Notification Report
Land Use Consent

Sections 95 to 95G of the Resource Management Act 1991

Date:	17 September 2021	App Number:	RM200019
Reporting Planner:	Chris Dawson	Site Visit on:	19 November 2019

Applicant:	Taumatatotara Wind Farm Ltd (TWF)
Legal Description:	Section 12 and Section 22 Block V Kawhia South Survey District; Section 1 Survey Office Plan 58558; and Section 2 Block V Kawhia South Survey District.
District Plan	Operative Waitomo District Plan 2009
Activity Status:	Discretionary Activity
Zoning:	Rural Zone
Policy Area(s):	Landscape Policy Area
Proposal:	TWF wishes to increase the tip height of 11 turbines at its consented Taumatatotara site. The proposal is to increase the tip height above existing ground of the 11 northern turbines from 121.5 m to 172.5m. In addition, the applicant has applied to delete the southern 11 turbines from the project scope.

1 INTRODUCTION

1.1 Description of site

The proposed windfarm site is 10km south of Taharoa Village and above the Taumatatotara Gorge in the Waitomo District. The windfarm is located on farms owned by three separate landowners, all of whom have given their approval to the project. The site and the adjacent hills generally have very defined but level ridgelines with steep slopes on the flanks. The local peak to the northern end of the site has an elevation of 340m with the remainder of the site ranging between 300m and 320m at the southern end. The gradient of the construction site is moderate to steep with slopes generally between 1 in 20 and 1 in 5. The site is currently used for grazing cattle and sheep with a very small plantation of radiata pines around the location of turbine 7. Refer to Figure 1 below for an aerial of the subject site (windfarm site is outlined in red).

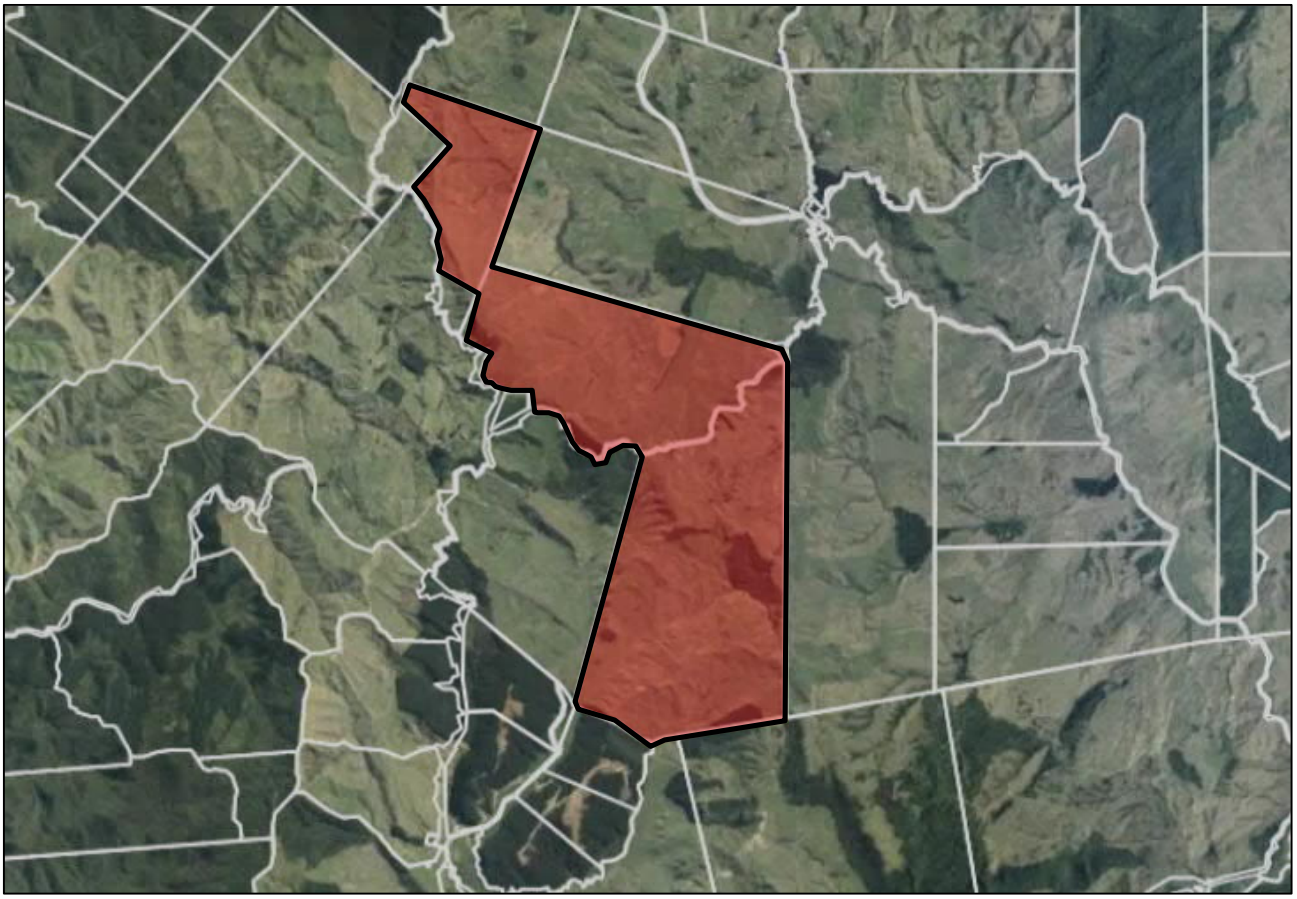

Figure 1: Aerial photograph of site.

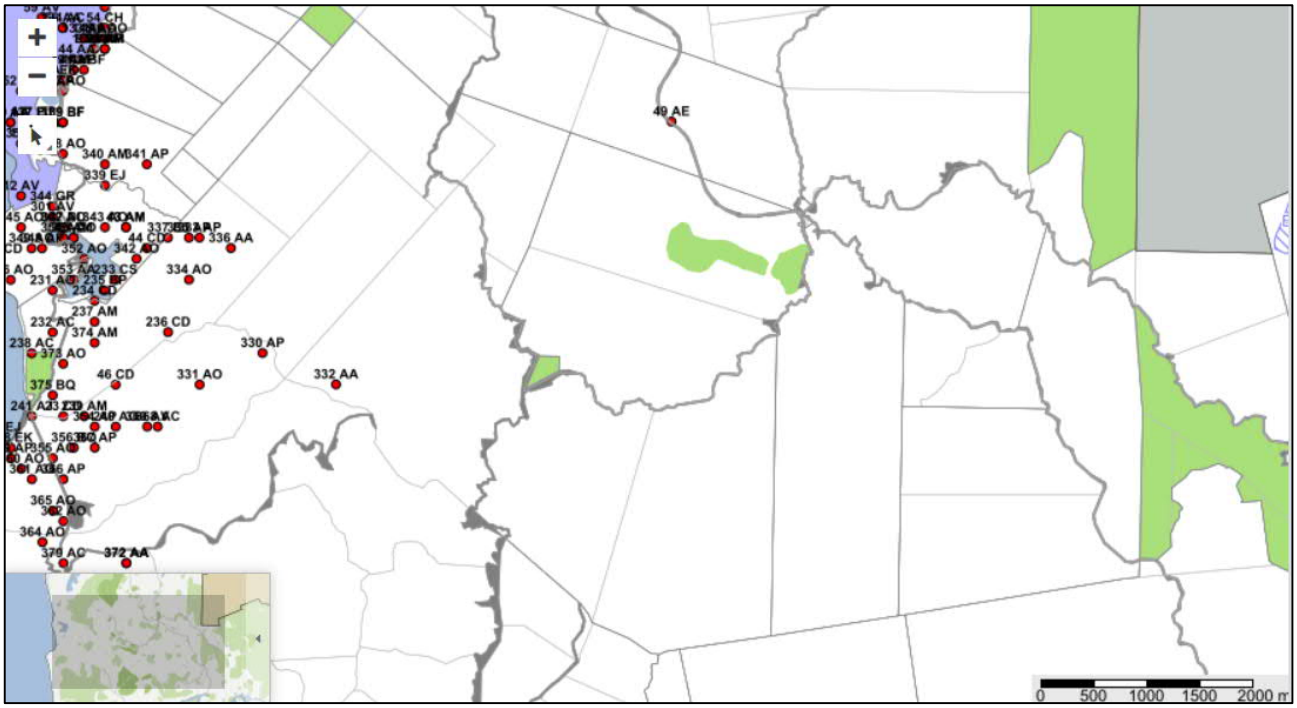

Figure 2: ODP Zone and Policy Overlays.
Source: https://waitomo.intramaps.co.nz

Figure 3: Special Features.
Source: https://waitomo.intramaps.co.nz

1.2 Proposal

In line with trends elsewhere in New Zealand and internationally, Taumatatotara Windfarm Ltd (TWF) has applied to increase the tip height of turbines at its Taumatatotara site through an application under s127 of the Resource Management Act 1991 (RMA). The windfarm is subject to an existing resource consent approved in 2006 which approved 22 turbines, each at 110 metres in height. A further application to increase the height of the northern 11 turbines to 121.5 m was subsequently approved in 2011.

The proposal currently before Waitomo District Council (Council) is to increase the tip height above existing ground of the 11 northern turbines from 121.5 m to 172.5m. In addition, the consent holder is applying to delete the southern 11 turbines from the project, leaving a total of 11 turbines.

The positioning of the 11 turbines would not change from that already consented. However there will be consequential changes to other components of the turbines, such as the tower dimensions, height and nacelle size and foundation pad size.

TWF seeks changes to the conditions of the existing consent conditions 1, 2, 3 and 11, relating to turbine height and to the general condition 1, as it relates to the number of turbines. It is

also expected that there will be consequential changes to other conditions due to changes in technology and progress in condition drafting since 2006.

Conditions 3 and 11 are as follows:

3. The turbines shall have a maximum height measured from the ground to the top of the vertically extended blade tip as follows:
   (a) Turbines 1 to 11 inclusive – maximum height of 121.5 metres.
   (b) Turbines 12 – 22 inclusive – maximum height of 110 metres.

11. The wind turbines shall not exceed a rotor tip height of 110 metres above ground level and a sound power of 107.2dBA unless it can be demonstrated by a person specialising in acoustics and accepted by the Manager, Policy and Planning, Waitomo District Council that higher turbine heights or sound power will still comply with the requirements of NZS6808: 1998.

    Condition 5 will be deleted as it relates to turbines 19-22, to be removed from the project.

The proposed nominal turbine dimensions are 172.5m tip height, 95m hub height and 155m rotor. It is possible that development of the wind farm will be staged, with Stage 1 consisting of 7 machines, being the northern most turbines (and to match the grid capacity of one 33kV circuit). The other 4 turbines will then be constructed as Stage 2, to the south, before the expiry of the current lapse period (2024) and will depend upon how the grid network is upgraded.

1.3 History

Ventus Energy was granted consent to construct a 22-turbine wind farm at Taumatatotara West Rd, Te Anga in 2008 (after an appeal to the Environment Court was withdrawn). All turbines were to be 110m high. A copy of the existing resource consent decision and conditions is provided as Attachment 1. Regional consents for earthworks were also granted by Waikato Regional Council but these have since expired. A new consent has been applied for from the Regional Council.

In 2011 Ventus Energy applied for a change in the conditions of the 2008 consent to increase the turbine height of the northern 11 turbines to 121.5m. This was approved by the Council and a copy of this decision is included as Attachment 2. A lapse date extension was applied for in 2016 for a further 8 years until 2024. This was also approved.

The scope of the resource consent application is limited to reducing the number of turbines to eleven and increasing the tip height conditions 3 and 11 on the 2008 consent relating to tip height. Conditions 1 and 5 will also be updated to reference this application as a matter of process. It is also anticipated that there will be a number of consequential amendments required to other conditions throughout the condition set.

This s95 report addresses those aspects of the application that relate to the matter of limited or public notification and the legal tests associated with those questions. The more substantive assessment under s104 will be carried out at a later date as part of the s42A reporting on this application.

The applicant has applied for land use consent from the Waikato Regional Council (WRC) to undertake approximately 259,000 m^3 of excavation associated with the development of the wind farm including the construction of tracks and wind turbine platforms. This consent was granted

by WRC for a consent term of 15 years and a lapse period of 10 years. A copy of the WRC consent (APP 141827) is included as Attachment 3 to this report.

1.4 Legal interests in the property

Table 1 below summarises the relevant interests on the three existing titles.

Table 1: Existing titles and interests.

Title Reference	Legal Description	Size	Date Issued	Relevant Interests
SA31C/21	Section 12 Block V Kawhia South SD	98.743ha	09 May 1984	▪ Subject to s8 Mining Act 1971 ▪ Subject to s5 Coal Mines Act 1979 ▪ H523842 Land Improvement Agreement under Soil Conservation and Rivers Control Act 1941. ▪ 11688001.1 Caveat by TWF
SA47A/876	Section 1 SO 58558	226.400ha	23 Oct 1990	▪ Subject to: ▪ s3 Petroleum Act 1937 ▪ Atomic Energy Act 1945 ▪ s3 Geothermal Energy Act 1953 ▪ S6 and 8 Mining Act 1971 ▪ S5 Coal Mines Act 1979 ▪ Part IV A Conservation Act 1987 ▪ 11783123.1 Caveat by Ventus Energy (NZ)
SA37A/26	Section 2 Block V Kawhia South SD	350.248 ha	19 Aug 1986	▪ Subject to s8 Mining Act 1971 ▪ Subject to s5 Coal Mines Act 1979 ▪ H417502 Subject to Land Improvement Agent ▪ 9115115.1 Notice Pursuant to s195(2) Climate Change Response Act 2002

The above listed interests do not restrict the proposal from proceeding.

2 REASON FOR THE APPLICATION

A land use consent (as described under section 87(a) of the Resource Management Act 1991) is required for the reasons set out below:

2.1 Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NES)

These regulations came into force on 1 January 2012 and apply when a person wants to do an activity described in regulation 5(2) to 5(6) on a piece of land described in regulation 5(7) or 5(8). Following a review of the historical aerial photographs contained within Council's records, a HAIL activity does not appear to have been undertaken on the site. In accordance with Regulation 5(7), the site is not a 'piece of land' and consent is not required under the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011.

2.2 Operative Waitomo District Plan (ODP)

The application has been applied for as a variation to the original 2006 consent along with the 2011 variation to increase the tip height for the northern 11 turbines to 121.5 m under s127 of the RMA. For the purposes of this notification assessment under s95, this application is being considered as a Discretionary activity, given that there are only a very limited number of Non-Complying activities in the Operative Waitomo District Plan (ODP)[1], neither of which applies to the current application.

A summary of the relevant Objectives and Policies of the Rural Zone in the ODP are set out below to provide a broad policy overview for the area where the windfarm is located.

2.3 Relevant Objectives and Policies

Objective 11.3.1 – To promote the Rural Zone as a productive working environment where the use and development of its natural resources, consistent with meeting environmental safeguards, is encouraged.

Objective 11.3.3 – To ensure that significant archaeological, historical and cultural features are protected from adverse effects arising from the removal of vegetation, or other development of land.

Objective 11.3.7 – To promote efficient and effective management of the District's physical resources of roading, land drainage, and bulk services

Objective 11.3.8 – To promote use of rural land in a manner which encourages maintenance and enhancement of amenity values of the rural environment, protects outstanding natural features and landscapes from inappropriate use and development, and preserves the natural character of the coastal environment, wetlands, lakes and rivers, and their margins.

Objective 11.3.9 – To encourage maintenance and enhancement of rural visual character.

Objective 11.3.11 – To ensure that rural activities and lawfully established industrial activities in the rural area are not adversely affected by the location of new activities with expectations of high amenity values.

Policy 11.4.1 – To ensure the Rural Zone functions as a productive working environment where the use and development of its natural resources, consistent with meeting environmental safeguards, is encouraged.

Policy 11.4.3 – To avoid, remedy or mitigate the adverse effects of rural development on sites, areas or landscapes of significance in terms of their contribution to amenity or their archaeological, historical, cultural or ecological importance.

Policy 11.4.12 – to ensure that all rural activities, including extractive industries, are established and operated so as to avoid, remedy or mitigate adverse effects on amenity or on neighbours, or on significant karst features.

