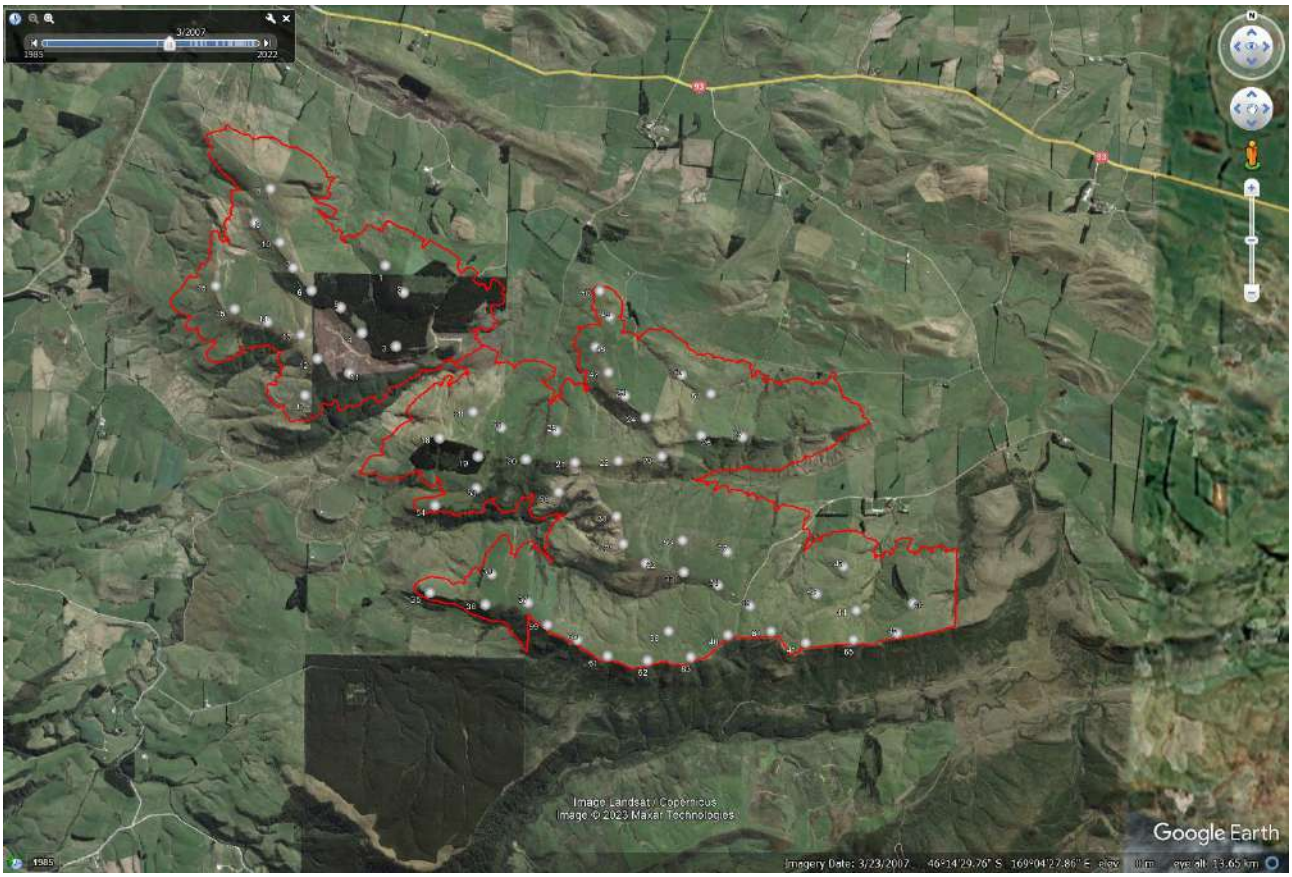
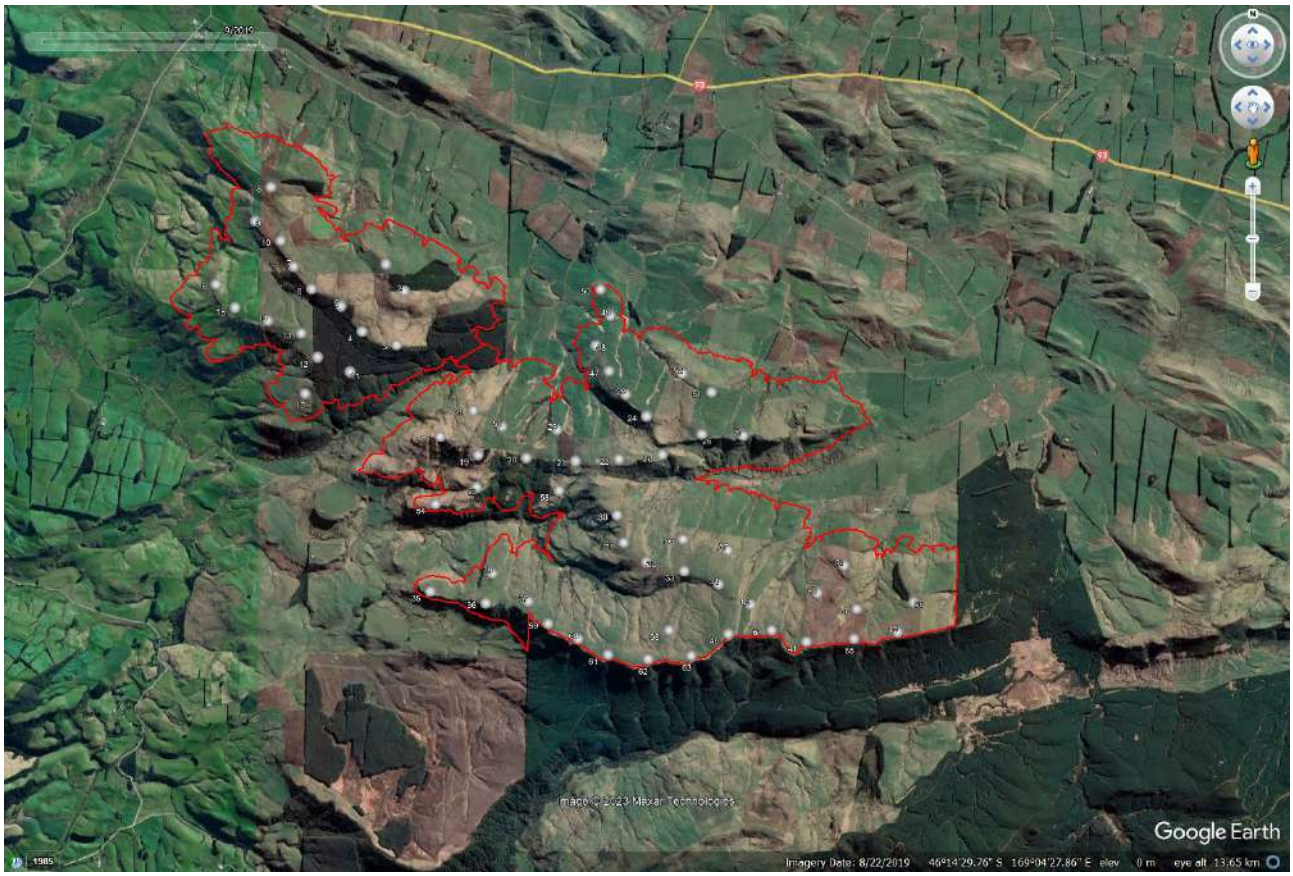
Attachment A: Vegetation & Landscape





Attachment B: The Band Collision Risk Model (CRM)

Wind farm Area & Risk Volume

A risk window is derived for the wind farm based on the area surrounding the outer extent of the turbine cluster and buffered by the length of the blade. There are two obvious clusters, the smaller Stage 1 to the west, and the larger Stage 2 to the east. We understand that only 10 of the 17 turbines in Stage 1 have been built, but the other 7 turbines are potentially part of the Stage 2 development.

For simplicity we have modelled the full site combining the two discrete areas. This gives a combined footprint of 2,465ha (510ha + 1,955ha) as per the map. Multiplying the wind farm area by the rotor diameter gives the Risk Volume.

The total numbers of turbines within the combined footprint is 83 for the consented Vesta V136 as shown in Figure 1, and 66 for the Proposed larger turbine.

Figure 2: Windfarm footprint for Collision Risk Modelling

Turbine metrics

Two turbines and their associated layouts have been modelled. The turbine currently being installed at Stage 1 of the Kaiwera Downs wind farm is the Vesta V136 turbine.

For the alternative turbine being considered we have used a generic turbine design based on a 150m rotor diameter, with metrics that are representative of turbines on the market in this size range.

Table 1 Turbine metrics for a 136m blade (V136) and a Generic 150m blade alternative.

Key Metric	Vesta V136 (Consented) 136m blade diameter, 3.45MW		Generic Turbine (Alternative) 150m blade diameter, 4.2MW		
Number Blades	3	-	3	-	fixed
Max Blade Chord	4.1	m	4.2	m	fixed
Blade Pitch	6.5	Degrees	6	Degrees	Variable (averaged)
Rotor Diameter	136	m	150	m	fixed
Rotation Period (Sec)	4.8	Sec	5	Sec	Variable (averaged)
Geometric Data					
Number of turbines	83		66		
Blade Length	66.7	m	73.66	m	fixed
Rotor Swept Area	14,527	m2	17,672	m2	fixed
Hub Height	100	m	90	m	fixed
Upper blade tip (Max tip height)	145	m	165	m	fixed
Lower blade tip (ground clearance)	9	m	15	m	fixed

Turbine downtime

Turbine downtime relates to the period when either, there is insufficient wind, or when the wind is too strong for generation. During these periods the turbine blades are either stationary or drifting. The turbine down time will not be affected by the proposed amendments to consent. A turbine downtime of 12% is used based on other sites that have been investigated.

Bird Metrics

We have used falcon for this modelling as it is the only species of concern as identified in conditions of consent. The key physical metrics of this species are listed in Table 5. The three variables used in the model are wingspan, body length, and flight speed. Wingspan and body length were derived from the Handbook of Australian, New Zealand and Antarctic birds or HANSAB (Marchant and Higgins 1993).