[1] Rule 11.5.2.1 (b) any extractive industry on land overlying a Category A or B Karst system feature.
Rule 11.5.3 – any Non complying activity noted in the General Provisions (none are related to the application)

Policy 11.4.13 – To encourage mitigation of the adverse effects of all rural activities, including afforestation and forestry clearance, on adjacent sites. Particularly that mitigation should occur in areas that are visually sensitive, including areas with high tourist resources, areas of high landscape quality and in the coastal environment.

Policy 11.4.17 – To avoid, remedy or mitigate the adverse effects of rural buildings situated close to boundaries, and large non-farm buildings, on sunlighting, privacy, landscaping and amenity.

3 TECHNICAL COMMENTS

Assistance with reviewing the technical information contained in the application was provided by the following:

- Visual/Amenity — Dave Mansergh, Director, Mansergh Graham Landscape Architects
- Noise effects — Siiri Wilkening, Acoustic Engineer, Marshall Day Acoustics
- Ecology — Leigh Bull, Ecologist, Boffa Miskell Ltd
- Traffic/Transport — Lindsay Boltman, Transport Engineer, BBO

A summary of the technical comments of each of the reviewers is set out below under section 4.4 of this report in assessing the proposed adverse effects on the environment for the purposes of notification.

4 ASSESSMENT FOR THE PURPOSE OF PUBLIC OR LIMITED NOTIFICATION

S95 Time Frames

The time limit is 20 working days after the day the application is first lodged. The key dates in the processing of the application are set out below:

- 5 July 2020 – Application lodged with Waitomo District Council
- 21 July 2020 – Letter sent to applicant advising that timeframes for considering the adequacy of the application and the further information were being doubled pursuant to s37A(4)(b)(i) of the RMA.
- 7 September 2020 – application accepted for processing under s88 and s92 request for further information.
- 11 December 2020 – applicant responds to further information request.
- 3 February 2021 – clarification letter to applicant arising from the 11 December 2020 information package.
- 12 April 2021 – applicant responds to further information request.
- 10 May 2021 – clarification letter to applicant arising from the 12 April 2021 information package.
- 27 August 2021 – applicant responds to further information request.

The application is currently on hold with the agreement of the applicant to complete the notification assessment and determination. It is noted that because the application was lodged on 5 July 2020 a number of amendments to the RMA that have commenced since that date, including to some of the provisions considered in this report, do not apply pursuant to clause 8(2)(b) and (3) of Schedule 12 to the Act.

4.1 Adequacy of information

It is my opinion that the information contained within the application, and subsequently provided in the response to the requests for further information dated 7 September 2020, 3 February

2021 and 10 May 2021, is substantially suitable and reliable for the purpose of making a recommendation of and decision on notification. The information within the application is sufficient to understand the characteristics of the proposed activity as it relates to provisions of the ODP, for identifying the scope and extent of any adverse effects on the environment, and to identify persons who may be affected by the activity's adverse effects.

4.2 Section 95A public notification of consent applications

Steps		Yes / No
STEP 1 - Section 95A(2) - Mandatory public notification in certain circumstances If any of the following circumstances apply, Council must publicly notify the resource consent application.		
1(a)	Has the applicant requested that the application be publicly notified? [section 95A(3)(a)] Attach a copy of the resource consent applicant's request for public notification to this report. If yes, publicly notify the resource consent application [s95A(2)(a)]: If no, go to 1(b)	No
1(b)	Is public notification required under section 95C? [section 95A(3)b)] Section 95C - Public notification of consent application after request for further information or report. Attach a copy of any relevant notice proposing the commissioning of a report and, if applicable, the applicant's refusal to agree to the commissioning of the report. If yes, publicly notify the resource consent application [section95A(2)(a)]. If no, go to 1(c)	No
1(c)	Is the application made jointly with an application to exchange recreation reserve land under section 15AA of the Reserves Act 1977? [section 95A(3)(c)] Section 15AA - Administering body may authorise exchange of recreation reserve land for other land. Attach a copy of any relevant information. If yes, publicly notify the resource consent application [section 95A(2)(a)]. If no, go to STEP 2	No
STEP 2 - Section 95A(4) - If not required by STEP 1, public notification precluded in certain circumstances If any of the following circumstances apply, go to STEP 4 (STEP 3 does not apply)		
2(a)	Is the application for one or more activities? If yes, go to 2(b). If no, go to 2(c)	Yes
2(b)	Is each activity listed in 2(a) subject to a rule or national environmental standard that precludes public notification? [section 95A(5)(a)] Attach a copy of any relevant national environmental standard to the report. If yes, go to STEP 4. If no, go to 2(c)	No There are no rules in the ODP, or relevant NES's that preclude public notification.
2(c)	Is the application for a resource consent for 1 or more of the following activities but no other activity? [section 95A(5)(b)] ▪ Controlled activity ▪ A restricted discretionary or discretionary activity only if it is for: ▪ Subdivision of land; or ▪ A Residential activity ▪ A restricted discretionary, discretionary or non-complying activity but only if it is a boundary activity ▪ A prescribed activity (see section 360H(1)(a)(i)) List the activities below. If yes, go to STEP 4. If	No

	no, go to STEP 3	
STEP 3 - Section 95A(7) - If not precluded by STEP 2, public notification required in certain circumstances		
3(a)	Is the application for a resource consent for 1 or more activities? [section 95A(8)(a)] If yes, go to 3(b). If no, go to 3(c)	Yes
3(b)	Are any of the activities listed in 3(a) subject to a rule or national environmental standard that requires public notification? [section 95A(8)(a)] If yes, publicly notify the application If no, go to 3(c)	No
3(c)	Has the consent authority decided in accordance with section 95D, that the activity will have or is likely to have adverse effects on the environment that are more than minor? [section 95A(8)(b)] Section 95D - Consent authority decides if adverse effects likely to be more than minor. Assessment under section 95D follows below. A review of case law indicates that Council should obtain adequate and reliable information on which to make an informed and reasoned assessment as to whether adverse effects on the environment will be more than minor. Attach comments from other units within Council, peer review material etc to this report. If yes, publicly notify the application If no, go to STEP 4.	No, the technical memos provided by the review team have confirmed that specific landowners should be notified in terms of visual effects while noise effects are confirmed as being less then minor. The conclusion in relation to ecological effects is that sufficient information has not been provided to confirm that adverse effects on bats will be less than minor but instead could be minor.
STEP 4 - Section 95A(9) Public notification in special circumstances If the following circumstances apply, publicly notify the application (note: the presumption for special circumstances has changed so that, if the consent authority determines special circumstances exist, the council must notify the application (it is not discretionary).		
4	Do special circumstances exist in relation to the application that warrant the application to be publicly notified? [section 95A(9)] Attach relevant information. Advice Note: A review of caselaw indicates that special circumstances are circumstances that are unusual or exceptional but less than extraordinary or unique. If yes, publicly notify the application. If no, do not publicly notify the application, but determine whether to give Limited notification under s 95B	No special circumstances in relation to this application are considered to warrant public notification.

4.3 Section 95B Limited Notification of Consent Applications

Steps		Yes / No
STEP 1 - Section 95B(2) - Certain affected groups and affected persons must be notified Notify the application to each affected group identified under 1(a) and each affected person under 1(b) [section 95B(4)]		
1(a)	Are there any affected protected customary rights groups or affected customary marine title groups? [section 95B(2)(a), 95B(2)(b)] If yes, notify the application to each affected group If no, go to 1(b)	No. The activity will not affect protected customary rights groups, or customary marine title groups.
1(b)	Is the proposed activity on or adjacent to, or may affect, land that is the subject of a statutory acknowledgement made in accordance with an Act specified in Schedule 11? [section 95B(3)(a)]	No. The site which is the subject of this consent is not within, adjacent to, or directly affected by a statutory acknowledgment area (SAA).
1(c)	Are any of the persons listed in 1(b) to whom the statutory acknowledgment is made an affected person under section 95E? If yes, notify the application to each affected group and/or affected person identified in 1(b) [section 95B(4)] If no, go to STEP 2	No.
STEP 2 – Section 95B(5) - If not required by STEP 1, limited notification precluded in certain circumstances If any of the following circumstances apply got to STEP 4 [section 95B(5)(a)] If any of the following circumstances do not apply, go to STEP 3 [section 95B(5)(b)]		
2(a)	Is the application for a resource consent for 1 or more activities? And each activity is subject to a rule or national environmental standard that precludes limited notification? If yes, go to STEP 4 (step 3 does not apply) [section 95B(5)(a)] If no, go to 2(b)	No.
2(b)	Is the application for a resource consent for a controlled activity (but no other activities) that requires consent under a district plan (other than a subdivision of land) If yes, go to STEP 4 (STEP 3 does not apply). If no, go to STEP 3	No.
STEP 3 - Section 95B(7) - If not precluded by STEP 2, certain other affected persons must be notified Determine whether, in accordance with section 95E, the following persons are affected persons: Notify the application to each affected person identified under 3(a) and 3(b)		
3(a)	In accordance with section 95E, are the following persons affected persons in the case of a boundary activity, an owner of an allotment with an infringed boundary. If yes, notify each affected person under 3(a), then go to 3(b) If no, go to 3(b)	No.
3 (b)	In the case of any other activity, determine whether a person is an affected person in accordance with section 95E.	Yes, see discussion below under section 4.4 on pg 16 of this report.

STEP 4 - Section 95B(10) -Further notification in special circumstances Determine whether, in accordance with section 95E, any other persons should be notified of the application due to special circumstances.		
4 (a)	In the case of any other persons, determine whether any special circumstances exist.	No, there are no special circumstances.

4.4 Effects that may or must be disregarded – s95D(a), (b), (d) and (e)

Effects on persons who own or occupy the application site or land adjacent to the site (s95D(a))

Under s95D(a) of the RMA, a consent authority in deciding whether an activity will have or is likely to have an adverse effect on the environment that is more than minor, must disregard any effects on persons who own or occupy the land in, on, or over which the activity will occur, or any land adjacent to that land. Those landowners who are proposed to have turbines on their land also own other land in the vicinity as set out on the landowner plan in Attachment 7, and therefore the visual effects of the increased turbine height on these landowners have been disregarded.

Effects on owners and occupiers of the subject site and adjacent sites, must be disregarded for the purposes of the public notification assessment. Therefore, under s95D(a) the effects on the properties shaded on the plan in Attachment 7 must be disregarded.

4.4.1 Permitted Baseline (s95D(b)

The permitted baseline allows consent authorities to disregard effects on the environment that are permitted by a plan or have been consented to.

In this case, the permitted baseline relates to what lawfully could exist on the site at present as a permitted activity (i.e. not requiring resource consent). Under the current provisions of the ODP, the following activities could be established without the need for a resource consent:

- Buildings (maximum 10 metres height);
- Buildings (maximum area 200m^2, except for dwellings and buildings for farming or forestry activities where there is no limit); and
- Activities with a maximum number of 5 persons employed on the site, except for farming, forestry, extractive industry, or emergency service activities.

It is possible for large scale buildings, with a footprint similar to the proposed buildings to be established as permitted activities if they are buildings for farming or forestry activities. There is also no limit on the scale of activities for farming, forestry, extractive industry, or emergency service activities. Farming, forestry, extractive industry, or emergency service activities may employ large numbers of people on land in the Rural Zone.

Therefore, while it is useful to understand the scale of buildings and activities that may be permitted, the proposed wind turbines significantly exceed the height and bulk of permitted buildings, and the scale of the activity proposed is also significantly greater than the permitted baseline which means that is of very limited assistance in this instance.

However, when undertaking the notification assessment, it is considered that the existing 2006 windfarm consent as varied in 2011 forms part of the existing environment for the purposes of assessing environmental effects. In other words, the existing windfarm consent is operative, has not lapsed and it is not fanciful that it could be implemented.

4.3.2 Written approvals (s95D(d) and (e))

Effects on owners and occupiers of the subject site and adjacent sites, persons who have given written approval and the effects on trade competition must be disregarded.

Written approvals have been provided from those identified in Table 2. The properties relating to those approvals are identified on the plan in Attachment 9.

Table 2: Written Approvals

Property ID	Address	Legal Description	Record of Title Reference	Registered Owner
4549253	781 Taharoa Road, Te Anga	Part Section 24 Block V Kawhia South SD	SA48B/494	G L Stokes
4391846	313 Te Waitere Road, Taharoa	Section 13 Block I Kawhia South SD	SA34B/404	Allan & Suzanne Smith

4.3.3 Trade competition (s95D(d)

There are no issues with respect to trade competition and it is not discussed further in this report.

4.4 Assessment of Adverse Environmental Effects – s95A and s95D

The applicant provided an Assessment of Effects on the Environment (AEE) that addressed the following:

- Geotechnical stability;
- Turbine foundations;
- Transportation effects;
- Aviation;
- Noise/ acoustic effects;
- Shadow flicker;
- Landscape and visual effects; and
- Positive effects;

The conclusion of the applicant is that:

"Overall, with the changed dimensions of the proposal the actual and potential environmental effects have been shown to be less than the existing consented environment and are assessed as being 'less than minor' in RMA terms.

Geotechnical stability can still be achieved and the foundation changes have a very small and very localised impact. Modern design of turbine componentry and transportation techniques will allow transport of all machinery within the confines of the existing consent, albeit with a greatly reduced number of components to be transported. There will be no shadow flicker effects on any dwellings outside the site–in fact shadow flicker will be significantly reduced. Larger turbines are not anticipated to increase impacts upon birds and bats, with the halving of the number of turbines being a positive effect. The increased height of the 11 turbines will not create increased noise levels above existing consented levels. Finally, visual effects of increasing the tip height and dimensions of the turbine and structures have been assessed as being less than minor."

As a discretionary activity, the Council's discretion is unrestricted when considering the potential adverse effects on the environment for the purpose of an assessment under s95B of the RMA. I

believe the potential adverse effects on the environment of the increase in turbine height relate to:

- Landscape and visual effects.
- Acoustic effects;
- Transportation effects; and
- Ecology effects.

All other effects were originally assessed and approved in the 2008 consent and will not change as a result of the new proposal – i.e. they will be no greater with this amended proposal than that originally assessed, and likely to be much less due to the reduced number of turbines.

Effects on landscape character and amenity

The Landscape and Visual Assessment prepared by WPS-Opus as part of the application undertook analysis to determine the visibility of the removal of the 11 turbines to the south of the windfarm, and the increase in size of the remaining northern 11 turbines. Different properties were identified as affected parties based on their proximity to, and views of, the site and an opinion provided on the scale of those effects. In respect of amenity values, the Landscape and Visual Assessment report acknowledges that the introduction of eleven fewer albeit taller turbines to the setting over what is already consented is the key generator of the magnitude of the effects.

An independent review of the landscape and visual effects has been undertaken by Mr Dave Mansergh and is contained in Attachment 4. The primary issue; whether a windfarm is appropriate in this setting or not – has already been assessed and resolved in the granting of the original 22 turbines in 2006.

In terms of effects upon the landscape itself, any permanent effects on the landscape will be limited to the earthworks with construction of access roading and foundations. This includes road benching and the formation of cut and fill batters on either side of the road. Most of the turbine platforms and reduced roading length occurs along ridgelines, avoiding highly visible slopes from public places such as the road, along with halving of the numbers of the turbines, and landscapes effects to the south have been assessed in the WPS-Opus report as leading to 'Significantly reduced landscape effects' in comparison to the original consent for the 22 turbines.

Mr Mansergh agrees that the reduction in number of turbines will likely result in less than minor or enhanced effects upon the visual landscape when considering the visual catchment to the south of the windfarm site. However, he notes that methodology adopted by the applicant risks underestimating the visual effects when considering properties north of the windfarm site. This is due to the WSP assessment of the visual effects on House 26 and House 28 along with other northern properties being carried out as a desktop exercise, in reliance on photographs supplied by the applicant and line of sight diagrams prepared using elevation data from Google Earth.

The uncertainties associated with this approach led Mr Mansergh to express some concerns over the assessment methodologies adopted and the subsequent effects ratings provided. He particularly noted that the methodology adopted by WSP was to consider effects ratings of both "very low" and "low" as less than minor. However, in his opinion it was preferable to adopt the notification threshold ratings identified in the New Zealand Institute of Landscape Architects Te Tangi a te Manu – Aotearoa New Zealand Landscape Assessment Guidelines, April 2021 and that these be adopted rather than those adopted by WSP.