Flight speed was measured for straight level traversing flight (rather than hunting flight for example which is far faster). This measurement involved multiple (x 10) observations of timed flight over a fixed distance conducted at Wingspan Birds of Prey Trust (Noel Hyde pers. com.). We have assumed flight speed to be equivalent for males, females, and juveniles.

Table 2: NZ bush falcon statistics

	Male	Female
Wingspan	0.6m	0.8m
Body length	0.4	0.5m
Flight Speed	11m/s	11m/s

Flight Height & Risk Volume

Falcon flight height data from the Titiokura (Harapaki) Wind Farm appears to be the only publicly available source for data on the flight height of New Zealand falcon.[14] That report summarized data from 27 observations of falcon gathered at the proposed wind farm site, noting that this is a small sample size.

The study suggests that flights above 110m are rare and so upper blade height is not a key factor in collision risk for this species.

Table 9: Flight height statistics and proportion of NZ falcon and kereru observations within different RSAs.

Species	No. birds	Min-min (m)	Ave-min (m)	Ave-max (m)	Max-max (m)	CONSENTED				PROPOSED
						% RSA 40-130	% RSA 30-120	% RSA 20-110	% RSA 10-100	% RSA 19-145
Falcon	27	0	8	23	150	15%	26%	33%	67%	33%
Kereru	227	0	19	36	150	41%	54%	71%	86%	71%

For the model we have assumed 100% of flights are within the Risk Volume. This is likely a conservative view as flights above 145m appear to be rare and flights below the minimum tip height are likely to be more frequent. Assuming all flights are within the RSA will likely slightly under account for the rare flight above 145m but will over account flights below 9m and 15m (the minimum tip height of the turbines modelled).

Traverse Rate

The traverse rate is based on an estimate of the time a bird is in flight (on the assumption a large proportion of each day is spent roosting), multiplied by the proportion of flight time that occurs within the wind farm footprint (on the assumption that the birds territory extends beyond the windfarm), multiplied by the proportion of that flight time that occurs within the risk volume. We have used the same variables for both turbine options.

For these scenarios, the difference in turbine numbers result in different annual traverse rates:

- Consented turbine = 2,612 annual traverses
- Potential turbine = 2,291 annual traverses

The reduction in annual traverses is due to the decrease in overall RSA, as a result of the reduction in turbine numbers.

Avoidance Rates

"Collision risk" assumes that there is no avoidance behaviour. However, avoidance is known to occur for the great majority of bird / turbine interactions and is particularly high for falcon analogues.

An avoidance rate of 99.8% is used in this model based on studies of prairie falcon (Falco mexicanus) which as the closest analogue species for which avoidance rates have been specifically studied in the field (Madders & Whitfield, 2006). This rate has been used for male, female, and juvenile falcons.

Individual Collision Risk

The first step of the Band model uses a value for individual collision risk. This considers the risk to a bird if it passes through a turbine blade in operation, using a range of data about the turbine, and the bird. It assumes there is no

[14] (Boffa Miskell Ltd, 2019a).

avoidance behaviour. The results of this analysis are as follows. For the V136 this result predicts that if a bird flies through a turbine it will be struck 6.5% of the time.

Table 3: Individual Collision Risk

Generic Alternative	Mean
V136	6.53%
Generic Turbine (150m blade)	6.15%

The calculation sheet that derives these results is presented for both turbine types below.

Collision Risk Modelling Results

The following four pages present the collision modelling results for the two turbine types.

There are two pages per turbine:

- The first page calculates the risk of collision for a single bird passing through a rotating turbine without avoidance.
- The second page uses a range of inputs on the wind farm layout and size, on the at-risk species, and including the collision risk from the first page to calculate a predicted collision rate for the species.

The only inputs that differ between the two turbine scenarios are the diameter of the rotors, the number of turbines and the individual collision risk. These are highlighted. All other inputs to the two scenarios are identical.

Calculation of Individual Collision Risk - Falcon (Female)

1/03/2023

Vesta V136

Calculation of alpha and p(collision) as a function of radius

							Upwind:			Downwind:		
K: [1D or [3D] (0 or 1)	**1.00**			r/R	c/C	α	collide		contribution	collide		contribution
NoBlades	**3.00**			radius	chord	alpha	length	p(collision)	from radius r	length	p(collision)	from radius r
MaxChord	**4.10**	m										
Pitch (degrees)	**6.50**		=D10*PI()/180									
BirdLength	**0.50**	m		0.025	0.575	4.94	15.80	0.90	0.00112	15.27	0.87	0.00108
Wingspan	**0.80**	m		0.075	0.575	1.65	5.44	0.31	0.00232	4.91	0.28	0.00209
F: Flapping (0) or gliding (+1)	**0.00**		=IF(D14,2/PI(),1)	0.125	0.702	0.99	3.94	0.22	0.00280	3.29	0.19	0.00234
				0.175	0.860	0.71	3.44	0.20	0.00342	2.64	0.15	0.00262
Bird speed	**11.00**	m/sec		0.225	0.994	0.55	3.19	0.18	0.00407	2.26	0.13	0.00289
RotorDiam	**136.00**	m		0.275	0.947	0.45	2.67	0.15	0.00418	1.79	0.10	0.00280
RotationPeriod	**4.80**	sec		0.325	0.899	0.38	2.31	0.13	0.00427	1.48	0.08	0.00272
				0.375	0.851	0.33	2.04	0.12	0.00434	1.25	0.07	0.00266
				0.425	0.804	0.29	1.82	0.10	0.00441	1.08	0.06	0.00261
				0.475	0.756	0.26	1.65	0.09	0.00446	0.95	0.05	0.00256
Bird aspect ratioo: β	0.63		=D12/D13	0.525	0.708	0.24	1.51	0.09	0.00450	0.85	0.05	0.00254
				0.575	0.660	0.21	1.38	0.08	0.00452	0.77	0.04	0.00252
				0.625	0.613	0.20	1.28	0.07	0.00454	0.71	0.04	0.00252
				0.675	0.565	0.18	1.18	0.07	0.00454	0.66	0.04	0.00253
				0.725	0.517	0.17	1.10	0.06	0.00453	0.62	0.04	0.00255
				0.775	0.470	0.16	1.02	0.06	0.00450	0.59	0.03	0.00259
				0.825	0.422	0.15	0.95	0.05	0.00447	0.56	0.03	0.00263
				0.875	0.374	0.14	0.89	0.05	0.00442	0.54	0.03	0.00269
				0.925	0.327	0.13	0.83	0.05	0.00436	0.53	0.03	0.00277
				0.975	0.279	0.13	0.77	0.04	0.00428	0.51	0.03	0.00285

Overall p(collision) = **Upwind** **8.0%** **Downwind** **5.1%**

Average **6.53%**

Vesta V136 Modelling Results. Page 2 (Variables highlighted)

UN-PREDICTABLE FLIGHT - Kaiwera Downs, Southland. Vesta V136		
Based on BAND Collision Risk Model		
Vw (Risk Volume)		
area windfarm (ha)	**2,465**	ha
area windfarm (m2)	24,650,000	m2
diam of rotors	136	m
Risk Volume **Vw**	**3,352,400,000**	m^3
Vr (Volume swept)		
N (number turbines)	83	
R (blade radius)	68	m
pi R 2	14,527	m^2
d (depth rotor)	4.1	m
l (length bird)	0.5	m
Volume Swept **Vr**	**5,546,299**	m^3
F (Flight Risk - Bird occupancy within Vw)		
% Time in flight	25%	
% Time within windfarm footprint	25%	
% Time in flight within Risk Volume	100%	
F (% time in risk volume Vw)	**6.25%**	
n (Bird Activity per annum)		
Days present on site	365	days
Mean daytime hrs for period on site	12	hours
p (Time bird potentially acitive)	4380	hours per annum
n hours (p x F)	274	hrs active in Vw per annum
n secs	**985,500**	secs
b (Bird occupancy of Vr - volume swept)		
b = n x (Vr/Vw)	**1,630**	bird-secs
t (Transit time through rotor)		
v = bird speed	11.00	m/sec
t = (d+l)/v	0.42	sec
Number of bird transits		
= b / t	**3,899**	per year
Collision Risk		
Collision Risk from Band	6.53%	From Band spreadsheet
Turbine downtime	**12.0%**	From Meridian
Collision Risk adjusted for downtime	5.7%	
Number of non avoidance collisions	**224**	per year
Avoidance Rate	**99.8%**	
Predicted Collission Deaths	**0.45**	birds per year
	2.23	years per bird

Calculation of Individual Collision Risk - Falcon (Female)

1/03/2023

Generic Turbine - 150m Blade

Calculation of alpha and p(collision) as a function of radius

							Upwind:			Downwind:		
K: [1D or [3D] (0 or 1)	**1.00**			r/R	c/C	α	collide		contribution	collide		contribution
NoBlades	**3.00**			radius	chord	alpha	length	p(collision)	from radius r	length	p(collision)	from radius r
MaxChord	**4.20**	m										
Pitch (degrees)	**6.00**		=D10*PI()/180									
BirdLength	**0.50**	m		0.025	0.575	4.67	15.20	0.83	0.00104	14.70	0.80	0.00100
Wingspan	**0.80**	m		0.075	0.575	1.56	5.23	0.29	0.00214	4.73	0.26	0.00194
F: Flapping (0) or gliding (+1)	**0.00**		=IF(D14,2/PI(),1)	0.125	0.702	0.93	3.79	0.21	0.00258	3.17	0.17	0.00216
				0.175	0.860	0.67	3.31	0.18	0.00316	2.55	0.14	0.00244
Bird speed	**11.00**	m/sec		0.225	0.994	0.52	3.09	0.17	0.00379	2.22	0.12	0.00272
RotorDiam	**150.00**	m		0.275	0.947	0.42	2.59	0.14	0.00389	1.76	0.10	0.00264
RotationPeriod	**5.00**	sec		0.325	0.899	0.36	2.24	0.12	0.00398	1.45	0.08	0.00258
				0.375	0.851	0.31	1.98	0.11	0.00405	1.23	0.07	0.00252
				0.425	0.804	0.27	1.77	0.10	0.00411	1.07	0.06	0.00248
				0.475	0.756	0.25	1.61	0.09	0.00417	0.94	0.05	0.00245
Bird aspect ratioo: β	0.63		=D12/D13	0.525	0.708	0.22	1.47	0.08	0.00421	0.85	0.05	0.00242
				0.575	0.660	0.20	1.35	0.07	0.00423	0.77	0.04	0.00242
				0.625	0.613	0.19	1.25	0.07	0.00425	0.71	0.04	0.00242
				0.675	0.565	0.17	1.16	0.06	0.00426	0.66	0.04	0.00243
				0.725	0.517	0.16	1.08	0.06	0.00425	0.62	0.03	0.00245
				0.775	0.470	0.15	1.00	0.05	0.00423	0.59	0.03	0.00249
				0.825	0.422	0.14	0.93	0.05	0.00421	0.56	0.03	0.00254
				0.875	0.374	0.13	0.87	0.05	0.00417	0.54	0.03	0.00260
				0.925	0.327	0.13	0.82	0.04	0.00411	0.53	0.03	0.00267
				0.975	0.279	0.12	0.76	0.04	0.00405	0.52	0.03	0.00275
					Overall p(collision) =			**Upwind**	**7.5%**		**Downwind**	**4.8%**
									Average	**6.15%**		