On the basis of using the NZILA ratings of "very low" to equal less than minor effects and "low" to equal minor effects, he concluded that the potential adverse visual effects were considered to be low or moderate at House 26 and House 28 (Te Waitere View Limited), House 22 (Martins) and property SA1051/182 (Irons). These are set out in Table 3 below.

Table 3: Visual Affected parties

Legal Description	Landowner/occupier	Status
Section 13 & Part Section 9, Block V Kawhia South SD	Christopher, Raymond and Susan Irons	No written approval provided
Lot 1 DP 332845 in CT 134566	Greg and Leslie Martin House #22	No written approval provided
SA30D/453	Te Waitere View Limited * House #26	No written approval provided
SA42C/698	Te Waitere View Limited * House #28	No written approval provided

* Council understands that this property is a substantial rural holding which may include farm employees residing on the property. If it is determined that the application should be limited notified, then Council will work through the owner of the property to ensure that all occupiers are advised of the application.

The location of these properties are depicted on the plan included as Attachment 9 to this report.

Mr David Galbraith has separately emailed the Council to request that he is directly notified as part of the windfarm application process (see Attachment 10). Mr Galbraith owns property at 223/225 Coutts Road and considers that he will be adversely affected by infrasound and visual effects. The location of Mr Galbraith's property is shown on the map in Attachment 9.

Mr Mansergh has reviewed the email from Mr Galbraith and concluded the following: "Disregarding the positive effects associated with the removal of the southern 11 turbines, the model indicates that only the blades of one turbine will be visible from the (Galbraith) dwelling, with the nacelle potentially visible from the workshop to the south of the house. While the turbines will be larger than those currently consented, there will be no ability to compare their relative sizes. The effect of their presence on the landscape (landscape effects) and existing visual amenity (visual effects) will likely be similar to the consented activity. What this means is that while the turbines will appear larger and have greater visual prominence, the relative difference in overall effects on landscape and amenity is likely to be less than minor."[2]

In reliance on the landscape memo from Mr Mansergh, it is my opinion that Mr Galbraith is not an affected person for the purposes of the s95 assessment in relation to the proposed height increase for the windfarm. I do however consider that those parties listed in Table 3 above should be limited notified on the basis that they are affected persons because of the potential visual effects on them arising from the proposal.

Acoustic effects

Ms Siiri Wilkening of Marshall Day Acoustics has been engaged to review the Altissimo noise assessment attached to the Taumatatotara Wind Farm application. A copy of her technical review memorandum is included as Attachment 5 to this report.

Altissimo concludes that increasing the turbine height will not materially change the sound level received at the affected properties, and therefore the acoustic effects of this alteration are less than minor. Ms Wilkening noted that the Martin dwelling (see Attachment 9) is predicted to receive the highest noise level of all receivers that are not part of the windfarm site or have given written approval to the project. However, when comparing the predicted noise levels for the consented windfarm and the proposed 11 turbine, 172.5 m high windfarm, the predicted noise levels are the same with a reduction of -0.1 dBA. For all other receivers, the noise levels from the proposed windfarm changes are predicted to reduce between 2 decibels and 19 decibels when compared to the consented windfarm. On this basis, Ms Wilkening considers that that

[2] Attachment 4, pgs 4 & 5, Mansergh Graham Landscape Architects memo dated 8 September 2021

adverse noise effects from the proposed changes to the windfarm will be less than minor at this receiver. In my opinion, this means that the effects arising from the change will range from negligible to significantly positive. I do not recommend that any adjacent landowners are limited notified on the basis of adverse noise effects.

Mr David Galbraith has separately emailed the Council to request that he is directly notified as part of the windfarm application process (see Attachment 10). Mr Galbraith owns property at 223/225 Coutts Road and considers that he will be adversely affected by infrasound and visual effects. The location of Mr Galbraith's property is shown on the map in Attachment 9.

Ms Wilkening notes that Mr Galbraith's property is located over 3 km in a straight line from the nearest turbine location (not allowing for terrain screening). She considers that given this distance the windfarm would generally not be audible and that Mr Galbraith would not be affected in relation to noise effects.

Infrasound is an issue that has been discussed widely on the internet and arises from the assertion that health effects can occur near wind farms even when audible noise is well controlled or when noise is inaudible. Ms Wilkening notes that: "The literature concerning these areas has been reviewed in detail by the Standards New Zealand NZS6808 revision committee, to the conclusion that neither infrasound nor vibration from wind farms can give rise to health effects, and that no additional steps are required in a noise assessment to ensure that health and amenity are protected."[3]

On the basis of the comments from Ms Wilkening, I do not consider that Mr Galbraith is an affected person to the windfarm application on the basis of infrasound or noise effects. I also consider that no other surrounding landowners or occupiers will be adversely affected by noise and therefore no landowners need to be limited notified on the basis of this effect.

Transportation effects

Mr Lindsay Boltman, Traffic and Transportation Engineer at Bloxam Burnett & Olliver Limited (BBO) has reviewed the traffic report prepared by the applicant. A copy of his technical memorandum is included as Attachment 6. The originally consented turbines allowed for transportation of turbines with a diameter of up to 100m with 10m ground clearance. Turbines available included the Vestas V90 the GE100, and the Gamesa 97m machines. The existing consent allows for the transportation of these turbines, subject to conditions to protect the condition of WDC roads.

Mr Boltman was not able to fully assess the transportation effects as the applicant has only provided a desktop study of what their intentions are and has not provided BBO with any detailed investigation. Whilst the applicant has not provided an ITA or an in-depth transport investigation, the applicant has provided an attachment detailing the specialised transporter and wind blade adapter, and a memo on the transportation of turbine components.

The applicant states that despite the proposal providing for larger, longer and heavier machines, it is anticipated that transportation will be easier and lead to a reduction in transportation effects, due to technological advances and the fact there are less turbines overall. The applicant states that no road widening will be necessary.

To date, BBO has consistently raised concerns with respect to the route and a number of constraints that are effectively underestimated. BBO has identified three bridges along the route which exceed BLR (greater than 200%) which represents a 'Do Not Cross' restriction, and therefore before transporting the turbines a solution must be implemented. Recommended alternatives include strengthening of the bridge structures, route alternatives, temporary spanning of the bridges and full bridge replacements. The memo has also raised concern with roading width along portions of the corridor.

[3] Attachment 5, Pg 4, Marshall Day Acoustics memo dated 15 September 2021

While there remain some transportation matters to address in relation to the application, in my view these are not matters that impact on the limited considerations at issue under s95 of the RMA. The applicant already holds a live consent for the construction of 22 turbines on the site with the associated transportation effects and the matters associated with the increase in height and subsequent changes in the number and dimension of loads are technical matters that can be addressed with a comprehensive set of transport conditions. I do not consider that the change in transportation effects associated with the increase in turbine heights are relevant for the notification assessment.

Ecological effects

A memo has been prepared by Dr Leigh Bull of Boffa Miskell, acting on behalf of Council, to assist with the identification of affected parties where the ecological effects of the proposed increased turbine height are likely to be minor or more than minor (see Attachment 7).

Dr Bull has expressed concern around the methodology and effects assessment for Ecology. The original windfarm consents granted in 2006 and subsequentially varied in 2011, were granted without extensive or targeted ecological field investigations. The lack of targeted surveys meant that the presence, abundance, distribution and patterns of movement across the wind farm site for Native bats and NZ Falcons is very limited. A further assessment undertaken for this application by Ecology NZ concluded that the proposed height increase and overall turbine reduction will result in a positive ecological benefit overall without any substantive field surveys being undertaken.

Dr Bull requested additional information on potential ecological effects, due to the need for an understanding on what species are present and how they are utilising the site before making any conclusions about potential effects on ecology. She concludes that the applicant's ecological assessment has not followed the best practice guidelines and does not contain the necessary information to come to such a conclusion. She also expressed concern over the proposed use of bat detection and deterrent technology as an offset measure that has not been trialled in New Zealand.

Dr Bull concludes that: "In my opinion, insufficient information has been provided to conclude that the potential adverse effects on bats will be less than minor; rather, I am of the opinion that the effects of the proposal could be minor, that being a noticeable affect but will not cause any significant adverse impacts."[4]

In reliance on the technical memo from Dr Bull, it is my opinion that the applicant has not demonstrated that the potential adverse effects on bats will be less than minor. Dr Bull concludes that the effects could be minor. On this basis, I consider that the Department of Conservation as the statutory organisation appointed to speak on conservation matters in New Zealand, is an affected person who should be limited notified of this application.

Effects on Tangata whenua

The applicant has undertaken consultation and engagement with those tangata whenua organisations identified by Ngati Maniapoto. A hui was held in Taharoa on 4 May 2021 attended by representatives of the applicant and Ngaati Mahuta. A letter was included with the further information package submitted in August 2021 from Yvonne Armstrong on behalf of Ngaati Mahuta stating that: "We cannot support the change of wind turbine size, an extra 62.5 metres in height, nor do we see a reduction in turbine numbers as a mitigating factor to lessening the impact of junk/ scrap metal, zero waste, visual effects and all of what was up for discussion. With hand on heart we are not confidently assured that the environmental and cultural impact, the ecological –dirty footprint, biodiversity of indigenous, the health and wellbeing of lives and environment present and in the future has been addressed adequately."

[4] Attachment 7, pg 4, Ecology s95 memo, Boffa Miskell Ltd dated 11 September 2021

Given Ngaati Mahuta, as tangata whenua, have expressed their concerns over the proposal in this way, I consider that they should be limited notified as affected persons.

Effects Conclusion

Based on the technical reviews completed to date on the windfarm proposal, and the analysis set out above, it is my opinion that some of the potential adverse visual effects arising from the project will be at least minor and that a number of specific landowners and occupiers should be limited notified of the application as affected persons

I also consider that the adverse ecological effects on bats have not been demonstrated to be less than minor and may be minor. I therefore recommend that the Department of Conservation be included as a limited notifiable affected person to this application.

Ngaati Mahuta have written to the applicant confirming their opposition to the proposal and in my view should also be included as a limited notified affected person to this application.

Those parties that I consider should be limited notified are set out below in Table 4:

Table 4 – Limited notified parties

Legal Description of property	Landowner/Party	Reason for Limited notification
Section 13 & Part Section 9, Block V Kawhia South SD	Christopher, Raymond and Susan Irons	Visual effects, no written approval provided
Lot 1 DP 332845 in CT 134566	Greg and Leslie Martin	Visual effects, no written approval provided
SA30D/453	Te Waitere View Limited	Visual effects, no written approval provided
SA42C/698	Te Waitere View Limited	Visual effects, no written approval provided
NA	Department of Conservation	Ecological effects on bats.
NA	Ngaati Mahuta	Written opposition to proposal.

6 SECTION 95 NOTIFICATION RECOMMENDATION AND DECISION UNDER DELEGATED AUTHORITY

Pursuant to s95B the application shall proceed on a LIMITED NOTIFIED basis to those parties listed in Table 4 above:

Reporting Officer:	Approved By:
Chris Dawson	Greg Hill
	
Consultant Planner	Hearing Commissioner
Dated: 17 September 2021	Dated: 21 September 2021

K:\123391 Waitomo District Plan\103 Taumatatotara wind farm_July 2019\Reporting\Notification s95 report\s95 report T3\s95 Notification report (Taumatatotara wind farm 17_Sept 2021).docx

Attachment 1

2006 original consent

s42A decision report and conditions

REPORT TO : The Waitomo District Council Hearings Committee

FROM : Ben Inger, Consultant Planner for Waitomo District Council

APPLICANT : Ventus Energy (NZ) Limited

PROPOSAL : Applications for resource consent made by Ventus Energy (NZ) Limited for the construction and operation of 22 wind turbines and associated services on a ridgeline approximately 6.5km south of Taharoa (from Turbine 1) in the Waitomo District.

SITE : Comprising the following Rural zoned land:

- Part Section 10 Block V Kawhia South Survey District and Section 3 Survey Office Plan 53968 comprised in Certificate of Title 141077;
- Section 3 Block IX Kawhia South Survey District comprised in Certificate of Title SA28A/586;
- Section 1 Survey Office Plan 58558 comprised in Certificate of Title SA47A/876;
- Section 1A Block V Kawhia South Survey District comprised in Certificate of Title SA37A/25;
- Section 12 and Section 22 Block V Kawhia South Survey District comprised in Certificate of Title SA31C/23;
- Section 2 Block V Kawhia South Survey District comprised in Certificate of Title SA37A/26; and
- Part Section 24 Block V Kawhia South Survey District and Section 2 Survey Office Plan 53968 comprised in Certificate of Title SA48B/494.

WDC REFERENCE : 050 103

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Appendices:

Appendix A: Copy of the Application

Appendix B: Copy of the s.92 Further Information Requests and Information Received

Appendix C: Peer Reviews Undertaken on behalf of Council:

1. Peer Review of the Acoustic Assessment undertaken by Hegley Acoustic Consultants

2. Peer Review of the Visual and Landscaping Assessment undertaken by Priest Mansergh Graham
3. Peer Review of the Traffic and Roading Assessment undertaken by Opus International Consultants

Appendix D: Copies of Submissions

Appendix E: Written Approvals Received by Council

Appendix F: Locality Plan and Planning Map

1 Introduction

1.1 An application for land use consent has been made by Ventus Energy (NZ) Limited to establish and operate a wind farm on a site adjacent to Taumatatotara West Road. The application was lodged on 15 December 2005.

1.2 The purposes of this report are to assist the Hearings Committee in coming to a decision on the application by:

- Independently "auditing" the reports submitted by the Applicant in support of the application to identify any deficiencies or areas where different interpretations should be applied;
- Identifying key issues that need to be considered by the Committee;
- Commenting on points raised in submissions; and
- Making a recommendation to the Committee for their guidance.

1.3 The following specialists have audited the acoustic, visual and roading assessments within the application and have provided input into this report:

Nevil Hegley of Hegley Acoustic Consultants (Acoustic Engineering Consultant) in respect of potential noise effects;

Dave Mansergh and Adele Wilson of Priest Mansergh Graham (Landscape Architects) in respect of potential landscape and visual effects.

Rui Leitao and Bill Flavell of Opus International Consultants (Roading Engineers) in respect of potential roading and traffic safety effects on the surrounding local roading network.

1.4 Each of these specialists have prepared an individual report on those aspects of the proposal and these are contained in **Appendix C** to this report.

1.5 These peer reviews have been used to form part of the assessment of environmental effects (provided in **Section 13** below).

2 The Applicant

2.1 Ventus Energy (NZ) Limited is a privately owned independent wind energy development company based in Auckland. It is affiliated to Ventus Energy Limited, an Irish renewable energy company incorporated in the year 2000. Ventus Energy's principal project to date is the Knockastanna Wind Farm, a five turbine 7.5MW development located in east county Limerick, Ireland. The project received planning consent in 2003.

2.2 Ventus Energy have also applied to the Waitomo District Council to construct and operate a thirty two turbine wind farm on a ridgeline at Awakino (Council reference 050 003). That application is currently on hold.

3 The Proposal

3.1 Background

3.1.1 Ventus Energy (NZ) Limited ("the Applicant") seeks land use consent to construct a wind farm at a site on Taumatatotara West Road near Taharoa.

3.1.2 The application (refer to **Appendix A – The Application**) involves the establishment and operation of a utility scale wind farm comprised of twenty-two 'horizontal axis' wind turbines, associated sub-station and operations buildings, and access roads on a ridgeline located approximately 6.5 kilometres south of Taharoa in the Waitomo District.

3.1.3 The additional information provided as a result of a request for further information (section 92 request) is attached as **Appendix B**.

3.1.4 The twenty-two turbines to be constructed will be positioned over four rural properties, owned by G & J Gallagher Farm Limited (CT reference 31C/23), Larry and Lynette Harper (CT references 141077, 47A/876, 37A/25 and 37A/26), GL Stokes and Company (CT reference 48B/494) and The Proprietors of Taharoa C Incorporation (CT reference 28A/586).

3.1.5 The properties are currently used predominantly for pastoral grazing purposes (sheep and cattle). Scattered pockets of plantation radiata pines and small fragments of native bush also exist in the surrounding area.

3.2 Proposed Wind farm Activities

3.2.1 The Applicant states on page 16 of the AEE that the actual supplier (and hence capacity) of the turbine equipment will not be chosen until the tendering stage. However, drawings and images of a 'typical turbine' similar to that which will be installed are provided in Appendix A of the AEE, and provide the overall (maximum) parameters for this consent.

3.2.2 The Applicant has, however, based the assessment on the model of turbine that is most likely to be chosen. This is the Ventus V80 model.

3.2.3 The maximum parameters/consent envelope that are sought by the Applicant and are being considered in the application are summarised in Table 1 below:

Table 1: Consent Envelope for the Proposed Wind farm

Maximum Parameters:	
Turbine Number	22 maximum
Tower Height	No Restriction (but likely to be 65 metres)
Turbine Tip Height (measured from ground to vertically extended	110 metres maximum

blade tip)	
Rotor diameter	No Restriction (but likely to be 90m diameter)
Ground Clearance from Rotor Tip	Not stated (but likely to be 20 metres)
Turbine Output	No Restriction (but likely to be 2MW)
Location of Turbines	Within a 100 metre radius of turbine locations shown
Location of Roads	Generally as shown on Figure 1 (Volume 2, AEE) with variation as required to provide access to the turbines if locations are varied.
Turbine type	Three bladed tapered tubular steel tower and support structures.

3.2.4 The Applicant also states in the table on page 17 of the AEE that a 15% variance is requested where dimensions are stated within the consent envelope.

3.2.5 Twenty two horizontal axis wind turbines will be constructed. Based on the Ventus V80 model of turbine, each turbine will have a maximum tip height of 110 metres (to vertically extended blade tip), comprising a tower height of up to 65 metres (to the top of the nacelle) and blade length (diameter) of up to 90 metres, and with a minimum ground clearance of 20 metres. The turbines will be of the standard three blade type and will be light grey in colour to minimise reflectivity. Tapered tubular towers are proposed. The towers will have a maximum diameter of 4.5 metres at the base, tapering to between 2 – 3 metres at the maximum height.

3.2.6 Reinforced concrete foundations will support the steel tubular towers and fibreglass turbines. The bases will be designed to withstand high gust wind conditions, and will be approximately 1.5 metres deep (in the centre) and 16 metres by 16 metres in area. At difficult turbine locations, piled foundations will be required.

3.2.7 The proposal also involves the construction of compacted crane pads adjacent to each of the tower/turbine foundations. The crane pads are approximately 1.0 metre deep compacted aggregate, with dimensions of approximately 16 metres by 22 metres, and are required to enable a large mobile crane of up to 600 tonne capacity to install each of the turbines (Figure 4.1 on Page 25 of the AEE depicts a 'Typical Turbine Base Configuration').

3.2.8 The Applicant has stated on page 16 of the AEE that the proposed turbines operate at wind speeds of between 3 and 25 metres per second. At wind speeds above 25 metres per second they shut down to prevent damage to the structure and the generating system.

3.2.9 The turbines will operate on a continuous 24 hour basis depending on the wind resource available. The power output of the turbines will be approximately 2.0 Megawatts (MW) each, giving a total power rating for the wind farm of

approximately 44 MW, depending on the final turbine choice. The Applicant has stated on page 1 of the AEE, that this is equivalent to the power demand of approximately 16,000 households.

3.2.10 The design of the turbines is such that they rotate to face the wind. The Applicant states on page 14 of the AEE that the predominant wind resource at the subject site is a south-westerly wind and the secondary wind resource is an easterly wind.

3.2.11 The location of the proposed turbines is shown in Figure 1 (Volume 2) of the AEE. However, the Applicant states on page 15 of the AEE that it may be necessary to change turbine locations following detailed foundation and site access investigation. Changes would also be required in the event that any archaeological features are discovered during the initial earthworks and site preparation works. For these reasons the application includes the provision for a '*turbine contingency zone*' which is a defined area of a 100 metre radius around each of the proposed turbine locations.

3.2.12 The layout generally consists of a single row of turbines running northwest to southeast along a well defined ridgeline.

3.3 Other Ancillary Activities

3.3.1 Other ancillary buildings and activities proposed are:

(a) An underground fibre optic network connecting each turbine to the central control system in the operations building;

(b) An underground network of 33kV transmission lines delivering electricity from each turbine to two proposed sub-stations located within a single compound.

(c) Overhead powerlines connecting the wind farm substations to the two existing 33kV lines that traverse the eastern edge of the landholding;

(d) A compound occupying a maximum footprint of 41 metres by 33 metres is proposed to house the control building and the sub-station equipment (Figure 3 of AEE Volume 2). The function of the control building is to house monitoring and control equipment for the wind turbines and the transmission of electricity. External electrical equipment will include switchgear and may include transformers and busbars. The function of the sub-station equipment is to allow for the transformation from the local site voltage up to a transmission voltage of 33 or 110kV. Two separate sub-stations and circuits are proposed (one for each of the 33kV lines to which the wind farm will be connected) however, the substations will both be contained within a single compound area, and surrounded by a 2.4 metre high security fence and locked gates. The location of the compound is shown on

Figure 1 (Volume 2) of the AEE and on the annotated photo attached as further information in **Appendix B**.

(e) Internal access roads of a 5 metre width to provide access to the turbines and ancillary buildings;

(f) Earthworks associated with the creation of the turbine sites, access roads and other facilities described above.

3.4 Transmission Lines and Grid Connection

3.4.1 Ventus propose to connect the wind farm directly to the two sets of existing 33kV lines that traverse through the eastern edge of the landholding. Ventus have stated that connection(s) can be achieved by one of the two methods as follows:

- By installing and operating new 33kV or 110kV overhead lines from the on-site substations, to the existing 33kV lines (for distances of approximately 2 and 3 kilometres respectively). Use of 110kV lines would also require an upgrade of the existing 33kV lines to 110kV; **OR**
- By using the existing single phase 11kV route (indicated as Option A on Figure 1 of the AEE). For this option, the old 11kV wooden poles would be replaced by new stronger concrete or wooden ones to accommodate two sets of 33kV lines as well as the existing 11kV ones – so three sets of lines in total (The Applicant states on page 17 of the AEE that this option is preferred by Ventus).

3.4.2 For each of the above options it would be possible to lay the cables underground (rather than overhead). This option is considered in the assessment of effects provided in **Section 13** below, and in the visual and landscape audit contained in **Appendix C**.

3.5 Vehicle Access

3.5.1 All vehicular access to the site is proposed to be from Taumatatotara West Road.

3.5.2 Due to topographical and geotechnical constraints at the site it is not practical to construct a separate access road connecting all of the turbine sites. Three separate entrances and associated access tracks are therefore proposed to allow for vehicular access during construction and maintenance works as follows:

- to turbine 7;
- to access the northern block of turbines (Nos. 1-6); and
- to access the southern block of turbines (Nos. 8-22).

3.5.1 Each access crossing will be approximately 6.5 metres wide, and all areas disturbed adjacent to access roads are proposed to be grassed following completion of the construction works.

3.5.2 Public access will not be available to the site. However, Ventus have stated that they are supportive of any proposal by Council to create public viewing areas (including associated signage) from Council's local roading network in the surrounding area. Any consideration of a public viewing area would require separate consideration by Council, and falls outside of the scope of this application.

3.6 Transportation of Materials to the Site

3.6.1 In addition to the loads of imported aggregate and concrete that will be trucked to the site for the proposed construction works, the proposal also involves the transportation of a number of oversized loads (containing the actual wind farm components), as follows:

- Nacelle mass of up to 60 tonnes (each),
- Blade length of up to 45 metres, and
- Base tower diameter of 4.5 metres.

3.6.2 The turbines and sub-station transformer components will all be imported by ship to the port of New Plymouth and then transported by road to the site, northbound along State Highway 3 using specialist (large load) transportation services.

3.6.3 Some road widening/road alignment correction will be required to accommodate the large-load vehicles. Aside from widening and upgrading works to Taumatatotara West Road, resource consents for road upgrade works do not form part of this application and will need to be applied for at a later date should this application be approved.

3.6.4 The imported aggregate and concrete will be trucked from '*any one of a number of local quarries*'. No further details are provided in the AEE.

3.6.5 The Applicant states on page 54 of the AEE that approximately 12,000 traffic movements will result from the construction and establishment of the wind farm, including movements resulting from transportation of turbine components, transportation of other materials, and vehicles associated with people employed as part of the construction works.. The majority of the heavy vehicle movements are expected to occur over the first 5 months of construction.

3.6.6 The potential traffic and roading effects are discussed in **Appendix C** and **Section 13** below.

3.7 Vegetation Removal

3.7.1 The ecological assessment (Appendix L of the application) states that the "*vegetation in the immediate vicinity of all pylons is exotic pasture grasses and herbs*" which are of minimal value from a biodiversity perspective. Overall, the report concludes that the proposed works involve the removal of only small areas of indigenous vegetation, most of which is already degraded either through previous road works or invasion by exotic species and is well represented elsewhere within the district.

3.7.2 Some relatively small areas of roadside vegetation will require removal to enable upgrading and widening of Taumatatotara West Road. This includes the removal of a small amount of indigenous vegetation on some of the road corners.

3.8 Earthworks

3.8.1 The Applicant estimates the approximate volumes of material for the construction works as follows:

- 32,000m^3 of aggregate and basecourse material,
- 6,200m^3 of concrete,
- 14,149m^3 of topsoil strip; and
- 187,730m^3 of excavated sub-soil.

3.8.2 Earthworks are required to create the turbine sites, crane pads, access roads and other facilities described above. The proposed earthworks will involve cuts and benching to the existing site topography, the creation of building platforms for each of the turbines, and the construction of internal access roads.

3.8.3 The Applicant has provided a spreadsheet detailing earthworks volumes **(see Appendix B).** Approximately 14,149m^3 of topsoil strip, 187,730m^3 of cut and 124,365m^3 of fill is required for the various aspects of the application. The fill material will be comprised entirely of the cut material, with the excess cut of approximately 63,365m^3 and the topsoil strip of approximately 14,149m^3 (a total of 77,514m^3) being deposited on-site within well drained natural depressions.

3.8.4 The potential effects of the proposed earthworks are considered under various headings in section 13 below and in the visual and traffic assessments undertaken on behalf of Council (**Appendix C**).

3.8.5 A hardstand laydown area measuring approximately 150 metres by 60 metres is proposed adjacent to the proposed sub-station site, for the short term storage of some components during the construction phase of the project. The hardstand laydown area will be constructed of compacted basecourse to a depth of approximately 400mm. The laydown area will be removed upon the completion of construction and the area will be re-grassed. The potential

visual effects of the proposed hardstand area are discussed in the visual and landscape audit in **Appendix C** and summarised in **Section 13** below.

Aggregate:

3.8.6 Significant earthworks are proposed to create the internal access roads and building platforms for the turbine sites, crane pads and other ancillary facilities. It is estimated in the AEE that approximately 32,000m^3 of aggregate will be required for these activities. Some aggregate, particularly sub-base material required for the roads will be sourced from on-site. However, aggregate for the road surface *"is likely to come from any one of a number of local quarries"*.

Concrete:

3.8.7 Several options are suggested in the application with regard to a source of concrete. These options include trucking concrete to the site from a quarry at Taharoa, or alternatively from Otorohanga. The Applicant also suggests that a concrete batching plant may be located on-site.

3.8.8 The establishment of a batching plant on-site will have associated effects such as visual and noise matters that are potentially significant and would require consideration. No proposed location for a concrete batching plant has been identified so it has not been considered in this report. The Applicant should clarify whether a batching plant is proposed at the hearing.

Spoil:

3.8.9 It is estimated that some 14,149m^3 of excavated topsoil will be stored during construction and then used to reinstate the disturbed areas. The extent of the proposed cuts, and the areas of temporary storage are not specified in the application other than a comment on page 31 of the AEE that the excavated topsoil *"will be stored in well-drained locations"*.

3.8.10 The Applicant states on page 53 of the AEE that the heavy machinery (transportation) phase of construction is expected to take approximately 5 months. The total construction period is expected to be approximately 9 months.

3.9 Operation, Monitoring and Maintenance

3.9.1 Once the turbines are operational there is a relatively low level of manual input required. No full time staff would be present at the site. However, staff would normally visit the site on a fortnightly basis to undertake routine checks and data collection. The proposal also includes a facility to transmit important operational data remotely.

3.9.2 Physical maintenance such as oil changes and lubrication will take place approximately twice a year. Servicing will generally occur within the nacelle, using an internal ladder in the tower to gain access.

4 Lapsing Period and Consent Term

4.1 Section 125 of the Resource Management Act 1991 states:

*1) A resource consent lapses **on the date specified in the consent or**, if no date is specified, **5 years** after the date of commencement of the consent unless, before the consent lapses, -*

a) the consent is given effect to; or

b) an application is made to the consent authority to extend the period after which the consent lapses, and the consent authority decides to grant an extension after taking into account -

(i) whether substantial progress or effort has been, and continues to be, made towards giving effect to the consent; and

(ii) whether the applicant has obtained approval from persons who may be adversely affected by the granting of an extension; and

(iii)the effect of the extension on the policies and objectives of any plan or proposed plan.

[**Emphasis Added**]

4.2 Ventus have requested a lapsing period of 8 years, siting the possibility that some or all of the construction will be delayed. Ventus seeks an unlimited term for all consents.

4.3 Ventus state on page 20 of the AEE that the expected life of the turbines is 20 – 25 years. Following this period, the turbines may be upgraded and retained, depending on the technology available and the demand for wind power at that time. The infrastructure supporting the wind farm (access roads, substation and grid connections etc) will have a design lifetime of some 50 to 60 years. Ventus therefore anticipate that they will operate a wind farm at the site for two turbine replacement cycles (a total project lifetime of approximately 50 years).

5 The Site

5.1 Site Selection

5.1.1 The Applicant states on Page 1 of the AEE that the site was selected because it displays the following:

- *Has a good 'wind regime' (exposed to prevailing winds and elevated)*
- *has excellent grid connection possibilities*
- *is highly modified (ecologically) so has a low sensitivity*
- *is not adjacent to the coastline or a high amenity area*
- *is generally well screened from views.*

5.2 Land Use and Landscape

5.2.1 The site of the proposed wind farm is located on an unnamed ridgeline, situated approximately 6.5 kilometres south of Taharoa (from Turbine 1) and 2.5 – 3 kilometres east to southeast of Te Anga.

5.2.2 The existing landuse is predominantly pastoral grazing (sheep and cattle) with scattered pockets of plantation radiata pines. Small fragments of native bush also exist in the surrounding area.

5.2.3 Taumatatotara West Road traverses through the centre of the site in an east-west orientation, and effectively 'divides' the wind farm site into two parts, with turbines 1-6 located on the northern side of Taumatatotara West Road, and turbines 7-22 located to the south.

5.2.4 Surrounding land uses are predominantly rural. The topography of the site ranges from moderate to very steep hill country.

5.2.5 The southern part of the ridgeline, in particular, is visually prominent with respect to a large but sparsely populated area of the nearby Marokopa Valley.

5.2.6 There are four dwellings located within 1 kilometre of the site, with the closest dwelling being approximately 600 metres away from the nearest proposed turbine (Harper House 3). Gallagher House 1 and Gallagher House 2 are each located approximately 700 metres from the closest turbines, being turbines 1 and 6 respectively. An additional dwelling is also located near Gallagher House 2, however, this house is not marked on the plans provided with the application. This dwelling is also owned by the Gallaghers.

5.2.7 All of these dwellings are located on properties that are owned by people who own land that forms part of the wind farm site itself (Harper's and Gallagher's). Written approval has been provided from the owners and occupiers of all four of these dwellings.

5.2.8 The site is zoned Rural in the Proposed Waitomo District Plan, as are all of the adjoining properties (refer to planning map in **Appendix F**). There are no designations, sites of significance or other special features affecting the site that are identified on the District Plan maps. However, the planning maps do denote three areas zoned 'Conservation' located in close proximity to the wind farm site (the Maungaakohe Scenic Reserve administered by DOC to the south-west, and two open space covenant areas to the north-east).

5.2.9 There are a number of agricultural airstrips in the surrounding area. The Applicant has consulted with the Civil Aviation Authority (CAA) in relation to the proposal, and their written comments are included in **Appendix B** of the application.