Alternative Turbine (150m Diameter). Modelling Results. Page 2 (Variables highlighted)

UN-PREDICTABLE FLIGHT - Kaiwera Downs, Southland. Rotor Diameter 150m		
Based on BAND Collision Risk Model		
Vw (Risk Volume)		
area windfarm (ha)	**2,465**	ha
area windfarm (m2)	24,650,000	m2
diam of rotors	150	m
Flight Risk Volume **Vw**	**3,697,500,000**	m^3
Vr (Volume swept)		
N (number turbines)	66	
R (blade radius)	75	m
pi R 2	17,671	m^2
d (depth rotor)	4.1	m
l (length bird)	0.5	m
Volume Swept **Vr**	**5,365,050**	m^3
F (Flight Risk - Bird occupancy within Vw)		
% Time in flight	25%	
% Time within windfarm footprint	25%	
% Time in flight within Risk Volume	100%	
F (% time in risk volume Vw)	**6.25%**	
n (Bird Activity per annum)		
Days present on site	365	days
Mean daytime hrs for period on site	12	hours
p (Time bird potentially acitive)	4380	hours per annum
n hours (p x F)	274	hrs active in Vw per annum
n secs	**985,500**	secs
b (Bird occupancy of Vr - volume swept)		
b = n x (Vr/Vw)	**1,430**	bird-secs
t (Transit time through rotor)		
v = bird speed	11.00	m/sec
t = (d+l)/v	0.42	sec
Number of bird transits		
= b / t	**3,419**	per year
Collision Risk		
Collision Risk from Band	6.15%	From Band spreadsheet
Turbine downtime	**12.0%**	From Meridian
Collision Risk adjusted for downtime	5.4%	
Number of non avoidance collisions	**185**	per year
Avoidance Rate	**99.8%**	
Predicted Collission Deaths	**0.37**	birds per year
	2.70	years per bird

APPENDIX H

Acoustic Assessment – Marshall Day

MEMO

MARSHALL DAY Acoustics

Project:	Kaiwera Downs Wind Farm	**Document No.:**	Mm 002 R02		
To:	Mercury	**Date:**	1 March 2023		
Attention:	Stewart Reid	**Cross Reference:**			
Delivery:	by email	**Project No.:**	20220484		
From:	Miklin Halstead	**No. Pages:**	4	**Attachments:**	No
Subject:	Turbine tip height influence on noise				

Mercury is currently constructing Stage 1 of the Kaiwera Downs Wind Farm with 145 m high wind turbines - in line with the consent conditions.

The resource consent granted by the Gore District Council allows for a maximum of 83 wind turbines, with a maximum tip height of 145m. All turbines are to be located within a defined project envelope, with turbines not to be located in predefined areas of ecological and visual constraints laid out in the consent conditions.

Prior to the commencement of construction of Stage 2, Mercury is seeking to vary its consent conditions to allow a maximum wind turbine height of 165 m and reduce the maximum number of turbines to 66. No changes are being sought to the noise conditions and Marshall Day has been engaged to confirm that the proposed changes to the consent will not impact Mercury's ability to comply with the current noise conditions.

The current noise conditions are below:

> *38. Wind turbine sound levels when measured at the notional boundary of dwellings existing at the date of this consent (or a dwelling that replaces any existing dwelling in the same location) shall not exceed the appropriate regression curve of the A-weighted background sound level (L95) by more than 5 dBA, or a level of 40 dBA L95, whichever is the greater.*
>
> *When the background sound conditions between the hours of 10 pm and 7 am the following day are at or below 25 dBA L95 determined from the appropriate regression curve without the interference of the wind farm, and when the mean wind speed at a representative location for the dwelling is less than 1.5m/sec measured at a height of nominally 3 metres above ground level, then noise from the wind farm shall not exceed 35 dBA L95 within the notional boundary of 16 Davidson Road East, being Lot 1 DP 15306 as described in CFR SL12B/80; and 57 Davidson Road East, being Section 17 Block II Slopedown Survey District, as described in CFRSLA4/ 151.*
>
> *This condition does not apply to any dwelling where the consent holder has reached agreement with the landowner, and such agreement is lodged with the Chief Executive Officer of the Gore District Council.*
>
> *The wind farm sound level shall be measured, and assessed using NZS 6808: 1998 Acoustics - The Assessment and Measurement of Sound from Wind Turbine Generators. Where requirements of these conditions differ from NZS 6808: 1998 then these requirements shall prevail.*
>
> *39. Prior to installation of any wind turbine generator the consent holder shall furnish:*
>
> *i. An acoustic emissions report to the Chief Executive Officer of the Gore District Council for each type of the selected wind turbine generators. The report shall be in accordance with IEC61400-11, Wind Turbine Generator Systems Part 11, Acoustic Noise Measurement Techniques and shall include the A-weighted sound power*

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levels, spectra, and tonality at integer wind speeds from 6 to 10 m/ s and up to 95% of rated power for each type of individual wind turbine to be installed.

ii. *A noise prediction report from a suitably qualified and experienced acoustical consultant that demonstrates to the satisfaction of the Chief Executive Gore District Council that the sound levels from the wind farm will not exceed those levels set out in Condition 38 above. Modes of operation and the type of turbine must be specified. For the avoidance of doubt, this resource consent does not authorise the use of a stall turbine design.*

To determine whether the increase in tip height and reduction in turbine numbers would impact on Mercury's ability to comply with these conditions, we have undertaken a comparison of noise emissions from a wind farm with 165m tip height, versus the same farm with 145m tip height.

The original noise assessment for the consent application was based on 83 Vestas V90 turbines being established in the project envelope, described in the project application as follows:

Hub Height: 100m maximum

Rotor Diameter: 90m

Tip Height: 145m maximum

Turbine Sound Power Level: 110.1 dBA maximum, with spectrum unspecified. We understand the typical V90-3MW spectrum to be as follows:

Frequency:	**63**	**125**	**250**	**500**	**1k**	**2k**	**4k**	**Total**
A-weighted L_w:	94.6	98.5	103.1	104.8	104.6	101.2	86.9	110.1

The turbine models currently considered for the wind farm include the Vestas V136-4.3, with a measured sound power level as follows:

Frequency:	**63**	**125**	**250**	**500**	**1k**	**2k**	**4k**	**Total**
A-weighted L_w:	82.5	90.7	96.1	98.7	98.5	95.5	89.7	103.9

As can be seen above, the turbines currently being installed on the site have a lower sound power level (produce less noise) than the turbines referenced in the original noise assessment. The use of modern turbines, even if they are at a tip height of 165m, will almost certainly have a lower sound power level than the indicative turbines modelled for the original consent application. A reduction in the number of turbines will also tend to reduce the noise footprint of a wind farm (all other factors remaining equal).

To isolate the effects of the increased tip height from these other factors, it was assumed for assessment purposes that the layout of the wind farm (83 turbines as consented) and the sound power level of the turbines are the same in both cases – notwithstanding that Mercury are now proposing less turbines across the project envelope).

Comparison of Tip Height

To test the influence of tip height on the modelled sound pressure level in the environment, we have calculated the model using the V136 spectrum in both cases as follows:

145m Tip Height: 100m hub height with 90m rotor diameter

165m Tip Height: 97m hub height with 136m rotor diameter

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The modelling methodology is that described in ISO9613-2. The recommendations of the UK Institute of Acoustics *"Good Practice Guide… for the Assessment and Rating of Wind Turbine Noise"* have been followed in configuring this model, most notably that the shielding afforded by topography has been limited to 2 dB.

Results

The difference between these scenarios is illustrated in Figure 1. This figure plots the difference between the 165m case and the 145m case, so positive numbers indicate an increase in noise resulting from taller turbines. Dwellings are indicated on this map; note that the 14 landowner dwellings are distinguished from dwellings external to the project by green symbols.

The vast majority of the surrounding area shows a change of less than +/- 0.5 dB. Numerous pockets show increases of up to 1 dB; several very small pockets of change of greater than +/- 1 dB are found mostly near the turbines.

The subjective difference limen for noise is 3 dB – representing a "just noticeable difference". However it is more relevant to consider the impact of turbine configuration on ability to comply with numerical noise limits. A change of less than 0.5 dB would not significantly affect the conclusion of a compliance assessment, as all results are rounded to the nearest decibel in reporting.

All areas where a change of more than 0.5 dB is calculated to occur are very small, and located far from dwellings.

When the additional factors of reduced numbers of turbines and the reduced sound power levels of modern wind turbines are taken into account, the overall noise footprint of the wind farm under the proposed consent variation will be less than using the assumptions for the original consent.

Conclusion

An increase in maximum tip height from 145m to 165m will not have a noticeable impact on either the measured or the perceived noise level of the wind farm, with the level of difference measured being well below the "just noticeable difference" limit. This has been determined looking purely at increasing the tip height but keeping the turbine sound power levels and number of turbines the same (notwithstanding that Mercury is seeking to reduce the number of turbines).

The reduction in the number of turbines, and advances in wind turbine technology will reduce the overall noise footprint of the wind farm, compared with what was considered in the original consent application, such that compliance with the existing noise limits in the conditions is achievable.