5.2.10 Telecom New Zealand operate a small communications link with an associated cable on the site. Telecom have advised that they have no objection to the proposal.

6 Pre-Application Consultation

6.1 Prior to lodging the applications, Ventus Energy engaged in consultation with a number of organisations and surrounding landowners. The nature of and results of discussions with those organisations and people are summarised in Section 2.5 of their application (Volume 1).

6.2 The AEE includes detail of consultation and correspondence undertaken prior to lodging the resource consent application. According to the Applicant, consultation was undertaken with the following persons and organisations:

- NZ Police
- Civil Aviation Authority of New Zealand
- Department of Conservation
- Telecom New Zealand
- Waitomo District Council
- Environment Waikato
- Ornithological Society of New Zealand
- Hang Gliding Association
- Marokopa RMC
- Ngatai Tai O Kawhia
- Taharoa C Incorporation
- Transit NZ
- Teamtalk
- Superair
- D & C Green
- D & D Donald
- G & S Scott
- W & B Holmes
- B Neeley
- J & K Phillips

7 Written Approvals

7.1 The Applicant has provided written approvals from the owners and occupiers of those dwellings and sites located closest to the turbine sites. The following people have provided their written approval to the proposed wind farm development:

Table 2: Potentially Affected Persons From Whom Written Approval Has Been Obtained

NAME	ADDRESS	OWNER/OCCUPIER
The Proprietors of Taharoa C Incorporation		Owner
T Barlow	290 Marokopa Road, RD 5, Te Kuiti	Occupier
G & S Hamilton	297 Coutts Road, Te Anga	Occupier
G & J Gallagher Farm Limited	Private Bag 3026, Hamilton	Owner
D & C Green	Taumatatotara West Road, RD 8, Te Kuiti	Occupier
J Green	Te Anga Road, RD 8, Te Kuiti	Occupier
GL Stokes and Company Limited	Te Anga Road, RD 8, Te Kuiti	Owner
G & S Scott	465 Taumatatotara West Road	Owner & Occupier
L & L Harper	Taumatatotara West Road, RD8, Te Kuiti	Owner & Occupier
R Phillips	255 Taumatatotara West Road, RD 8, Te Kuiti	Occupier
Marokopa Marae	CO/- 2 Turongo Street, Otorohanga	Owner

7.2 Copies of their written approvals are attached as **Appendix E**.

7.3 In accordance with Section 104(3)b of the Resource Management Act 1991, Council must not have regard to the effects of the proposal on a person who has given written approval to the application.

7.4 The Applicant has confirmed that they have undertaken consultation with local iwi for the area and written approval was obtained from Marokopa Marae. Ngatai Tai O Kawhia did not provide written approval to the development, nor did they lodge a submission to the consent application.

8 Public Notification and Submissions Received

8.1 Notification Details

8.1.1 The Applicant requested that the application be processed on a notified basis.

8.1.2 This was consistent with Council's view that the proposal was likely to have a wide public interest and that the effects on the environment may be more than minor.

8.1.3 The application was publicly notified by the placement of notices in the Waitomo News and Waikato Times on 14 February 2006.

8.1.4 The closing date for receipt of submissions was 4pm on 14 March 2006.

8.2 Submissions Received

8.2.1 A total of fifteen submissions were received. All of the submissions were received within the statutory time period.

8.2.2 Ten of the submissions received were in opposition to the proposal, four submissions were in support, and one neutral submission was also received.

8.2.3 A submission was lodged by GL and CR Stokes, however, this was formally withdrawn on 23rd March 2006.

8.2.4 A summary of the submissions is included in **Table 3** below. Copies of the full submissions are included in **Appendix D**.

Table 3: Summary of Submissions

SUBMITTER	ADDRESS	SUPPORT/OPPOSE/NEUTRAL	WISH TO BE HEARD?
Wind Farm Developments (Australia) Limited	PO Box 10-905, Wellington	Support	No
M, J, & N Phillips	719 Marokopa Road	Oppose	Not stated
Department of Conservation (DOC)	PO Box 38, Te Kuiti	Neutral	Yes
R & S Irons	83 Te Waitere Road	Oppose	No
Mr M Paterson	669 Marokopa Road	Oppose	Yes
Mrs M Paterson	669 Marokopa Road	Oppose	Yes
C & D Gilbert	443 Marokopa Road, Castle Craig Farm	Oppose	Yes
M Haddad	158 Coutts Road	Oppose	Yes
G Pilgrim	Marokopa Road, Castle Craig Farm	Oppose	No
C Pilgrim	Marokopa Road, Castle Craig Farm	Oppose	No
Ministry of Economic Development	PO Box 1473, Wellington	Support	No

Energy Efficiency and Conservation Authority	Po Box 388, Wellington	Support	Yes
Airways Corporation of New Zealand	PO Box 294, Wellington	Support	Yes
Waikato District Health Board	PO Box 505, Hamilton	Oppose	Yes
Tim Stokes	781 Taharoa Road	Oppose	Yes

8.3 Issues Raised by the Submitters

The issues raised in submissions in support include:

- Proposal is well aligned with government objectives to deliver security of supply with an increasing focus on renewable energy sources
- Windpower is a viable alternative energy source
- Will ensure diversification in electricity production methods
- An environmentally responsible alternative to using fossil fuels for generation because generation does not produce carbon dioxide
- New Zealand is ideally situated to generate electricity from wind
- Will assist NZ in meeting its commitments under the Kyoto protocol
- Governments Energy Policy commits the government to a sustainable and efficient energy source with an increasing focus on renewables
- Is consistent with the principles for sustainable development
- The proposal enhances security of supply in the electricity sector especially in dry (hydro) years
- Ensures New Zealand has the generation capacity to meet the forecasted growth in energy demand
- Is consistent with the governments Sustainable Development Programme of Action for Energy, to ensure continued delivery of energy services to New Zealanders; and recognition of renewable resources
- Is consistent with National Energy Efficiency and Conservation Strategy (NZEECS)
- Is consistent with Government Policy Statement on Electricity Governance
- Is consistent with Resource Management (Energy and Climate Change) Amendment Act 2004
- Public support for renewable energy sources

The issues raised in submissions in opposition include:

- Roading and traffic disruption and safety effects along Taumatatotara Road and Marokopa Road.
- Effects of transportation vehicles on lambs during lambing season.
- Effects on road quality – need for reinstatement.
- Effects on existing tourism – tourists attracted because of natural quality of surrounding landscape.

- Noise effects on neighbouring properties
- Visual effects on the Marokopa Valley environment from turbines numbered 18-22.
- Potential for vibration effects.
- Possible effects relating to the upgrade of the transmission line – particularly health effects.
- Effects on property values in the neighbouring area.
- Possible rates increases as a result of additional pressure on roading infrastructure.
- Stability of the ridge on Taharoa C land and potential for erosion/slippage to occur.
- Potential additional costs for aerial spraying

***Other matters or suggested amendments raised in submissions*:**

- Some submitters expressed concern at a lack of consultation.
- Six of the ten submitters who lodged submissions in opposition to the proposal want turbines 18 (or in one case 19) to 22 removed from the proposal.

9 District Plan Assessment – Classification of the Activity

9.1 Proposed Waitomo District Plan

Status

9.1.1 The Decisions Version of the Proposed Waitomo District Plan was notified in October 2001.

9.1.2 Several of the Proposed District Plan provisions are the subject of Environment Court appeals and/or consent orders. However, the provisions relating to zoning and to land use activities in so far as they relate to this application are now effectively beyond challenge, and are given weight to in accordance with section 19 of the Act when assessing this application. Therefore there is no need to consider the Transitional Waitomo District Plan.

Zoning

9.1.3 The site on which the proposed turbines are located is zoned **Rural** under the Proposed District Plan, a zoning that applies to the majority of the rural land within the Waitomo District. A copy of the relevant planning map is attached as **Appendix F** (Planning Map 3).

9.1.4 The District Plan describes the overall approach in the Rural zone as being "*to minimise controls on rural activities so there are no unnecessary barriers to productive land use, while ensuring that the rural environment is protected from significant adverse effects of activities*" (Section 11.1 of the Proposed District Plan).

The Proposed Wind Farm Activity

9.1.5 'Wind farms' are not an activity that is expressly referred to in the Proposed Waitomo District Plan, and the District Plan does not make any direct provision for wind farming activities within any of the zones.

9.1.6 However, Rule 11.5.1.3 of the Waitomo District Plan identifies the following activities as discretionary within the Rural zone:

Rule 11.5.1.3:
*"**Discretionary Activities:** Any activity described as a Discretionary Activity in Rule 11.5.2 [Karst Systems], and **any activity that does not comply with three or more of the Conditions for Permitted Activities set out in Rule 11.5.4**. See also Rule 11.5.4.5 for Discretionary Activity rules relating to clearance of indigenous vegetation".*

Rule 11.5.4 Conditions for Permitted Activities:		
Condition	**Complies**	**Comments**
Rule 11.5.4.1: Buildings *a) Front Yard: 10 metres minimum* *b) Side Yard: 10 metres minimum* *c) Rear Yard: 10 metres minimum* *d) Height in relation to boundary: **3 metres plus 1 metre for every metre from the boundary to the structure*** *e) Maximum Height: **10 metres*** *f) Maximum building area: 200m^2, except for dwellings and buildings for farming and forestry activities where no limit applies.*	✓ ✓ ✓ ✘ ✘ ✘	The proposed wind farm is unable to comply with items (d), (e) and (f) of Rule 11.5.4.1. (d) Height in relation to boundary – the proposal will not comply at turbines 7 and 8. The nearest external boundary to turbine 7 is approximately 60 metres and the nearest external boundary to turbine 8 is approximately 70 metres away. (a) The turbines are likely to have a maximum height of 110 metres (from ground to tip), and a maximum height of just 10 metres is permitted. (b) The proposed turbines, substation and ancillary structures all fit within the District Plan definition of 'building' and occupy a total building area greater than 200m^2.
Rule 11.5.4.5: Indigenous Vegetation *"Within the Rural Zone the removal or clearance of indigenous vegetation, or indigenous wetland vegetation, shall be Discretionary subject to assessment for significance under Assessment Criteria*	✓	The ecological assessment included in the application and referred to in **Section 13** of this report has confirmed that the proposed wind farm activities will only result in the removal of minor areas of indigenous vegetation, totalling less than 1 hectare in area. The actual turbines will be sited in areas that are presently in pasture.

11.6.3. This Rule does not apply to the following forms of clearance of indigenous vegetation which shall be Permitted Activities . . . . *(vi)* ***Establishment of new tracks and fences*** *through indigenous* ***vegetation where the clearance of indigenous vegetation is no more than one hectare in area****, and the track or fence line is* ***constructed to acceptable farming practice****, provided that the indigenous vegetation lies more than 10 metres from any water body".*		
Rule 11.5.4.6: Earthworks *"Earthworks, farm quarries and extractive industries may occur on any site provided that:* *. . .* *(d) The activity does not breach ... Rule 11.5.3 General Provisions, and Conditions for Permitted Activities in Rules 11.5.4.1 to 11.5.4.5* *(e)* ***No more than 10,000m³ of soils,*** *minerals, and overburden are* ***moved*** *or removed* ***in any one calendar year****".*	✘	The proposal involves significant volumes of earthworks to create the platforms required for the turbines, crane pads and substations, and the internal access road to those platforms. The proposal is unable to comply with Item (e) of Rule 11.5.4.6 because the scale of the proposed earthworks is in excess of the 2,000m^3 maximum that is permitted.
Roads and Vehicle Access ***Rule 16.5.4.1 - Permitted Activity*** *Any minor upgrading or realignment of a road or state highway provided that no more than 1000m² of land outside the existing road designation*	✓	Should road realignment and upgrading works require a resource consent then this will be applied for at a later date. Aside from Taumatatotara West Road, road upgrading works are outside the scope of this resource consent application.

boundary is required to accommodate the road, except for land in the Conservation Zone.		The upgrading works to Taumatatotara West Road are minor and are not expected to involve more than 1000m^2 of land outside of the existing road designation boundary.
Noise **Rule 20.5.1 and 20.5.2** specify the noise standards for permitted activities in the Rural Zone. *All permitted activities shall be carried out such that the noise level at the notional boundary shall not exceed the following levels:* • *50dBA L10 daytime 7:00am to 10:00pm Monday to Saturday and 8:00am to 5:00pm Sundays and Public Holidays; and* • *40dBA L10 night time (all other times)* *No single noise event shall exceed 70dBA Lmax at night time* ***Rule 20.5.1.4*** *All noise levels shall be measured and assessed in accordance with the requirements of NZS 6801:1991 The Measurement of Sound and NZS 6802:1991 Assessment of Environmental Sound. The noise shall be measured with a sound level meter complying with the International Standard IEC651 (1979): Sound Level Meters, Type 1*	✘	Noise from the proposed turbines is expected to exceed these levels. Rule 20.5.1.2 of the Plan (page 114) lists the activities that are exempt from the rural zone noise standards but wind farms are not currently exempt. It is noted that there is a separate NZ Standard to measure wind turbine noise.

9.1.7 From the above table it is evident that the proposed wind farm activities do not comply with the following five conditions for permitted activities:

- **Buildings** - Rules 11.5.4.1.(d), (e) and (f);
- **Earthworks** - Rule 11.5.4.6; and
- **Noise** – Rule 20.5.

The proposal is therefore assessed as a **discretionary activity** in accordance with Rule 11.5.1.3 of the Waitomo District Plan.

Assessment Criteria

9.1.8 Section 11.6 of the Proposed Waitomo District Plan sets out the '*Assessment Criteria for Discretionary Activities*'. Those that are relevant to the wind farm application are as follows:

11.6.1 The relevant Objectives and Policies of the Rural Zone, and if applicable, those of the "General Provisions" where standards are not met.

11.6.2 The anticipated adverse effects resulting from the area of non-compliance and its impact on the following matters:

b) amenity and archaeological, historical and cultural heritage

c) the integrity of areas of significant indigenous vegetation and significant habitats of indigenous fauna

f) the safe and efficient operation of the district infrastructure and physical resources, including road

h) the noise level associated with the proposal and its effects on neighbouring properties.

9.1.9 ***Rule 11.6.1*** - An assessment of the relevant objectives and policies of the Rural Zone is provided below.

9.1.10 ***Rule 11.6.2*** – An assessment against each of the matters raised in items b), c), f) and h) is provided in **Section 13 (Assessment of Environmental Effects)** below. The assessment concludes that the proposal complies with the above assessment criteria.

Assessment Against the Relevant Objectives and Policies of the Proposed Waitomo District Plan

Objectives

11.3.1 *To promote the Rural Zone as a productive working environment where the use and development of its natural resources, consistent with meeting environmental safeguards, is encouraged.*

11.3.3 To ensure that significant archaeological, historical and cultural features are protected from adverse effects arising from the removal of vegetation, or other development of land. See also Section 21, Heritage Resources.

11.3.4 To protect areas of significant indigenous vegetation and significant habitat of indigenous fauna.

11.3.5 To ensure that rural development and land use does not give rise to increased erosion and thus degradation of water quality.

11.3.8 To promote use of rural land in a manner which encourages maintenance and enhancement of amenity values of the rural environment, protects outstanding natural features and landscapes from inappropriate use and development, and preserves the natural character of the coastal environment, wetlands, lakes and rivers, and their margins.

11.3.9 To encourage maintenance and enhancement of rural visual character.

11.3.12 To ensure the adverse effects of rural buildings situated close to boundaries, and large non-farm buildings, are avoided, remedied or mitigated.

Policies

11.4.1 To ensure the Rural Zone functions as a productive working environment where the use and development of its natural resources, consistent with meeting environmental safeguards, is encouraged.

11.4.4 To avoid, remedy or mitigate any effects of the use or development of rural land that gives rise to erosion which adversely affects water quality.

11.4.10 To avoid, remedy or mitigate the adverse effects of removal of areas of significant indigenous vegetation and significant habitat of indigenous fauna.

11.4.12 To ensure that all rural activities, including extractive industries, are established and operated so as to avoid, remedy or mitigate adverse effects on amenity or on neighbours, or on significant karst features.

11.4.13 To encourage mitigation of the adverse effects of all rural activities, including afforestation and forestry clearance, on adjacent sites. Particularly that mitigation should occur in areas that are visually sensitive, including areas with significant tourist resources, areas of high landscape quality and in the coastal environment.

11.4.17 To avoid, remedy or mitigate the adverse effects of rural buildings situated close to boundaries, and large non-farm buildings, on sunlighting, privacy, landscaping and amenity.

9.1.11 The proposal encourages the use and development of natural resources of land and air, and is therefore consistent with Objective 11.3.1 and Policy 11.4.1.

9.1.12 No areas of significant archaeological, historical or cultural features are known to exist on the site. The proposal is therefore consistent with Objective 11.3.3 above. Similarly, the ecological assessment included in the application confirms that there are no areas of significant indigenous vegetation and/or habitats of indigenous fauna that require protecting (Objective 11.3.4 and Policy 11.4.10).

9.1.13 Conditions regarding the on-site earthworks and construction activities will ensure that the land use does not give rise to increased erosion and/or degradation of water quality (Objective 11.3.5 and Policy 11.4.4).

9.1.14 The visual audit concludes that the landscape and amenity values of the immediate area will be adversely affected by the proposed wind farm. Given the nature of wind farms and their specific location needs, this is largely unavoidable. Nevertheless, the proposal is not consistent with Objectives 11.3.8 and 11.3.9 and Policies 11.4.12 and 11.4.13.

9.1.15 The proposed turbines will be setback approximately 60-70 metres from the nearest external property boundary, and written approvals have been obtained from the owners and occupiers of the nearest dwellings. It is therefore considered that the proposal is consistent with Objective 11.3.12 and Policy 11.4.17 above.

9.1.16 The following objectives and policies of section 16 of the Waitomo District Plan are also relevant:

Section 16: Roads and Vehicle Access

Objectives

16.3.3 *To ensure that development of new roads and the realignment of existing roads is carried out in a manner that avoids, remedies or mitigates adverse effects on adjoining land use activities including areas of significant indigenous vegetation, the coastal environment and heritage values.*

16.3.4 *To ensure that land use activities are carried out and designed so as to avoid, remedy or mitigate adverse effects on traffic.*

Policies

16.4.1 *To ensure that land use activities are operated and designed in a manner that avoids, remedies or mitigate any adverse effects on the safe and efficient function of the adjoining road or highway.*

16.4.2 *To ensure that land use activities include appropriately sited and designed vehicle accesses.*

16.4.4 To ensure that new roads and road realignments are designed in a manner that takes into account the nature of the environment through which they pass

9.1.17 The traffic audit undertaken by Opus International Consultants on behalf of Council, and included as **Appendix C** to this report has assessed the traffic and roading effects of the proposal in relation to the surrounding local roading network. The audit concludes that appropriate resource consent conditions would be required to mitigate the likely adverse effects on the roading network. With the imposition of appropriate conditions it is considered that the proposal would be consistent with the above objectives and policies relating to roading.

10 Regional Plan and Regional Policy Statement

10.1 Environment Waikato staff have assessed the application against the relevant provisions of the Proposed Regional Plan and Regional Policy Statement, and are satisfied that the proposal is consistent with the objectives and policies of both documents. I agree with the assessment of the Regional Council Planning Officer, and for the avoidance of duplication, shall not consider either Regional Document any further in this report.

11 Relevant RMA Provisions

11.1 **Section 104(1)** sets out those matters that Council must have regard to in considering an application for resource consent and any submissions received. Such matters include:

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

b) Any relevant provisions of-

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

(iv) a plan or proposed plan; and

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

11.2 The relevant matters under Section 104(1) for the Councils consideration of the Ventus application are:

- *Actual and potential effects on the environment*: These are discussed in **Section 13** below;

- The relevant provisions of the *Waikato Regional Policy Statement*; and the *Proposed Waitomo District Plan:* These are discussed in **Section 10** above;

- *Other Matters:*

  - *NZS 6808: 1998 Acoustics – The Assessment and Measurement of Sound From Wind Turbine Generators*; and

  - The Government's national policies and guidelines on energy and specifically:
    - The *Energy Efficiency and Conservation Act 2000*
    - The *National Energy Efficiency and Conservation Strategy (2001)*
    - The *Kyoto Protocol*
    - *The Sustainable Development Programme of Action for Energy (2003)*
    - *Resource Management (Energy and Climate Change) Amendment Act 2004*
    - *Climate Change Policy*
    - The Energy Efficiency And Conservation Authority's publication *Guidelines for local authorities: wind power*

  An assessment against each of these 'Other Matters' is provided in **Section 14** below.

11.3 Section 104 is subject to Part 2 of the Act. This means that the Section 104 considerations are not an end in themselves – but are subsidiary to the overriding purpose of the RMA set out in section 5 of the Act. An assessment against the Part 2 matters is provided in **Section 12** below.

11.4 **Section 104(2)** states that *"when forming an opinion for the purposes of subsection (1)(a), a consent authority may disregard an adverse effect of the activity on the environment if the plan permits an activity with that effect"*. This is commonly known as the 'permitted baseline'. The Council has the discretion to disregard an adverse effect of an activity where the District Plan would permit such an activity. In this instance, there is no permitted activity that would have the same or similar level of effects to the proposal and therefore it is not considered that the permitted baseline is a relevant consideration for this application.

11.5 **Section 104(3)(b)** states that:

"A consent authority must not–
(a) …
(b) When considering an application, have regard to any effect on a person who has given written approval to the application".

In relation to (b) above, several of the owners of land on which the turbines are to be sited or living nearby have supplied their written approval to the proposal. Details of those parties from whom written approvals were received are contained in **Section 7** above. Therefore the effects on these people have not been assessed.

11.6 **Section 104B** sets out a consent authority's powers to grant or refuse discretionary activities and to impose conditions.

11.7 **Section 108** defines the scope of matters that may be included in any conditions imposed on a grant of consent.

12 Part 2 Matters

12.1 The matters that Council is to have regard to in considering the application and the submissions under section 104 of the Act (as set out in Section 12 above) are all subject to Part 2 of the Resource Management Act 1991. Part 2 deals with the purpose and principles of the Act.

12.2 **Section 5** - The purpose of the Act is '*to promote the sustainable management of natural and physical resources . . .*

> *In this Act, "sustainable management" means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural wellbeing and for their health and safety while-*
> *a) Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and*
> *b) Safeguarding the life-supporting capacity of air, water, soil and ecosystems; and*
> *c) Avoiding, remedying, or mitigating any adverse effects of activities on the environment.*

12.3 In regard to Section 5(a), the wind farm proposal is an important means of harnessing a natural resource to provide for the energy needs of New Zealand. Wind energy is a renewable resource and therefore the proposal will provide for the ability of future generations to meet their needs. One of the needs of future generations will be electricity and energy, and the use of wind to meet that need is sustainable. The proposal is therefore consistent with Section 5(a) above.

12.4 Section 5(b) requires that the life supporting capacity of air, water, soil and ecosystems be safeguarded. The proposal will not have any affect on the life supporting capacity of air or water, and will have minimal affect upon the life supporting capacity of the soil resource, by causing some temporary disruption to the existing pastoral activities during the construction period. However, once the wind turbines are operational, the pastoral farming activities will continue to operate in a fully functional manner around the wind farm area. An ecological assessment submitted as part of the application has demonstrated that the effects on the ecology of the area will be minor, and will not pose significant adverse effects to bird life in the area. The proposal is therefore consistent with section 5(b) above.

12.5 Section 5(c) requires any adverse environmental effects to be avoided, remedied or mitigated. The environmental effects associated with the proposal are discussed in **Section 13** below. The majority of effects are minor and are able to be mitigated through the imposition of appropriate consent conditions. For example, the recommended traffic conditions will ensure that the proposal does not compromise the traffic safety of the local roading network, and that the road is realigned to enable the safe passage of the turbine components to the site. Similarly, noise conditions will ensure compliance with the relevant noise standards, thereby ensuring that the dwellings in the surrounding area are not adversely affected by excessive noise levels. With regards to visual and landscape effects, the audit concludes that the visual, landscape and amenity effect of the proposed wind farm development will be more than minor, and will result in significant changes to existing views. Wind turbines by their very nature are big and therefore they can't be hidden, painted to blend with their surroundings, or have shrubs planted in front of them.

12.6 **Section 6 - Matters of national importance –** The Section 6 issues that are relevant for consideration with regards to this application are:

(a) The preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use and development:

(b) The protection of outstanding natural features and landscapes from inappropriate subdivision, use and development:

(c) The protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna:

(e) The relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu and other taonga.

12.7 'Coastal environment' is not defined within the Act or within the New Zealand Coastal Policy Statement. In formulating the New Zealand Coastal Policy Statement, the Board of Inquiry commented that it is unsuitable to "mechanically" apply a pre-determined definition to specific areas to determine whether or not a portion of land is or is not within the coastal environment.

12.8 However, case law has provided guidance as to what the term 'coastal environment' means. In the case *Northland Regional Planning Authority vs. Whangarei County Council 463/76* the Court found as follows:

> *"We therefore hold that the term "coastal environment" is an environment in which the coast is a significant part or element, but clearly it is impossible to give an abstract definition which is capable of simple and ready application to any given situation. What constitutes the coastal environment will vary from place to place and according to the position from which a place is viewed. Where there are hills behind the*

coast, it will generally extend up to the dominant ridge behind the coast. But where the land behind the coast is generally flat, there may be great difficulty in defining the coastal environment."

12.9 As the ridgeline on which the turbines are proposed to be located is not the first ridgeline back from the coast, and the coast is not a significant element in the locality, the site is not considered to be within the 'coastal environment'.

12.10 The site also does not contain any wetlands, and lakes and rivers and their margins and so section 6(a) of the Act is not considered relevant to the assessment of this application.

12.11 The site of the proposed wind farm is not recognised as having outstanding natural features and/or landscapes in terms of Section 6(b) of the RMA. The District Plan does not identify any outstanding natural landscape features in the immediate vicinity of the site, and this is confirmed in the visual and landscape audit completed by Priest Mansergh Graham.

12.12 Section 6(c) requires the protection of areas of significant indigenous vegetation and habitats of indigenous fauna. The Planning maps for the site do not denote any areas of significant vegetation or habitats of indigenous fauna within the wind farm site. While some small areas of vegetation will require removal (mainly in relation to the proposed access roads and road realignment works), the proposed turbine building platform areas are presently predominantly in pasture, and utilised for farming purposes. The ecological assessment included in the application concludes that *"The wind farm would not involve the removal of any significant indigenous vegetation of habitats of significant indigenous fauna"*. On going monitoring of the site, particularly in relation to the effects of the turbines on bird life is recommended. Conditions relating to the proposed earthworks and construction activities, vegetation removal and weed control are also recommended. With these measures in place it is considered that proper consideration to section 6(c) will have been given.

12.13 Section 6(e) recognises the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu and other taonga. The Proposed Waitomo District Planning Maps do not denote any waahi tapu sites in the immediate vicinity of the wind farm site. The tangata whenua for the area is represented by Ngatai Tai O Kawhia Regional Management Committee (whose territory encompasses the northern half of the site) and Marokopa Regional Management Committee (the southern half). The Applicant has confirmed on pages 9 – 12 and 56 – 57 of the AEE that they have consulted with both iwi groups, including attending a meeting with Marokopa RMC. The application does not include the written approvals of either iwi group, and neither group made a submission on the consent. Marokopa Marae, however, have provided written approval to the proposed wind farm.

12.14 If consent is granted, it is recommended that a suitable condition is imposed in relation to the discovery of any maori artefacts during the construction activities.

12.15 **Section 7** lists the matters that a consent authority is required to *have particular regard to* in achieving the purpose of the Act. The listed matters are not threshold tests or criteria but, where a proposal raises issues of the kind listed, they are to be given *particular regard*. The Section 7 issues that are relevant to this application are:

(b) the efficient use and development of natural and physical resources:
(ba) the efficiency of the end use of energy:
(c) the maintenance and enhancement of amenity values:
(f) maintenance and enhancement of the quality of the environment:
(i) the effects of climate change
(j) the benefits to be derived from the use and development of renewable energy.

12.16 Section 7(b) requires regard to be had to the efficient use and development of natural and physical resources. The use of wind (a renewable resource) is considered an efficient use and development of natural resources.

12.17 Section 7(c) relates to amenity values. The overall amenity of the area will be altered as a result of the proposed wind farm development. This is supported by the opinion of the landscape reviewer who has stated that the *"amenity value of the area is unlikely to be maintained, but either significantly enhanced or be seriously degraded based on people's perception of the development"*. The noise review concludes that while there are a number of areas of uncertainty that require clarification at the hearing, it is generally expected that the proposal's impacts are likely to be within the national guidelines for wind farms. Nevertheless, I cannot agree with the Applicant's assessment that *"the amenity value of the local area will be maintained"*. In my opinion the amenity value of the area will be altered by the proposal and the application is therefore not consistent with Section 7(c) of the Act.

12.18 With regard to Section 7(f), the maintenance and enhancement of the quality of the environment (which deals with such issues as the effects on the ecology and the potential erosion effects) has been considered. With the conditions proposed it is considered that the application is consistent with Section 7(f).

12.19 Items (i) and (j) are particularly relevant to this proposal. These two subsections were added by the *Resource Management (Energy and Climate Change) Amendment Act 2004* and reflect the Government's commitment to its obligations under the Kyoto Protocol to reduce greenhouse gases and promote the generation of energy from renewable sources. The proposed turbines would yield national benefits in terms of their use of a renewable energy source (as opposed to the burning of fossil fuels), contribution to security of energy supply, providing energy to meet the needs of communities and potential economic growth that could derive from the energy generated.

12.20 **Section 8** of the Resource Management Act requires that in considering the application the Council take into account the principles of the Treaty of Waitangi. The Applicant has contacted the iwi authorities recognised as representing maori interests in the area in relation to the proposal.

13 Assessment of Environmental Effects

13.1 Landscape and Visual Effects

13.1.1 A key consideration in any wind farm proposal is the potential visual effects of the proposed wind farm on the landscape. In its publication "*Guidelines for Local Authorities: Wind Power*" the EECA states that it is difficult to establish guidance in terms of good practice for detailing with the visual effects of wind farms. EECA state on Page 21 of their report that '*Each development will need to be considered on its merits in terms of site and locality-specific considerations such as distance, backdrop, landscape scale, and the number of potential viewers*'.

13.1.2 The EECA report goes on to state on page 20 *'Site location, size, tower design, colour, and layout and spacing are all important factors in terms of visual impact. As well, access roads, site buildings, and any additional electricity requirements may require consideration in any specific development'.*

13.1.3 The EECA report makes the following generalised recommendations in terms of reducing visual effects:

- *All turbines in a wind farm should be of similar size and style.*
- *Blades should always rotate in the same direction.*
- *Light colours – pearly grey and white – have been found to be most appropriate colours for all parts of the turbines in Northern Europe, where they tend to be against a sky background. If the background is other than sky, darker colours may be appropriate.*
- *Distance and scale of the landscape is a major consideration. In an open or grand landscape, wind farms can be of minor intrusion. However, the human eye is often drawn to 'artificial' vertical features, regardless of distance, making them seem bigger than they really are".*

13.1.4 Priest Mansergh Graham (PMG) have reviewed the landscape and visual effects of the proposal on behalf of Council. A copy of their report is attached in **Appendix C**.

13.1.5 The PMG report covers the visual, landscape and amenity effects that are likely to arise from the development of the turbines, ancillary structures, hardstand areas, earthworks, aircraft obstruction lights, electricity lines and support structures, and internal access roads on the site.