Changes in turbine model and layout configurations within the project envelope will have an impact on noise levels at specific receptor locations. In the consent this has been addressed by setting noise limits which the wind farm must comply with. This allows the flexibility required to optimise the wind farm, while ensuring the noise from the wind farm is within reasonable limits. An increase in tip height to 165m and a reduction in turbines from 83 to 66 will not prevent Mercury from complying with these consent conditions.

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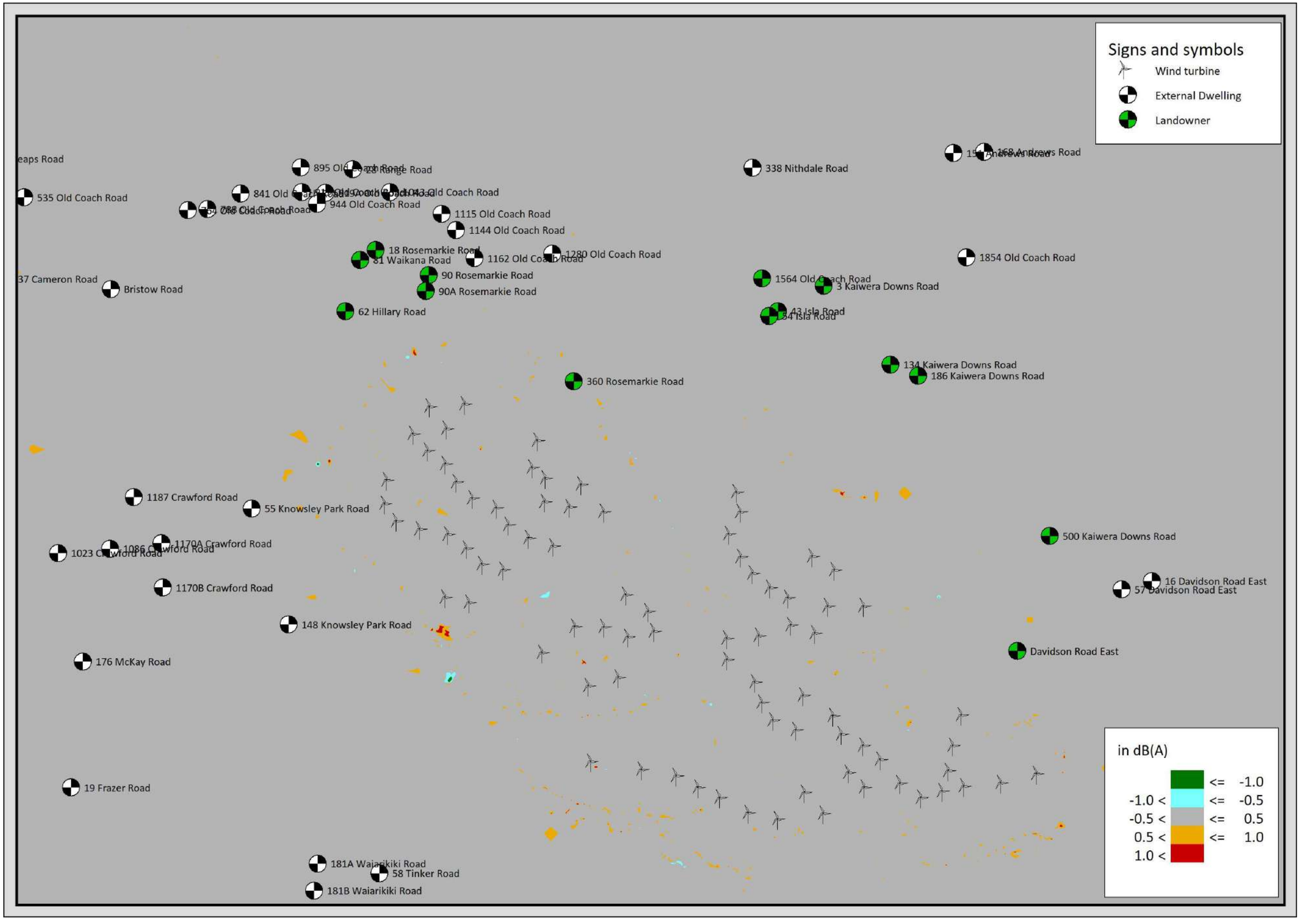
Figure 1 – Difference Contour Areas, 165m Tip Height Relative To 145m Tip Height, KDWF



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APPENDIX I

Shadow Flicker Assessment - DNV

Philip Wong Too
Mercury NZ Limited
33 Broadway
Newmarket, Auckland, 1023
New Zeland

DNV - Energy Systems
Level 12, 350 Queen Street
Melbourne, VIC, 3000
Australia

Tel: +61 3 8615 1515

ABN 14 154 635 319

Date:
03/03/2023

Our reference:
10421894-AUMEL-L-01-E

Kaiwera Downs Wind Farm – Shadow Flicker Advice

Dear Philip Wong Too,

Mercury NZ Limited (Mercury) has requested that DNV provide an assessment of the potential shadow flicker impact resulting from proposed changes to the consented wind farm configuration of the Kaiwera Downs Wind Farm (the "Project"). The proposed changes are an increase in tip height to 165 m as well as a reduction of the turbine count from 83 to 66.

For the purpose of this assessment, DNV used a project configuration consistent with the existing consent, which is based on the use of 83 Vestas V136 wind turbine with a hub height of 77 m, leading to a tip height of 145 m, with a turbine layout as illustrated in Figure 1.

DNV has considered the following potential turbine dimensions arising from the increased 165m tip height:

- ***Preferred scenario*** – rotor diameter of 150 m and hub height of 90 m
- ***Worst-case scenario*** – rotor diameter of 156 m and hub height of 87 m

The two scenarios reflect the preferred turbine configuration and a worse-case scenario which prioritised an increase in the rotor diameter in order to achieve the targeted 165 m tip height. The basis for defining the worst-case scenario in such a way is that shadow flicker modelling typically assumes shadow flicker impact distance as a function of the rotor diameter and, as such, a larger rotor would theoretically be expected to project shadow flicker over a larger area.

As the consent provides for an envelope within which turbines may be located and the detailed design micro-siting has not been undertaken, DNV has taken the approach of assessing the potential impact of the proposed changes by assessing the changes to the areas within the development envelope where turbines would be likely to produce shadow flicker at nearby dwellings.

In theory, shadow flicker can be observed many kilometres from a wind turbine. However, due in part to atmospheric dissipation, the intensity of the shadows are expected to decrease as the distance from a turbine increases. Since varying sensitivity to shadow flicker may lead to different level of tolerance by members of the community, the modelling guidelines[1] commonly adopted for the purpose of modelling such phenomenon assumes a threshold well above the minimum theoretically detectable threshold, which is defined here as high-intensity shadow flicker. A commonly accepted duration limit for annual shadow flicker occurrences is set to 30 hours of theoretical shadow flicker, and it is assumed here that this applies to high-intensity shadow flicker only. It is noted that low-level shadow flicker can still be observed past the distances typically assumed for modelling purpose, but these are typically assumed to be below a level which would be considered an annoyance for most people.

[1] Environment Protection and Heritage Council (EPHC), "National Wind Farm Development Guidelines - Draft," July 2010.

In order to define areas where high-intensity shadow flicker could theoretically be produced, DNV has modelled shadow flicker from generic turbines with the proposed dimensions in flat terrain (which neglects potential obstruction from terrain features). As per DNV's standard modelling approach, the high-intensity shadow flicker modelling distance was limited to 10 rotor diameters (10D).

From this process, areas where non-zero annual shadow flicker durations were predicted were defined, and these areas were then buffered by 50 m in order to account for dwelling dimensions and potential spatial uncertainty. The resulting areas were then mirrored and copied to nearby dwelling locations in order to define areas where turbine deployment could theoretically lead to shadow flicker at a given dwelling. The outcome of this process is illustrated in Figure 1.

From the review of Figure 1, and as summarised in Table 1, it can be seen that the change in the proportion of the area available for turbine placement which would be potentially constrained by shadow flicker is relatively small.

Table 1 Summary shadow flicker constrained areas

Turbine dimensions case	Shadow flicker constrained area	
	[sq.km.]	[% unconstrained development envelope]
Consented	0.36	2.5%
Likely scenario	0.56	3.9%
Worst-case scenario	0.66	4.6%

Furthermore, it should be noted that, considering the indicative turbine locations and the worst-case turbine dimensions, there is up to one turbine that would be expected to produce shadow flicker at one of the nearby dwellings[2]. Also, DNV note that, based on the information provided by Mercury, this dwelling is occupied by a landowner with involvement in the project.

It should be noted that, even when shadow flicker is predicted, there are mitigation options that can be employed, and which are effective regardless of turbine size. These options include relocation, removal or curtailment (stopping turbines at the times and dates when they would cast a shadow on the dwelling).

Considering the proposed reduction in the number of turbines, from 83 to 66 locations, and the estimated extent of the shadow flicker constrained areas for the different turbine dimension scenarios, DNV expects that it should be possible for Mercury to produce a wind farm layout (with mitigation if required) which would be compliant with Condition 24 of the planning consent document issued for the Project.

Nonetheless, DNV recommended a shadow flicker assessment be conducted once a turbine layout has been finalised by Mercury in order to assess compliance and identify any mitigation measures that may be required.

Sincerely,
DNV Australia Pty Limited

Jules Jobin
Principal Engineer
Project Development & Analytics
jules.jobin@dnv.com

Trenton Gilbert
Principal Engineer, Head of Section
Project Development & Analytics
trenton.gilbert@dnv.com

[2] Mercury advised the locations and status of dwellings neighbouring the Project via email on 24 February 2023.