13.1.6 The report also addresses the concern raised by a number of submitters regarding the visual effects of proposed turbines 18-22. In that regard, the audit states:

> *"While I concur that these turbines will dominate the skyline when travelling along Marokopa Road, it should be noted that they will be seen in the context of the wind farm, of which a significant portion of the turbines will be visible. Due to the nature of the development (scale and movement), attention will be drawn to the wind farm regardless of whether the five turbines would be removed or not."*

13.1.7 Regarding the visual effects of the wind farm proposal, the report goes on to state as follows:

> *"The subject site and surrounding landscape is natural in appearance. 'Natural' is defined by RMA case law as those things which are a product of nature, as opposed to man made. This extends to include such things as pasture and exotic tree species as natural, whereas, man made structures, roads, machinery and the like are excluded . . .*
>
> *The visual absorption capability of this landscape for this type of development is very low. This is due to the large scale and nature of the development, the placement on the ridge line, the lack of surrounding development, and the inability of existing landscape features to screen the development. The size of the structures also means they will be visible for a significant distance, in excess of 20 kilometres where sight lines permit. It is considered that up to approximately five kilometres from the wind farm the turbines will be highly prominent. Views of the wind farm outside this radius are considered to be less frequent, or at such a distance, that while the turbines may still be visible, the potential visual effect is considered less significant.*
>
> *However, with respect to the turbines on top of a ridgeline and commonly viewed against a sky backdrop, the visibility and conspicuousness is more dependent on ambient light levels, and the atmospheric conditions on any particular day. For example, in hazy or rainy conditions, the wind turbine structures may be difficult to see, but on clear days with direct sunlight highlighting the turbines, they may be readily discernable"*.

13.1.8 The PMG audit concludes that the visual, landscape and amenity effect of the proposed wind farm development will be more than minor. It is considered that the proposed development will result in significant changes to existing views by introducing new elements into the view that have the potential to act as a focal attraction. This finding is consistent with the findings of the AEE report which states: "*The visual impact of the turbines on the landscape cannot be avoided, although their position and configuration has been chosen to minimise the effects. In the longer term, the turbines are more likely to be positively accepted as part of the landscape . . .*".

13.1.9 With regards to the identified effects, however, the PMG report also concludes:

"the nature and scale of the development is such that it would have those effects on virtually any site selected. This site has the advantage of being in a developed rural area, relatively remote from large viewing audiences and not in the coastal environment".

13.1.10 The PMG audit goes on to recommend *"that the application be approved subject to a set of stringent conditions, aimed at the mitigation of potential effects".*

13.1.11 The audit recommends a number of consent conditions to mitigate the effects associated with:

a) Size, location, colour and design of turbine components and associated structures;
b) Landscape restoration of earthworks, cuttings and pads;
c) Decommissioning of the wind farm.

13.1.12 Should the application be approved by Councils Hearings Committee, recommended conditions are included in **Section 16** below.

13.2 Blade Glint

13.2.1 The PMG audit also addresses the issue of blade glint and provides recommended conditions of consent to mitigate potential effects.

13.2.2 Blade glint (the regular reflection of sun off rotating turbine blades) can pose a potential adverse visual effect for both animals and humans. However, the effect is generally temporary, and its occurrence depends on a combination of circumstances arising from the orientation of the nacelle, angle of the blade, and the angle of the sun. Blade glint is able to be minimised by ensuring that the blades are of a matt surface finish (EECA, 2004; P22).

13.2.3 Provided the mitigation measures recommended by PMG as conditions of consent are implemented, effects will be no more than minor.

13.3 Shadow Flicker

13.3.1 The PMG audit also addresses the issue of shadow flicker. The audit concurs with the assessment in the AEE that *"shadow flicker will not have a significant effect on local households and motorists".*

13.3.2 'Shadow Flicker' or 'strobe effects' inside houses may result from a turbine that is located in a position where the blades pass across the sun, causing an intermittent shadowing. This potential effect occurs only where a turbine is in close proximity to a dwelling, and at very low sun angles. EECA have stated

that this is unlikely to be an issue in New Zealand because the separation distance required for noise mitigation is usually more than enough to prevent occurrence of shadow flicker (EECA, 2004; P22).

13.3.3 The Applicant has identified the properties shown as 'House 1', 'House 2', and 'House 3' on the figures contained in Volume 2 of the AEE as likely to be affected by shadow flicker. The report by PMG, however, states one of the conditions for shadow flicker as being that houses (or the viewing audience) must be located to the south of the turbines. House number 1 is located to the northwest of turbine 1 and therefore would not be affected by shadow flicker. It is expected that the Applicant will be able to clarify this matter at the hearing.

13.3.4 Nevertheless, the owners and occupiers of all of these dwellings have provided their written approval to the development and effects on these persons must be disregarded.

13.3.5 The Applicant has also identified a section of Marokopa Road as being subject to shadow flicker during parts of the year. Part of Marokopa Road is located to the south of turbine 22. The Applicant states that the effect of shadow flicker on Marokopa Road will only be over a short section of road and will be for very limited durations. Given the distance of turbine 22 from Marokopa Road (approximately 900 metres minimum) effects are expected to be no more than minor.

13.3.6 Effects of shadow flicker on Taumatatotara West Road have not been considered at all within the application. The Applicant will need to clarify why effects were not considered on Taumatatotara West Road users at the hearing. This is especially important given the location of the road within close proximity of turbines to the north.

13.4 Amenity Effects

13.4.1 Amenity is defined in the RMA as:

> "*those natural and physical qualities and characteristics of an area that contribute to people's appreciation of its pleasantness, aesthetic coherence and cultural and recreational attributes*".

13.4.2 The consideration of the effects on the amenity of an area is therefore somewhat subjective, and in the context of the proposed wind farm, it is considered that effects such as visual effects, noise effects, and effects on ecology collectively contribute to the general amenity of an area. The potential environmental effects of each of these issues are considered individually elsewhere in this report.

13.5 Ecological Impacts

13.5.1 The District Plan does not identify any areas of significant ecological value within the wind farm site.

13.5.2 The application includes an ecological assessment of the site, prepared by Kessels and Associates Limited (Appendix L to the AEE). Walk over flora and fauna surveys were carried out as part of the assessment, and the report concludes that the site is highly modified due to pastoral farming, and no significant ecological impacts were anticipated.

13.5.3 Observations made whilst on site support these conclusions, and as such a review of the ecological assessment contained in the AEE was not deemed to be necessary.

13.5.4 The Department of Conservation (DOC) manage the Maungaakohe Scenic Reserve approximately 80 metres to the south of the nearest turbine location (turbine 6). The DOC site is zoned 'Conservation' in the Proposed Waitomo District Plan.

13.5.5 DOC were notified of the consent application and lodged a neutral submission on the application requesting that monitoring conditions be placed on the consent should it be granted.

13.5.6 As part of the ecological assessment undertaken by Kessels and Associates, a bird survey was conducted, and several native and introduced species were recorded as present. However, the assessment concluded that the site is not on any known migration route for either international or internal migratory waders.

13.6 Bird Deaths

13.6.1 The EECA Guidelines for local authorities has reviewed overseas literature with regards to the potential effects of wind turbines on bird populations. They have identified five potential impacts on bird life:

- Collision;
- Direct habitat loss;
- Indirect habitat loss (during construction, and disturbance to nesting, feeding sites, and habitual flight paths);
- Electrocution from associated infrastructure; and
- Cumulative Impact.

The report notes that:

"In general, it appears that local residential birds of most types grow accustomed to the presence of local turbines, and will avoid them

…

Numerous studies overseas have compared bird mortality caused by wind farms with that experienced from buildings, stretches of roads, motorways,

and transmission lines. The studies have found wind turbine effects to be significantly lower than other causes

…

While overseas evidence suggests that the total impact of wind farms on birds is small, it should not be dismissed. It is good practice for developers to seek advice on the main flight paths of birds so the number of bird deaths can be minimised. In addition, developers would need to avoid any impacts on rare or unusual species. (EECA, 2004; P25).

Collision

13.6.2 Birds can potentially collide with the moving turbines. Careful consideration is therefore required when considering the location of a proposed wind farm in respect of the natural ecology of the area. The ecological assessment included in the application confirms that the wind farm activity "*may increase the incidence of bird strike or impede the movement of resident or migratory bird species"* but goes on to state that the site is not located within a known flight path of significant habitat for any bird species. On this basis, it is considered that the proposal will not pose a significant hazard to birds. Longer term monitoring of the effects of the turbines on bird populations is recommended as a condition should consent be granted.

Direct and Indirect Habitat Loss

13.6.3 The building platforms for the proposed turbines will be located on land that is already heavily modified, and is presently utilised predominantly for agricultural farming purposes. While some vegetation clearance will be necessary as part of road upgrading works and internal access road construction, the ecological assessment included in the application concludes that the proposed wind farm activities will not result in the removal of any significant areas of indigenous vegetation, and that the site is not within important resident or migratory wader flight paths. The proposal therefore will not result in a direct or indirect loss of natural habitat for bird species.

Electrocution

13.6.4 The design of a proposed wind farm also has the potential to affect bird mortality from electrocution. For example, the use of lattice towers (rather than the tubular towers proposed by Ventus), and the attachment of signs or telecommunications devices onto the wind turbines all provide artificial 'perches' for bird species, and therefore increase the likelihood of birds 'stopping' within the wind farm area. Should consent be granted, it is recommended that conditions are included to ensure the following design measures to mitigate against bird mortality:

- no telecommunications attachments or signs shall be attached to the wind turbines;
- all 'internal' wiring between the wind farm turbines shall be underground;
- the towers shall be tubular in design.

13.7 Noise

13.7.1 Hegley Acoustic Consultants were engaged to review the potential noise effects associated with the proposal on behalf of Council. Their report is attached within **Appendix C**.

13.7.3 A number of submissions expressed concerns regarding the potential noise effects of the turbines. In particular, the submission made by the Waikato District Health Board identifies that the noise assessment provided with the application is insufficient. Mr Hegley has reviewed these submissions and advised that while the information provided in the application has a number of deficiencies, he considers that it is likely that the proposal will be able to comply with the relevant noise standards provided a number of stringent conditions are imposed on the consent. The Applicant should provide evidence at the hearing to confirm compliance.

Construction Noise Effects

13.7.4 During construction of the wind farm, the primary source of noise that is likely to be discernible from beyond the site is that associated with construction vehicles (including the proposed earthworks, construction of the access roads and the pouring of concrete foundations for each turbine).

13.7.5 Mr Hegley advises that *"the applicant will need to clarify if the noise levels as set out in the Construction Standard will be met and what the levels will be"*.

Operational Noise Effects

13.7.6 Mr Hegley's audit of the assessment of potential noise from the operation of the proposed turbines is contained in **Appendix C**. Mr Hegley makes his assessment in terms of the appropriate current New Zealand Standard (*NZS 6808:1998*) which is the standard adopted by the Applicant. The Proposed Waitomo District Plan, however, contains other noise criteria which the Applicant considers are not relevant to the assessment of noise for this application given the nature of the activity. Mr Hegley comments that although the District Plan noise rules have some relevance, NZS6808 is the appropriate standard to use.

13.7.7 Mr Hegley's assessment concludes:

"The noise analysis of the proposed wind farm does not provided the level of certainty expected by NZS6808:1998, Acoustics – The Assessment and Measurement of Sound from Wind Turbine Generators.

Although limited data is available to assess the noise from the proposed windfarm, a general analysis indicates it should be practical to comply with the requirements of NZS6808. Thus, should the Council wish, the project could be approved provided strict noise controls are included in the conditions to overcome the deficiencies in the report."

13.7.8 Mr Hegley identifies a number of other points that require clarification. The matters identified in Mr Hegley's report will need to be addressed at the hearing by the Applicant.

13.8 Vibration Effects

13.8.1 The Applicant has stated on page 36 of the AEE that *"vibrations from the wind turbines will not be felt except immediately adjacent to the tower"*. No supporting data or additional information aside from this comment is provided within the application.

13.8.2 It is stated on pages 19-20 of the EECA publication *'Guidelines for Local Authorities: Wind Power'* that:

> *"…the potential effects of infrasound from wind turbines are sometimes raised as a concern. Infrasound is very low frequency sound – often below the level of human hearing. If 'loud' enough, infrasound can be heard or felt as a vibration. While wind turbines have been listed as one of many potential sources of infrasound (along with household appliances and the wind itself), this was due to an old American down-wind turbine which is no longer used. The author of the report often quoted, Dr Geoff Leventhall, has stated there is no significant infrasound from wind turbines currently used. Dr Leventhall has categorically stated that there will not be any effects from infrasound from wind turbines."*

13.8.3 Mr Hegley has confirmed that the turbines will not generate adverse effects with regards to vibration.

13.9 Potential Dust Nuisance

13.9.1 There is the potential for dust from the proposed earthworks and construction activities to create a nuisance for site neighbours. However, it is envisaged that any dust nuisance effects are likely to only be temporary, and confined to the period prior to the wind farm being operational. The Applicant has stated that construction is expected to take place over a continuous 9 month period, however, there is a chance that the construction of the turbines will be 'staged'. Consideration must therefore be given to the potential dust nuisance effects, in the event that the construction of the turbines is 'staged', as this would clearly result in a far longer construction period than if the turbines were all erected at once.

13.9.2 The site preparation works and commissioning of the proposed turbines will involve the creation of access tracks, and building platforms for each of the proposed turbines, crane pads and substations. Such work will require significant earthworks and benching as outlined in section 3.8 of this report.

13.9.3 The Applicant proposes to time the cut and fill operations to minimise the length that cut material is required to be stockpiled prior to being used in fill

operations. Should consent be granted, conditions of consent can be imposed to ensure that dust generation is minimised. It is considered that conditions of consent can ensure that effects will be minor.

13.10 Potential Reverse Sensitivity Effects

13.10.1 Of relevance to the application is the potential for noise from the wind turbines to create an environment with a high ambient noise level and adverse visual effects inappropriate for or incompatible with future permitted residential dwellings in the immediate proximity. The land surrounding the wind farm site is zoned 'Rural' under the Proposed Waitomo District Plan, and the subdivision of rural zoned properties is a controlled activity. Rules 26.5.3 and 26.5.6 of the Proposed Waitomo District Plan set out the conditions for permitted activities, and the assessment criteria for controlled activities. They include minimum lot size, and access and service requirements.

13.10.2 If the wind farm is approved, there is the potential for the wind farm noise level in particular to be a factor affecting the location of future dwellings and/or subdivision. That effect is referred to as "reverse sensitivity" – ie the creation of a situation where an activity established on a site is unable to contain its (noise) effects on-site and the spill-over of those effects to other sites creates limitations or constraints on the range or location of land use activities on those other sites. These effects, however, will be apparent to subdividers or new residents coming to the area, so it is not considered that any action is needed on them.

13.11 Traffic Effects

13.11.1 The roading audit undertaken by Rui Leitao and Bill Flavell of Opus Consultants **(Appendix C)** has assessed the potential effects on the roading network as a result of the transportation of the turbine components to the site from New Plymouth port and as a result of the transportation of other materials, including aggregate and concrete. Some assessment has also been carried out regarding the ability of the current road network to accommodate the large transporters and weights associated with the turbine components and recommendations incorporate traffic management measures.

13.11.2 Internal access road requirements have also been audited and appropriate conditions of consent have been recommended.

13.11.3 Some of the equipment that has to be brought to the site during construction will be large and transported on specialist over-dimension vehicles. This includes turbine blades, tower components, and nacelles. Some alterations to the geometry of parts of the public roads will be required to accommodate those vehicles. Should this application be approved, any necessary resource consents associated with road realignment works (aside from Taumatatotara West Road which is covered by this consent) will need to be applied for at a later date.

13.11.4 Transportation of large volumes of aggregate and concrete to the site is necessary as part of the construction works. The application identifies that the aggregate and concrete is likely to come from a quarry in the surrounding area, most likely from Otorohanga or Taharoa. Given the uncertainty in the application, it is difficult to assess the effects that the transportation of these items may have. However, all of the land surrounding the site is within the Rural Zone where transportation of this type is part of the normal rural environment.

13.11.5 Furthermore, the Applicant is uncertain of whether the concrete will be batched at the quarry itself or on-site. Again, this creates difficulties for assessing the effects of the proposal.

13.11.6 The Applicant has calculated that approximately 3,169 return truck movements (6,338 total movements) will be necessary for the transportation of aggregate to the site and 1,035 return truck movements (2,070 total movements) will be necessary for the transportation of concrete to the site. If the concrete is batched on the site rather than off-site then 497 return truck movements (994 total movements) will be necessary to transport the concrete aggregate and cement to the site.

13.11.7 One submitter expressed concern with regard to the effects of the potential use of Taharoa Road during lambing season. Mr and Mrs Irons own a property that is split by Taharoa Road. Mr and Mrs Irons lamb on both sides of the road during late Autumn and Winter. Should the Taharoa Quarry be used as a source of materials, Mr and Mrs Irons are concerned that vehicles transporting materials to the site from the quarry will adversely effect the animals. It is not clear in the submission how the animals are expected to be affected and it is anticipated that this matter may be clarified by the submitter at the hearing.