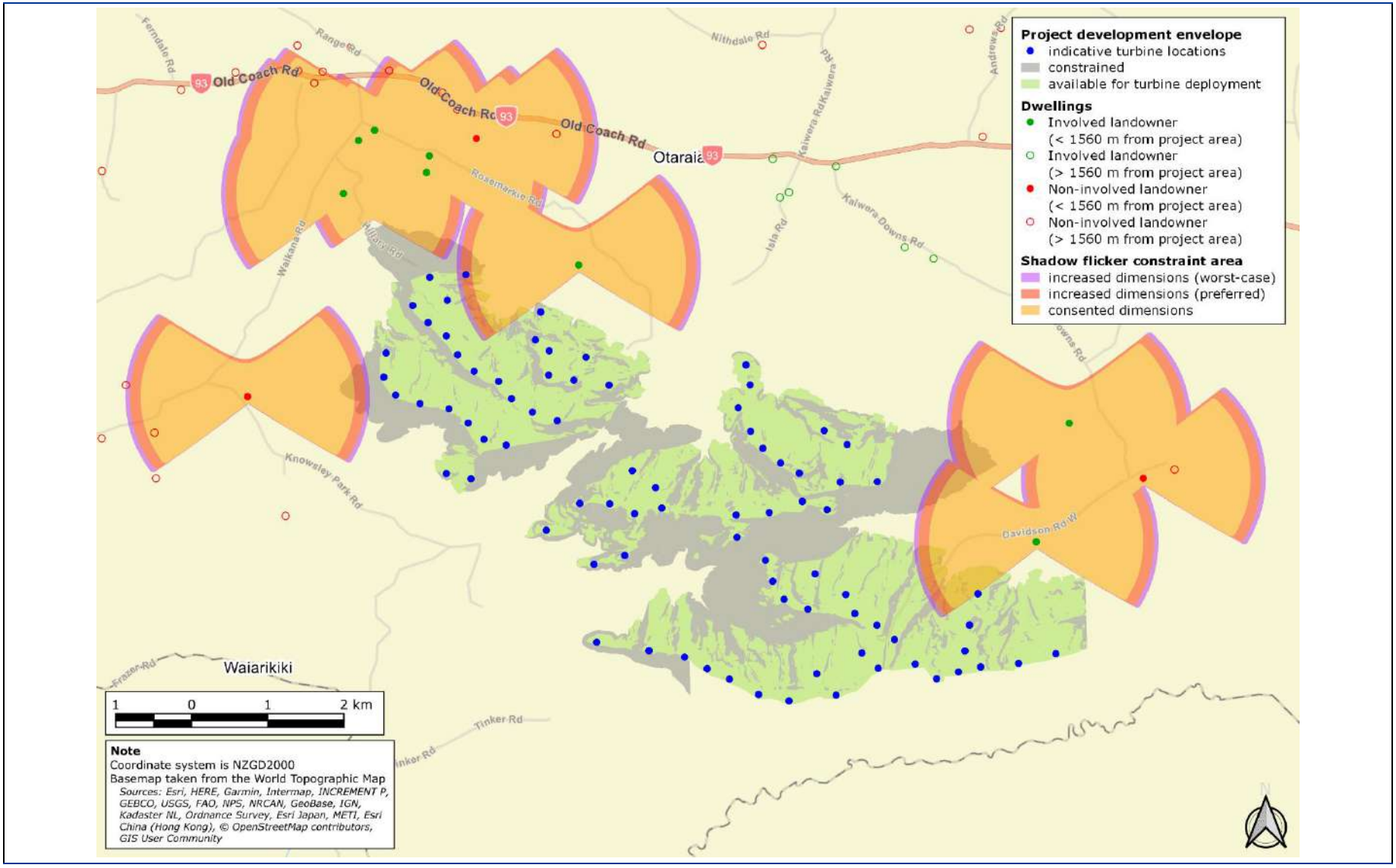

Figure 1 Project development envelope and indicative shadow flicker constrained areas

J

APPENDIX J

Email to Te Ao Marama and Hokonui Runanga

Richard Turner

From: Stewart Reid <Stewart.Reid@mercury.co.nz>
Sent: Monday, 15 May 2023 11:38 am
To: Richard Turner
Subject: FW: KDWF Tip Height Amendment

FYI – email to Iwi regarding tip height amendment. I received no response.

From: Stewart Reid
Sent: Tuesday, 14 March 2023 2:39 pm
To: Stevie-Rae Blair <stevie@tami.maori.nz>; Riki Parata <Riki.Parata@hokonuirunanga.org.nz>
Subject: KDWF Tip Height Amendment

Good afternoon,

Mercury are currently developing a proposed consent amendment to alter the maximum tip height from 145m to 165m for the turbines at the Kaiwera Downs Wind Farm (and consequently reduce the total number of consented turbines from 83 to 66). In this regard, similar model turbines to Stage 1 would be used at the wind farm but they would have slightly taller towers. The main reason for this is to avoid the turbulent lower level winds and keep the loading across the turbine blades more uniform.

As part of our consent amendment application we have undertaken technical assessments on the potential change in effects on the landscape, noise and ecology etc – all of which have identified that the proposed change will result in no material change in effects on the environment or that some positive effects will result (i.e. a reduction in the number of turbines). Essentially the only change to the consented proposal is the tip height, and Mercury will continue to work within all the other original consented parameters that apply to the site.

We appreciate that you did not participate in the original consenting process, but thought it appropriate to keep you updated of this proposed change. If you are interested in discussing this proposed consent amendment further, please let me know and we can arrange a suitable time.

Thanks,

Stewart Reid
Project Manager

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M +64 21 1975 944
E stewart.reid@mercury.co.nz

Mercury

This message contains confidential information. If it's not intended for you, please don't copy, disclose or use it, but please do let us know by return email and then delete this message.

APPENDIX K

Summary of Submissions on Original Resource Consent Application

Submitter to the Gore District Council		Stance	Summary of Submission
1	Contact Energy Limited (Andy Somerville)	Support	• Supports renewable energy generation and KDWF but wishes any consent to be supported by new transmission investment. • Little spare capacity within the existing transmission system. • If no new transmission system, then one renewable energy resource (wind) will replace another (hydro).
2	Copland - Mark	Support	• KDWF will help alleviate looming power crisis. • Coupled with beef and sheep grazing environmentally friendly. • Considerable financial benefits during construction and operation to Southland District. • Concerned over condition of local roads which will be used, recommends independent government auditor to inspect roads in winter. • Any industrial development levy should be used to upgrade roads, and balance be used to benefit rural people who live within 10kms of project.
3	Copland - Sally A	Support	• KDWF promotes an environmentally sustainable technology. • Their land is suitable for the wind farm. • The windfarm will reduce pressure on water demand. • Concerned over condition of roading and that it will not cope with additional usage.
4	Day - Winston W	Support	• A great asset for the province.
5	Dickie - Alan R	Support	• Raises concerns over condition of roading infrastructure (Rosemarkie Rd) and hopes the GDC will fix it.
6	Dickie - Lester G	Support	• There is increased demand for electricity. • An environmentally friendly source of power generation.
7	Dickie - Valerie M	Support	• Terrain suitable for windfarm. • Energy is needed now. • Renewable energy resource, especially when used with hydro electricity.
8	Energy Efficiency & Conservation Authority (Rose Feary)	Support	• NZ needs to produce more energy to meet demand. • NZ's reliance on hydro, which can be uncertain and dwindling gas fields means new sources of energy need to be found. • Long term sustainable energy future requires increasing amounts of renewable energy which will reduce greenhouse gas emissions and meet Kyoto Protocol obligations. • Will assist in providing security of supply. • Will provide short and long-term employment opportunities, industry development, profitable business opportunities and regional development.
9	Falconer - Neville L	Support	• Site is appropriate geologically and environmentally for a wind farm. • Despite short term disturbance to residents during the construction phase there will be no long term negative environmental consequences. • Very little land will be lost to pastoral farming. • Suggests "flow batteries" as a practical "wind bank".
10	Finegand Afforestation Trust	Support	• Increases utility value of land that has lower economic value. • Visual impact will be relatively minor.
11	Fish and Game Southland (Jan M Riddell)	Support	• Seek reassurance that there will be no further degradation of water quality in streams, particularly the Mimihau and Pomahaka. • Seek reassurance that mitigation measures (angles of bank batters, sediment traps and "run outs") to avoid sediment run-off are put in place during the construction phase, not after its completion. • Opposes disposing of spoil into gully wetlands and into the heads of gullies. • Consent conditions should include that all watercourses have culverts installed or bridges over them.

Submitter to the Gore District Council		Stance	Summary of Submission
			• Consent conditions should recognise the importance of fish passage and spawning timing.
12	Hargest - Peter	Support	• Clean and efficient. • Development levy should be related to actual costs incurred by Council. • Any further levy should go to adequately and generously compensating close neighbours who may miss out on compensation. • Does not want Council to exploit this project for its own financial benefit. • Seeks an independent apolitical hearing panel.
13	Heslip - Warren J	Support	• Not stated
14	Jackson - Margaret J	Support	• Renewable resource. • Increased demand for electricity. • Benefits for the Gore district and wider economy will outweigh any visual impairment. • Land suitable given its current use as pastoral farming and forestry.
15	Jackson - Neil R	Support	• Renewable resource. • Increased demand for electricity. • Benefits for the Gore district and wider economy will outweigh any visual impairment. • Land suitable given its current use as pastoral farming and forestry.
16	McFadzien - Cyril	Support with Conditions	• Questions present make-up of hearings panel and seeks an independent commissioner to preside. • Requests that financial contributions from the developer stay within the 10 kilometre radius. • Financial contributions be used for scholarships, bursaries, improvement to infrastructure, roading.
17	Ministry of Economic Development (Caroline Ryder)	Support	• Offers national benefits by making use of a viable and renewable energy resource. • Helps ensure security of supply. • Generates electricity while avoiding producing greenhouse gases.
18	Mitchell - Mervyn & June	Support	• Great use of an area that is not obtrusive to the public. • Will sustain farming families financially. • Two families will suffer major disruption during the construction phase and ought to be adequately compensated.
19	Mitchell - Ruth S	Support	• Method of power generation environmentally friendly.
20	New Zealand Wind Energy Association (Fraser Clark)	Support	• Contributes to the sustainable management of natural resources. • Mitigates potential impact of climate change. • Sustainably and efficiently uses a significant resource. • Complements existing hydro-generation resources. • Provides security of supply and price. • High level of public support.
21	Perkins - Albert Harvey (Estate)	Support	• Not stated
22	Perkins - Dean G	Support	• Not stated
23	Perkins - HD & IM	Support	• Not stated
24	Purey-Cust - John R	Support	• Given increasing demand for electric power, and unattractiveness of coal (climate change) and hydro (submitter is a keen fisherman); wind is most attractive option as potentially leaves no footprint. • Site is visually suitable.
25	Tuturau Heights Limited	Support	• Not stated
26	Watson - Raymond A	Support	• Not stated

Submitter to the Gore District Council		Stance	Summary of Submission
27	Wilson - Ian	Support	• Local community will benefit from upgrading infrastructure and power supply. • Economic benefits.
28	Wilson - Naomi	Support	• Benefits to local economy especially through the construction phase. • Major source of power for the community.
29	Clutha District Council (Murray Brass)	Neutral	• Asks that, to the extent that it is practicable visual impacts be reduced or mitigated on properties within the Clutha District. • Asks that consideration be given at the hearing as to the appropriate standard for noise emissions from the windfarm for properties with relatively low background noise.
30	Department of Conservation (Anke de Jong)	Neutral	• Requests that conditions be imposed if consent is granted in line with those proposed in the application namely: • Areas with natural values including forest, forest shrub, intact high value grey shrub lands and high quality gullies with wetland features, be avoided. • The proposal complies with the Southland Regional Council's Pest Management Strategy. • No herpetofauna mitigation is needed as any significant lizard habitat will be avoided. • Post installation bird strike monitoring be undertaken. • If the above conditions are not met, then consent be denied.
31	Jenkins Motors Limited (Jo & Russell Johnstone)	Neutral	• Two school buses use Old Coach Road stopping at Isla Road. • Wants to ensure that the school bus can stop and turnaround safely.
32	Mullon - Gail J	Neutral	• Submitter is Principal of Kaiwera School. Safety of school pupils is paramount. • Asks that a solid bus shelter and footpaths be provided for students accessing school buses on Isla and Old Coach Roads.
33	Land Information New Zealand (Colette Farr)	Neutral	• Trustpower must ask apply for consent if any works are undertaken on land administered by LINZ. • If land ownership is unclear, then Trustpower must undertake property status investigations to determine ownership.
34	McChlery - John & Janice	Neutral	• Noise. • Oppose envelope tower placement within 5 kilometres of private homes.
35	Ministry of Education (David Colwill, Opus)	Neutral	• Asks that if consent is granted and Kaiwera Road experiences a significant increase in vehicle numbers, that all vulnerable windows be double-glazed at Trustpower's expense, in order to reduce noise at Kaiwera School.
36	Morris - Grant G	Neutral	• No mention of obstacle lighting on nacelles. • Noise from entire project not just single turbines. • Serious visual impact on landscape. • Impact of heavy traffic on roading structure. • Removal of all construction if becomes obsolete.
37	Southern Rural Fire Authority	Neutral	• Requests the applicant submit a Fire Response Plan and Communication Plan acceptable to the submitter. • Requests further measures (detailed in submission) to prevent and suppress fire risk and asks that they be included in the conditions of consent.
38	Southland District Council	Neutral	• Requires a construction management plan to be prepared prior to the commencement of construction. • The applicant to upgrade and maintain, at its cost, the affected Southland District Council roading network including carriageway, verges, bridges and culverts to a standard necessary for the activity of the consent holder and the transportation of overweight and over dimensioned loads, construction and plant materials. • A maintenance period of 12 months to apply after the final load to

Submitter to the Gore District Council		Stance	Summary of Submission
			monitor the effects of the loads, and a bond of $2,000,000 plus GST to be established in favour of the submitter. • The application demonstrates compliance with relevant NZ standards relating to construction and operational noise, but questions whether these standards will be applicable given environmental factors and the isolated nature of some of the affected properties.
39	Telecom New Zealand Limited	Neutral	• Raises concerns there may be earth potential rise hazards created threatening Telecom network plant, cables and cable equipment. • Requests that the consent holder consult with Telecom to identify and evaluate such risks and take necessary steps to monitor and prevent any damage to Telecom property. • All mitigation work is to be borne by the consent holder.
41	Alexander - John W & Susan J	Oppose	• Possible disruption of normal day-to-day living and working in the area. • Possible noise and visual effect and effect on valuation and resale of their property.
42	Blakely - Warren M	Oppose	• Application prepared ad hoc with no coherent strategy for energy. • Major irrevocable adverse effects on landscape and amenity values of their property. • Insufficient information to assess accurately effects of turbines, access roads and other infrastructure given the envelope development model used. • Landscape assessment only presents views from residences not from the farm land which is their place of work. • Visual simulations are misleading. • Windfarms inefficient form of producing electricity. • High carbon footprint to manufacture, transport and install them. • Noise will adversely affect amenity values of their property. • No assurance telecommunication equipment will not be affected. • Earth disturbance will increase spread of weed species. • No guarantee human health will be unaffected.
43	Blakely - Wendy	Oppose	• Application prepared ad hoc with no coherent strategy for energy. • Major irrevocable adverse effects on landscape and amenity values of their property. • Insufficient information to assess accurately effects of turbines, access roads and other infrastructure given the envelope development model used. • Landscape assessment only presents views from residences not from the farm land which is their place of work. • Value of their land will diminish. • Noise will adversely affect amenity values of their property. • No assurance telecommunication equipment will not be affected. • Earth disturbance will increase spread of weed species. • No guarantee human health will be unaffected.
44	Concerned Neighbours of the Kaiwera Downs Windfarm	Oppose	• Request a new independent hearing committee be appointed due to a conflict of interest. • Concerned at interference of their farming operations. • Negative noise and visual effects from construction and operation of the windfarm and they cannot be adequately mitigated. If consent is granted that the following conditions be imposed • No turbines within 5 kms of any residential building. • No more than 50 turbines 110 metres tall located within the envelope and painted in low reflectivity finish. • Consent holder to remedy any interference with electrical or telecommunication equipment of the submitters. • Farming operations shall not be interrupted during construction. • Stock underpasses on any property bisected or bounded by any

Submitter to the Gore District Council		Stance	Summary of Submission
			road used during construction where road currently used for droving. • Consent holder if requested shall undertake noise monitoring of any residence within an 8 km radius of any turbine. • Consent holder shall install noise suppression and double glazing to any residential building, workplace or other building within a 5 km radius of any turbine. • A dust suppression plan to be submitted to Environment Southland and to the Gore District Council. • Progressive revegetation. • Eradication of weeds within 5 km radius of consented envelope. • Construction traffic management plan to be prepared. • Consent holder to construct any road improvements necessary. • If decommissioned all above ground structures to be removed. • At least a 1% development levy to be paid to the Gore District Council with 75% to be used in the Kaiwera, Ferndale and Waikana areas. • One off development impact levy to any landowner whose land physically bounds the consented envelope. • A community consultative group to be established and a complaints register lodged with the Gore District Council. • Any structures to connect to the transmission line to be erected within the consented envelope. • Windfarm staff to be recruited from outside Eastern Southland. • Background noise to be assessed for 12 months prior to construction to establish a "noise benchmark". • One access point to the envelope. • All aggregate needed to be sourced from within the envelope. • An educational scholarship of $150,000.00 be established for young people living within the affected area.
45	Dickie - Alton (Brent)	Oppose	• Effect on visual amenity, sole view from some rooms will be the windfarm envelope. • Traffic noise from construction vehicles. Their residence is 20 metres from SH 93. • Questions the legality and validity of wind tower noise data. • Data was taken at 2.5km distance from the nearest turbine while the envelope boundary is 1.8km from their farm. • Concern over effect of windfarm on resale of a lifestyle block he owns. • Requests an independent hearings panel. • Questions consultants' competency. If consent granted asks for the following conditions: • No turbine within 5 kms of any residence. • All houses within 5 km be sound-proofed and double glazed. • Compensation to neighbours for decrease in property values. • A proportion of development levy to be spent in the local area. • Cell-phone tower to be installed. • One access point (Isla Rd) for all construction traffic, so safety of Ferndale school is ensured.
46	Dickie - Warren	Oppose	• Rural landscape views will be totally lost. • Potential for noise to pollute existing environment.' • Concern over possible decrease in land values and effect on their ability to subdivide successfully.
47	Heaps - Mark & Leanne	Oppose	• Request a new independent hearing committee be appointed due to a conflict of interest. • Concerned at interference of their farming operations. • Negative noise and visual effects from construction and operation of the windfarm and they cannot be adequately mitigated.

Submitter to the Gore District Council		Stance	Summary of Submission
			If consent is granted that the following conditions be imposed • No turbines within 5 kms of any residential building. • No more than 50 turbines 110 metres tall located within the envelope and painted in low reflectivity finish. • Consent holder to remedy any interference with electrical or telecommunication equipment of the submitters. • Farming operations shall not be interrupted during construction. • Stock underpasses on any property bisected or bounded by any road used during construction where road currently used for droving. • Consent holder if requested shall undertake noise monitoring of any residence within an 8 km radius of any turbine. • Consent holder shall install noise suppression and double glazing to any residential building, workplace or other building within a 5 km radius of any turbine. • A dust suppression plan to be submitted to Environment Southland and to the Gore District Council. • Progressive revegetation. • Eradication of weeds within 5 km radius of consented envelope. • Construction management plan to be prepared. • Consent holder to construct any road improvements necessary. • If decommissioned all above ground structures to be removed. • At least a 1% development levy to be paid to the Gore District Council with 75% to be used in the Kaiwera, Ferndale and Waikana areas. • One off development impact levy to any landowner whose land physically bounds the consented envelope. • A community consultative group to be established and a complaints register lodged with the Gore District Council. • Any structures to connect to the transmission line to be erected within the consented envelope. • Windfarm staff to be recruited from outside Eastern Southland. • Background noise to be assessed for 12 months prior to construction to establish a "noise benchmark". • One access point to the envelope. • All aggregate needed to be sourced from within the envelope. • An educational scholarship of $150,000.00 be established for young people living within the affected area.
48	Henderson - Christine E	Oppose	• This is not an efficient form of electricity generation. Other ways are cheaper and more environmentally friendly. • Questions validity under the RMA.
49	Jensen - Kristian	Oppose	• Unless consent holder puts at least 1/2 percentage of profits back into the community within a 20 km radius.
50	Maguire - Nicola A	Oppose	• Visually and environmentally a blight on the landscape. • Short term financial gains at the expense of the amazing natural landscape. • Lord of the Rings becomes Lord of the Turbines.
51	McGowan - Robin M	Oppose	• Not an independent hearings committee • Loss of amenity values in particular ridgelines. • Opposes any noise above 40dBA at night and requests monitoring by Gore District Council not the consent holder. • Lack of exit contracts for existing neighbours at guaranteed land values. • Seeks specific positioning of turbines, not envelope approach. • Ensure traffic safety, Old Coach Rd and Isla Rd already problematic. • Contribute to major labour shortage. • Necessary upgrade to transmission lines may restrict farming.

Submitter to the Gore District Council		Stance	Summary of Submission
			• Appeal financial contributions given likely profit. • Ought to be considered a non-complying activity in the rural zone.
52	Mcleod - Duncan & Desiree	Oppose	• Noise. Shutting down of selected turbines at night and double-glazing of windows if necessary. • Asks that dust suppression be used. They collect rain water from their roof and dust from construction traffic would affect this adversely. • One entrance point only from Isla Road, especially as they are the farmers directly to benefit from the windfarm. • Construct and maintain a public viewing area to allow for safe viewing of the turbines off the road. • Plant shelter belts to screen moving blades from distracting drivers. • The consent holder to consult with the local schools and parents of pupils to work out the safest time for construction vehicles to use the roads. • The consent holder to avoid and remedy any disturbance to telecommunication services. • Request that the turbine envelope be at least 3-3.5 kms form their property.
53	Moody - A D	Oppose	• Request a new independent hearing committee be appointed due to a conflict of interest. • Concerned at interference of their farming operations. • Negative noise and visual effects from construction and operation of the windfarm and they cannot be adequately mitigated. If consent is granted that the following conditions be imposed • No turbines within 5 kms of any residential building. • No more than 50 turbines 110 metres tall located within the envelope and painted in low reflectivity finish. • Consent holder to remedy any interference with electrical or telecommunication equipment of the submitters. • Farming operations shall not be interrupted during construction. • Stock underpasses on any property bisected or bounded by any road used during construction where road currently used for droving. • Consent holder if requested shall undertake noise monitoring of any residence within an 8 km radius of any turbine. • Consent holder shall install noise suppression and double glazing to any residential building, workplace or other building within a 5 km radius of any turbine. • A dust suppression plan to be submitted to Environment Southland and to the Gore District Council. • Progressive revegetation. • Eradication of weeds within 5 km radius of consented envelope. • At least a 1% development levy to be paid to the Gore District Council with 75% to be used in the Kaiwera, Ferndale and Waikana areas. • One off development impact levy to any landowner whose land physically bounds the consented envelope. • A community consultative group to be established and a complaints register lodged with the Gore District Council. • Any structures to connect to the transmission line to be erected within the consented envelope. • Windfarm staff to be recruited from outside Eastern Southland. • Background noise to be assessed for 12 months prior to construction to establish a "noise benchmark". • One access point to the envelope. • All aggregate needed to be sourced from within the envelope. • An educational scholarship of $150,000.00 be established for

Submitter to the Gore District Council		Stance	Summary of Submission
			young people living within the affected area.
54	Moody - Luke & Ceridwen	Oppose	• Request a new independent hearing committee be appointed due to a conflict of interest. • Concerned at interference of their farming operations. • Negative noise and visual effects from construction and operation of the windfarm and they cannot be adequately mitigated. If consent is granted that the following conditions be imposed • No turbines within 5 kms of any residential building. • No more than 50 turbines 110 metres tall located within the envelope and painted in low reflectivity finish. • Consent holder to remedy any interference with electrical or telecommunication equipment of the submitters. • Farming operations shall not be interrupted during construction. • Stock underpasses on any property bisected or bounded by any road used during construction where road currently used for droving. • Consent holder if requested shall undertake noise monitoring of any residence within an 8 km radius of any turbine. • Consent holder shall install noise suppression and double glazing to any residential building, workplace or other building within a 5 km radius of any turbine. • A dust suppression plan to be submitted to Environment Southland and to the Gore District Council. • Progressive revegetation. • Eradication of weeds within 5 km radius of consented envelope. • Construction management plan to be prepared. • Consent holder to construct any road improvements necessary. • If decommissioned all above ground structures to be removed. • At least a 1% development levy to be paid to the Gore District Council with 75% to be used in the Kaiwera, Ferndale and Waikana areas. • One off development impact levy to any landowner whose land physically bounds the consented envelope. • A community consultative group to be established and a complaints register lodged with the Gore District Council. • Any structures to connect to the transmission line to be erected within the consented envelope. • Windfarm staff to be recruited from outside Eastern Southland. • Background noise to be assessed for 12 months prior to construction to establish a "noise benchmark". • One access point to the envelope. • All aggregate needed to be sourced from within the envelope. • An educational scholarship of $150,000.00 be established for young people living within the affected area.
55	Murray - Alistair & Hazel	Oppose	• Request a new independent hearing committee be appointed due to a conflict of interest. • Concerned at interference of their farming operations. • Negative noise and visual effects from construction and operation of the windfarm and they cannot be adequately mitigated. If consent is granted that the following conditions be imposed • No turbines within 5 kms of any residential building. • No more than 50 turbines 110 metres tall located within the envelope and painted in low reflectivity finish. • Consent holder to remedy any interference with electrical or telecommunication equipment of the submitters. • Farming operations shall not be interrupted during construction. • Stock underpasses on any property bisected or bounded by any road used during construction where road currently used for droving.

Submitter to the Gore District Council		Stance	Summary of Submission
			• Consent holder if requested shall undertake noise monitoring of any residence within an 8 km radius of any turbine. • Consent holder shall install noise suppression and double glazing to any residential building, workplace or other building within a 5 km radius of any turbine. • A dust suppression plan to be submitted to Environment Southland and to the Gore District Council. • Progressive revegetation. • Eradication of weeds within 5 km radius of consented envelope. • Construction management plan to be prepared. • Consent holder to construct any road improvements necessary. • If decommissioned all above ground structures to be removed. • At least a 1% development levy to be paid to the Gore District Council with 75% to be used in the Kaiwera, Ferndale and Waikana areas. • One off development impact levy to any landowner whose land physically bounds the consented envelope. • A community consultative group to be established and a complaints register lodged with the Gore District Council. • Any structures to connect to the transmission line to be erected within the consented envelope. • Windfarm staff to be recruited from outside Eastern Southland. • Background noise to be assessed for 12 months prior to construction to establish a "noise benchmark". • One access point to the envelope. • All aggregate needed to be sourced from within the envelope. • An educational scholarship of $150,000.00 be established for young people living within the affected area. • Water samples be taken 12 months prior, during and in the 12 months following construction form all creeks and streams in and around the envelope.
56	Newton - Trevor & Lynette	Oppose	• Request a new independent hearing committee be appointed due to a conflict of interest. • Concerned at interference of their farming operations. • Negative noise and visual effects from construction and operation of the windfarm and they cannot be adequately mitigated. If consent is granted that the following conditions be imposed • No turbines within 5 kms of any residential building. • No more than 50 turbines 110 metres tall located within the envelope and painted in low reflectivity finish. • Consent holder to remedy any interference with electrical or telecommunication equipment of the submitters. • Farming operations shall not be interrupted during construction. • Stock underpasses on any property bisected or bounded by any road used during construction where road currently used for droving. • Consent holder if requested shall undertake noise monitoring of any residence within an 8 km radius of any turbine. • Consent holder shall install noise suppression and double glazing to any residential building, workplace or other building within a 5 km radius of any turbine. • A dust suppression plan to be submitted to Environment Southland and to the Gore District Council. • Progressive revegetation. • Eradication of weeds within 5 km radius of consented envelope. • Construction management plan to be prepared. • Consent holder to construct any road improvements necessary. • If decommissioned all above ground structures to be removed. • At least a 1% development levy to be paid to the Gore District

Submitter to the Gore District Council		Stance	Summary of Submission
			Council with 75% to be used in the Kaiwera, Ferndale and Waikana areas. • One off development impact levies to any landowner whose land physically bounds the consented envelope. • A community consultative group to be established and a complaints register lodged with the Gore District Council. • Any structures to connect to the transmission line to be erected within the consented envelope. • Windfarm staff to be recruited from outside Eastern Southland. • Background noise to be assessed for 12 months prior to construction to establish a "noise benchmark". • One access point to the envelope. • All aggregate needed to be sourced from within the envelope. • An educational scholarship of $150,000.00 be established for young people living within the affected area. • Severe penalties for non-compliance with conditions of resource consent. Methods of resolution suggested. • Grave concerns with safety issues during calving and lambing when many vehicles use the road.
57	Norham Farm Limited.(James & Noeline Heaps)	Oppose	• Noise disturbance. • Visual pollution. • Public safety re transport. • Adverse effect on land values. If consent granted seeks the following conditions: • No turbines within 5 kms of any residential building. • No more than x turbines, x to be determined when location of turbines is established. • Turbines to be placed within consented envelope. • Consent holder if requested shall undertake noise monitoring of any residence within an 8 km radius of any turbine. • Consent holder shall install noise suppression and double glazing to any residential building, workplace or other building regardless of distance from the windfarm. • If decommissioned all above ground structures to be removed. • A community consultative group to be established and a complaints register lodged with the Gore District Council. • Any structures to connect to the transmission line to be erected within the consented envelope. • Noise levels to be reduced at night and on Public Holidays, Sundays and during September and October. • Regular monitoring to be carried out. • Turbine height to be reduced. • Annual compensation to landowners living within an 8 km radius who can see the turbines. • If gravel sourced from Mataura River, Heaps road not to be used and River Rd one lane bridges upgraded, and the road widened. • Consent holder to compensate landowners for diminution in sale price within 10 kms of windfarm for specified period.
58	Pullar - Craig & Mary	Oppose	• Disturbing natural vista. • Noise effect. • Level of development levy. If consent is granted that the following conditions be imposed • No turbines within 5 kms of any residential building. • No more than 50 turbines 110 metres tall located within the envelope and painted in low reflectivity finish located within the consented envelope. • Location of substations to ensure not visible to residences, or effects avoided, remedied or mitigated.

Submitter to the Gore District Council		Stance	Summary of Submission
			• Consent holder to remedy any interference with electrical or telecommunication equipment of the submitters. • Farming operations to remain unaffected by any of consent holder's actions. • Consent holder to pay for all upgrading of roading infrastructure. • Within 3 months of turbines becoming operational consent holder shall undertake noise monitoring of any residence within a 10 km radius and submit results to Gore District Council. • Consent holder shall install noise suppression and double glazing to any residential building, workplace or other building within a 10 km radius of any turbine. • A dust suppression plan to be submitted to Environment Southland and to the Gore District Council. • Progressive revegetation. • Eradication of weeds within 10 km radius of consented envelope. • Construction traffic management plan to be prepared. • Consent holder to construct any road improvements necessary such as stock underpasses to allow droving where this is presently undertaken. • If decommissioned all above ground structures to be removed. • At least a 1% non-refundable development levy to be paid to the Gore District Council. • One off development impact levy to any landowner within 10 km who can see the consented envelope. • A community consultative group to be established and a complaints register lodged with the Gore District Council. • Any structures to connect to the transmission line to be erected within the consented envelope. • No turbine activity for the week prior to and the first weekend in May.(Duck shooting) • Any transmission line to be located within the consented envelope. • An educational scholarship of $150,000.00 be established for young people living within the affected area.
59	Shute - Kenenth T & Gail	Oppose	• Noise will affect their sleep and recreation time. • One of the submitters is an asthmatic and dust created from their gravel road will exacerbate this condition. • Visual outlook will be totally ruined. • Decrease in land values. If consent is granted that the following conditions be imposed: • Consent holder to remedy any interference with electrical or telecommunication equipment • Within 4 months of turbines becoming operational consent holder shall undertake noise monitoring of any residence within an 8 km radius and if the noise levels exceed that permissible rectify the situation to the submitters' satisfaction. • Road to be tar sealed within 300 metres of any dwelling closer than 200 metres to the road. • Consent holder shall install noise suppression and double glazing to any residential building, within a 4 km radius of any turbine. • One off development impact levy to any landowner whose land physically neighbours the consent holder's property. • Low reflectivity finishes to be used on turbines and blades.
60	Southland Conservation Board	Not stated	• Concern at the cumulative effect proliferation of windfarms will have on the area given potential adverse effects on landscape and visual amenity. • Southland already makes contribution to national electricity supply. • Questions whether practical or efficient given geographical

Submitter to the Gore District Council		Stance	Summary of Submission
			distance to majority of energy use in the North Island. • Seeks conditions in consent for full restoration of site if decommissioned.
61	Thompson - Colin M & Karen R	Oppose	• Seek a hearings committee independent from the Gore District Council. • Effect on amenity values. • Effects on roading safety, use and infrastructure. • Upgrading of transmission lines. If consent granted then the following conditions to be imposed: • No wind turbines within 5 kms of any residences. • Sound proofing of neighbouring properties. • No construction during the lambing period.
62	Tripp - Andrew & Heather	Oppose	• Loss of visual amenity • Noise • Disruption to normal farming activities. If consent is granted that the following conditions be imposed • No turbines within 5 kms of any residential building except those of envelope owners. • No more than 50 turbines 110 metres tall located within the envelope and painted in low reflectivity finish. • Substations to be located so as not to be visible from residences or their effected avoided, remedied or mitigated. • Consent holder to remedy any interference with electrical or telecommunication equipment of the submitters. • Consent holder shall within 3 months of any turbine becoming operational undertake noise monitoring of any residence within an 8 km radius of any turbine. • Consent holder shall install noise suppression and double glazing to any residential building, workplace or other building within a 5 km radius of any turbine. • A dust suppression plan to be submitted to Environment Southland and to the Gore District Council. • Progressive revegetation. • Eradication of weeds within 5 km radius of consented envelope. • Construction traffic management plan to be prepared. • Consent holder to construct any road improvements necessary. • Consent holder to construct and maintain stock underpasses where roads currently used for droving. • If decommissioned all above ground structures to be removed. • At least a 1% development levy to be paid to the Gore District Council • One off development impact levy to any landowner whose land physically bounds the consented envelope. • A community consultative group to be established and a complaints register lodged with the Gore District Council. • Any structures to connect to the transmission line to be erected within the consented envelope.
63	Upland Protection Society	Oppose	• Size of windfarm a dominating industrial feature in the rural hills. • Financial returns dictate size of windfarm. • Industrial wind does have a footprint. • Will necessitate upgrading of transmission infrastructure which will also detract from upland landscapes elsewhere. • Supports smaller, sensitively placed wind farms closer to demand. • This site containing foothills preferable to those of Project Hayes and Mahinerangi which contain the hinterland. • This site neither iconic nor an outstanding landscape. If consent granted asks that independent archaeologists be employed to identify and preserve valuable repositories.

Submitter to the Gore District Council		Stance	Summary of Submission
64	Wilson - Janet R	Oppose	• Find somewhere else to put the ugly things.
65	Woodrow - Allan & Leeann	Oppose	• Request a new independent hearing committee be appointed due to a conflict of interest. • Concern with interference of their farming operations and decrease in value of their property. • Negative noise and visual effects from construction and operation of the windfarm and they cannot be adequately mitigated. • Minimum noise levels proposed are unacceptable. If consent is granted that the following conditions be imposed • No turbines within 5 kms of any residential or workplace building. • No more than 50 turbines 110 metres tall located within the envelope and painted in low reflectivity finish. • Substations to be located so as not to be visible from residences or their effected avoided, remedied or mitigated. • Consent holder to remedy any interference with electrical or telecommunication equipment of the submitters. • Farming operations shall not be interrupted during construction. • Stock underpasses on any property bisected or bounded by any road used during construction where road currently used for droving. • Consent holder shall within 3 months of any turbine becoming operational undertake noise monitoring of any residence within an 10 km radius of any turbine. • Consent holder shall install noise suppression and double glazing to any residential building, workplace or other building within a 10 km radius of any turbine. • A dust suppression plan to be submitted to Environment Southland and to the Gore District Council. • Progressive revegetation. • Eradication of weeds within 10 km radius of consented envelope. • Construction traffic management plan to be prepared. • Consent holder to construct any road improvements necessary. • If decommissioned all above ground structures to be removed. • At least a 1% development levy to be paid to the Gore District Council with 75% to be used in the Kaiwera, Ferndale and Waikana areas within a 10 km radius of the wind towers. • One off development impact levy to any landowner whose property is within 14 kilometres of the consented envelope. • A community consultative group to be established and a complaints register lodged with the Gore District Council. • Any structures to connect to the transmission line to be erected within the consented envelope. • Windfarm staff to be recruited from outside Southland. • Background noise to be assessed for 12 months prior to construction at the request of those living within a 10km radius. • One access point to the envelope. • All aggregate needed to be sourced from within the envelope. • An educational scholarship of $150,000.00 be established for young people living within the affected area. • Severe penalties for non-compliance with the resource consent.
66	Woodrow - Colin M	Oppose	• Visual disturbance. • Devaluing properties in the area. • Noise pollution.

PROPSED TRUSTPOWER KAIWERA DOWNS WIND FARM 2008. MAP OF SUBMITTERS.

CORPORATE / NON LOCAL SUBMISSIONS

CORPORATE SUBMISSIONS

1	CONTACT ENERGY LIMITED
30, 89	DEPARTMENT OF CONSERVATION
8	ENERGY EFFICIENCY AND CONSERVATION AUTHORITY
10, 74	FINEGAND AFFORESTATION TRUST
11, 75	FISH AND GAME NZ (SOUTHLAND REGION)
31	JENKINS MOTORS LIMITED
33, 91	LAND INFORMATION NEW ZEALAND
17	MINISTRY OF ECONOMIC DEVELOPMENT
35	MINISTRY OF EDUCATION
20	NEW ZEALAND WIND ENERGY ASSOCIATION
86	SOUTH PORT NZ LTD
37	SOUTHERN RURAL FIRE DISTRICT
60, 104	SOUTHLAND CONSERVATION BOARD
38	SOUTHLAND DISTRICT COUNCIL
39	TELECOM NEW ZEALAND LIMITED
63	UPLAND LANDSCAPE PROTECTION
29	CLUTHA DISTRICT COUNCIL

LUMSDEN

48, 97	HENDERSON

DUNEDIN

50	MAGUIRE

GROUP SUBMISSION

44, 94	CONCERNED NEIGHBOURS OF THE KAIWERA DOWNS WIND FARM (PROPERTY LOCATIONS SHOWN AND NUMBERED ON MAP, KEY BELOW)

LEGEND

- SUBMISSION: NEUTRAL
- SUBMISSION: OPPOSE
- SUBMISSION: IN SUPPORT
- PROPOSD WIND FARM ENVELOPE
- PROPOSED WIND FARM 10km RADIUS BUFFER
- TLA BOUNDARIES
- STATE HIGHWAY
- UNSEALED ROAD
- SEALED ROAD
- RAILWAY
- XX SUBMISSION TO GORE DISTRICT COUNCIL
- XX SUBMISSION TO ENVIRONMENT SOUTHLAND

CONCERNED NEIGHBOURS OF THE KDWF PROPERTY LOCATIONS

- 01 HOPKINS B & J / BUTLER B & M
- 02 WOODROW C / CRUICKSHANK P
- 03 SHUTE K & G
- 04 MOODY L, C & J
- 05 CURRIE P & N
- 06 HEAPS
- 07 MCFADZIEN C
- 08 MCFADZIEN D
- 09 MCFADZIEN H, A & F
- 10 O'CONNOR C
- 11 MCFADZIEN C
- 12 MURRAY A & H
- 13 SHANKS R & G
- 14 BLAKELY W & C
- 15 PATON A & L
- 16 ALEXANDER J & S
- 17 PULLAR C
- 18 MOODY A & L
- 19 MCLEOD D & D
- 20 DICKIE B
- 21 MCCHLERY J & J
- 22 TRIPP A
- 23 DICKIE W
- 23 NEWTON T & L
- 24 WOODROW A & L
- 25 HEAPS T & N

N

0 2500 5000m

SCALE: 1:50 000 (A1) 1:100 000 (A3)

environment SOUTHLAND Te Taiao Tonga

GORE DISTRICT COUNCIL

DWG REF: **1692.wor**

MAPPING BY GORE DISTRICT COUNCIL FEB 2008