13.11.8In any case, heavy vehicle use of rural roads is generally an anticipated and common activity. Although the numbers of heavy vehicle movements during the construction period will be relatively high, movements will occur over a short period. The Applicant has stated that the heavy vehicle movement phase of construction will occur over approximately 5 months.

13.11.9 Opus expects that the use made of Taumatatotara West Road during construction will necessitate increased maintenance of this road. He recommends that a contribution should be paid by the Applicant towards the cost of that work which is required to mitigate or remedy the traffic movement effects of the proposal.

13.11.10 The Council does have the authority, pursuant to Section 108 (2) (c) of the RMA to impose a condition on a resource consent requiring:

> *…..that services or works, including (but without limitation) the protection, planting or replanting of any tree or other vegetation or the protection, **restoration**, or enhancement **of any natural or physical resource,** be provided.* [my emphasis]

13.11.11 Whilst the Council does not have the authority to require a cash contribution, it would be appropriate to require some form of upgrading and maintenance works in the event that consent is granted.

13.11.12 As part of this requirement, a bond may be required to ensure that the works are carried out to the satisfaction of Council. Section 108 (2) (b) of the Act allows provision for a bond to be required as a condition of consent. Section 108A (1) sets out what a bond may be required for. That section states:

> *"(1) A bond required under section 108(2)(b) may be given for the performance of any 1 or more conditions the consent authority considers appropriate and may continue after the expiry of the resource consent to secure the ongoing performance of conditions relating to long-term effects, including –*
> *(a) …*
> *(b) a condition relating to remedial, restoration, or maintenance work;"*

13.11.13 The roading report recommends, that road upgrade works be required and recommends that a bond be requested as a condition of consent to ensure that these works are undertaken to the required standards.

13.11.14 Several other roading conditions are recommended to mitigate effects, should consent be granted.

13.12 Long Term Traffic Effects

13.12.1 Opus's assessment is that existing traffic volumes are relatively low and the expected daily traffic volumes associated with operation and maintenance of the turbines will add only a negligible amount to those. No adverse effects on traffic safety, efficiency or convenience are anticipated and this level of movement is not expected to disturb or conflict with nearby rural activities.

13.12.2 With regard to tourism effects, the roading report considers international case studies of wind farms and states that *"we can therefore assume that tourism will have minimal impact on traffic volumes, pavement design requirements and maintenance issues"*.

13.12.3 A number of submitters identified that the proposed wind farm development may have traffic disruption and safety implications for users of Taumatatotara Road and Marokopa Road.

13.12.4 Visibility of the turbines from Taumatatotara Road will be relatively limited due to the topography of the surrounding area and the alignment of the road. Along sections of Taumatatotara Road where the wind farm will be the most visible, the road is relatively straight and there are opportunities for vehicles to pull over to the side of the road. Furthermore, traffic volumes on Taumatatotara Road are currently very low and are not expected to increase to

any significant extent post-construction as a result of the wind farm development.

13.12.5 Visibility of the turbines along Marokopa Road will be high, especially along the road's eastern sections. The road is sealed and is generally of a good quality. The road currently accommodates low volumes of traffic. Some submitters identified that there is limited room to pull over along Marokopa Road due to existing constraints such as roadside drains and the Marokopa River which runs along some southern sections of the road in the vicinity of the Taharoa C block of land.

13.12.6 While the carriageway does not allow for vehicles to pull over in some stretches of the road, in other parts of the road there are opportunities for vehicles to safely pull over. Given the low volumes of traffic that use the road, effects are expected to be no more than minor.

13.12.7 Some submitters also expressed concern regarding potential rates increases due to accelerated degradation of local roads as a result of increased traffic movements associated with the wind farm. Post-construction traffic effects associated with the wind farm will include a very limited number of maintenance workers and tourist vehicles. When compared to other permitted activities in the area such as intensive livestock farming, the traffic generated by the wind farm activity will be similar in scale and relatively minimal. This assessment is supported by findings of the Opus audit report.

13.12.8 Conditions can be imposed on the consent regarding the maintenance of local roads as a result of potential degradation caused by construction traffic. This will further ensure that effects are no more than minor in this regard and that all additional roading costs associated with the consent are carried by the Applicant, not ratepayers.

13.13 Air Traffic Safety

13.13.1 The site is not located adjacent to or within the approaches of a major airport or aerodrome. However, the topographical map of the immediate area (NZMS R16) does indicate the presence of six local airstrips in the vicinity of the turbine sites.

13.13.2 The closest, is a top dressing airstrip located on the Harper property, approximately 400-500 metres east of turbine 7, and orientated in a generally northeast-southwest direction. Aircraft from this strip service a number of farms around the local area. During typical westerly wind conditions, the aircraft generally take off to the northeast, and land to the southwest.

13.13.3 Another airstrip within close proximity to the turbines is located approximately 700 metres west of the proposed location of turbine 22, on the property owned by The Proprietors of Taharoa C Incorporation. This airstrip is orientated in a northwest-southeast direction.

13.13.4 While the Applicant has considered effects on the Harper airstrip within the application, no mention is given to potential effects on the Taharoa C airstrip or other airstrips within the vicinity of the proposed wind farm site. The Applicant should clarify this at the hearing.

13.13.5 With regard to the airstrip on the Harper's property, the Applicant has stated on page 33 of the AEE that the turbines will not compromise the taking off or landing activities of this airstrip although "*the presence of the turbines may require aircraft to take a slightly longer flight path when servicing landholdings to the west. There therefore exists a potential adverse effect of longer flight times (and hence costs) for those properties to the west*".

13.13.6 We have previously discussed the above limitation with representatives of SuperAir (an aerial topdressing operator who services this area). SuperAir have confirmed in a letter dated 6th October 2005 that *"as we are probably unable to remove any inherent risks that this wind farm would present, we must attempt to isolate or minimise them to an acceptable level in order to continue to work the area"*.

13.13.7 To ensure the isolation or minimisation of risks, SuperAir requested that all turbines be obstacle lit and that planes be permitted to fly between the turbines referenced at the time as turbines 7 and 8. 'Turbine 7' has subsequently been removed as part of the revised proposal and the turbines renumbered.

13.13.8 The Applicant has consulted with the Civil Aviation Authority (CAA) regarding the potential effects of the proposal on aviation activities. The CAA determination states that Mark Clifford of the CAA *"conducted an aeronautical study in consultation with such persons, representatives and organisations as I considered appropriate"*. As a result of that study, the CAA advised that the wind farm *"could constitute a hazard in navigable airspace"*.

13.13.9 The CAA determination includes the following conditions:

Those wind turbines identified as numbers 1, 5, 10, 18 and 22 as listed below be lit with a medium intensity obstacle light located on the highest practicable point of each of the turbines. The medium intensity obstacle light shall –

- Be red; and
- Have an effective intensity of not less than 1600cd of red light; and
- Be visible to aircraft approaching the wind farm from any direction.

ID	Easting	Northing	Attitude
1	2664848	6331439	251m AMSL
5	2665338	6330549	322m AMSL
10	2666640	6329258	319m AMSL
18	2667836	6327401	367m AMSL
22	2668272	6326391	321m AMSL

13.13.10 The CAA's determination is relied upon in this regard and should consent be granted, a condition supporting the CAA determination is recommended.

13.14 Effects on Topdressing Operations

13.14.1 One submitter identified a concern with regard to increased topdressing costs for some farmers using local airstrips. In this regard, correspondence between Council and SuperAir dated 6th October 2005 identified that increased costs would result from the use of the airstrip on the Harper's property should the wind farm be constructed. SuperAir confirmed that the construction of the wind farm *"may necessitate a climb over the wind farm towers themselves for certain farms. This means longer flight times at higher engine power settings, hence increased costs to those farmers"*.

13.14.2 However, the Harper's are a directly affected landowner who have provided their written approval to the development. Increased costs for other farmers utilising the Harper's airstrip is a matter to be dealt with between those farmer's and the Harper's as the owner of the airstrip and cannot be considered in determining this consent application.

13.14.3 It is not known whether the airstrip located on the Taharoa C property is used for topdressing operations. While there may be increased costs for users of this airstrip, the Proprietors of Taharoa C Incorporation have also provided their written approval to the wind farm.

13.14.4 Given that the majority of increased costs are borne from the take-off (and the associated necessary power input) of fully laden aircraft, there are no other airstrips within close enough proximity of the wind farm that would be likely to incur significant additional costs for topdressing activities.

13.14.5 Associated effects are therefore expected to be no more than minor.

13.15 Effects on Communications

13.15.1 On Page 22 of the EECA Guidelines for Local Authorities, the report states:

'Radio, television and microwave transmission can potentially be affected in several ways by individual turbines and wind farms:

- *The tower may obstruct, reflect or refract the electromagnetic waves used in a range of communications systems for transmission.*
- *The rotating blades may have similar effects, on a time-variable basis. If the blades are made of metal, of have metallic cores, these can act as an aerial to on-transmit the communication. This may cause, for example, ghosting in local TV receivers.*
- *The generator itself can produce electromagnetic interference, although this can usually be suppressed by shielding design and good maintenance of turbines. In practice, a generator is little different from any other electrical machine, and only in rare circumstances is a wind turbine generator likely to be a potential problem*

In general terms, these effects will be relatively limited, as the tower and blades are slim and curved, and consequently will disperse rather than obstruct or reflect electromagnetic waves.'

13.15.2 Ventus have stated on Page 34 of the AEE that "*wind turbines present a possibility of disruption to the broadcast of radio or TV*". Ventus have confirmed that the cost of any rectification works that may be required as a result of disruptions caused to the broadcast of radio or TV will be borne by Ventus. A condition to this effect is recommended, should the consent be granted.

13.15.3 Telecom New Zealand operate a small radio communications link with an associated cable on the site. The location of this communications link is shown on Figure 1 of the AEE (labelled as 'communications pathway').

13.15.4 On Page 27 of the AEE Ventus state that the location of the Telecom cable will be confirmed by survey prior to construction of the turbine activities and the cable will be accommodated within the proposed access road.

13.15.5 Ventus also state that the turbine locations have been chosen so that they do not conflict with the telecommunications pathway.

13.15.6 The Applicant has provided copies of correspondence dated November 2005 between the Applicant and Telecom New Zealand. This correspondence confirms that the Applicant and Telecom New Zealand have reached a private agreement with regards to this matter.

13.16 Electricity Transmission Lines

13.16.1 The Applicant identified in the AEE two possibilities for developing electricity transmission lines to connect the site to the existing 33kV lines that traverse through the eastern edge of the landholding. The construction of overhead transmission lines in the Rural Zone is a permitted activity and either option identified by the Applicant is therefore able to occur without the need to obtain resource consent.

13.16.2 Provided the transmission lines are constructed in accordance with the NZ Electrical Code of Practice for Electrical Safe Distances (NZECP 34:2001) the transmission lines will not have adverse effects on the health and safety of nearby residents.

13.17 Archaeological and Cultural Effects

13.17.1 There are no archaeological sites identified in the Planning Maps located in close proximity to the wind farm site. However, a suitable condition is recommended, should consent be granted, to ensure that all works cease in the area immediately, in the event that any human remains or archaeological items are exposed during the construction of the wind farm activities. The Police,

New Zealand Historic Places, Trust, and Kaumatua representing the local Tangata Whenua shall be contacted and work shall not recommence in the affected area until any necessary statutory authorisations or consents have been obtained.

13.18 Geotechnical Effects

13.18.1 The application includes a geotechnical review undertaken by Riley Consultants (Appendix K to the AEE). The geotechnical review and associated on-site inspections confirmed that many of the turbine sites are located in close proximity to slopes affected by creep/ground movement. However, "*all sites are considered geotechnically feasible and will require specific assessment at detailed design stage*". Setbacks will be required in relation to the steeper slopes; and foundations are likely to consist of a variety of large pad and piled systems.

13.18.2 The review assesses each of the proposed building platform areas, and recommends additional geotechnical investigations and/or foundation designs for each turbine. The report concludes as follows:

> *"Prior to detailed design subsurface geotechnical investigation will need to be undertaken along with engineering geological mapping of the wind farm area.*
>
> *The subsurface investigation is likely to consist of test pits at each of the proposed turbine sites with machine boreholes to a minimum depth of 12m at selected sites."*
>
> The report goes on to state:
>
> *"For access assessment a combination of testpits, hand augers and possibly machine boreholes will be undertaken".*

13.18.3 One submitter expressed concern regarding the stability of the ridge on the land in the vicinity of the southernmost turbines. This instability was also acknowledged in the geotechnical report submitted with the application which identifies a number of potential measures (including setbacks, in ground walls, and specific foundation design) to ensure that slippage and creep does not occur. This is able to be covered by suitable geotechnical (and in particular detailed design) conditions.

13.18.4 Should consent be granted, it is recommended that the site is developed in accordance with the recommendations of the Riley Geotechnical report. Conditions can be imposed on the consent requiring geotechnical investigation and detailed design to be carried out to Council's approval prior to works commencing.

13.19 Tourism Effects

13.19.1 Two submitters identified that tourists are attracted to the area currently due to it's natural attractiveness. These submitters are concerned that this tourism market will be lost as a result of the wind farm activity.

13.19.2 The majority of the Waitomo District will not be visually affected by the wind farm activity, however, and the wider area will therefore retain a market for tourists who wish to view remote and natural landscapes. It is also likely that a number of these tourists will be interested in viewing the wind farm development.

13.19.3 Although difficult to determine, it is likely that the wind farm will have positive tourism effects overall.

13.20 Cumulative Effects

13.20.1 There are no existing wind farms within the vicinity of the site.

13.20.2 In *Rodney DC v Gould 2005 11 ELRNZ 165* the High Court held that it is not legitimate to consider, as cumulative effects in relation to a particular application, any effects relating to possible future applications. Furthermore, the Court found that a cumulative effect must be one that arises from the proposal. An effect that may never happen is not a cumulative effect.

13.20.3Furthermore, in *Dye v Auckland RC 11/9/01, CA86/01* the Court concluded that a cumulative effect is concerned with things that will occur rather than something that may occur.

13.20.4While Council is aware that separate applications have been lodged for wind farms on sites near Taharoa and Awakino, these applications are yet to be heard by the Hearings Committee. As such these applications cannot be considered with regards to cumulative effects as they involve effects that may never happen.

13.21 Property Value Effects

13.21.1 One submitter identified effects on neighbouring property values as being of concern. Effects on property values, however, are not a relevant consideration in determining whether a resource consent should be granted. These effects are dealt with elsewhere as part of the environmental effects.

13.22 Decommissioning

13.22.1 Ventus have stated that the turbines will have an operational life of 20-25 years, and two cycles are presently anticipated (i.e. a total duration of approximately 50 years). However, it is difficult to predict future trends in

demand for energy, changes in energy sources and generation and changing technology even within the wind generation sector itself.

13.22.2 The decommissioning effects must also be addressed in considering the current application.

13.22.3 The decommissioning process involves the removal of all above ground structures; and their transportation off site. Ventus have stated that the concrete foundations would be left in situ and covered with topsoil and re-vegetated. The access roads are also able to be covered in topsoil and re-vegetated, however, it is likely that these will be retained and used for farming activities.

13.22.4 It is recommended that a condition is imposed requiring the Applicant to submit a decommissioning plan to Council for approval, should consent be granted.

13.23 Positive Benefits Of Harnessing Renewable Energy

13.23.1 The Applicant and a number of the submitters have highlighted the positive effects that will arise if the wind farm proceeds. These include:

- ***Diversity of Supply*** - provision of greater diversity in New Zealand's energy supplies. Windpower is a viable alternative energy source to fossil fuels and can be installed relatively close to the source of electricity demand, thereby minimising the independence on the national grid.
- ***Security of Supply*** – Electricity is a vital resource for New Zealand. The proposal enhances the security of supply in the electricity sector especially in dry (hydro) years. Ventus have stated that the proposed wind farm has the potential to supply electricity to approximately 16,000 households per annum.
- ***Renewable Energy Resource*** – The proposal is well aligned with government objectives to deliver security of supply with an increasing focus on renewable energy sources.
- ***Climate Change*** - unlike electricity from fossil fuels, the use of wind doesn't generate any greenhouse gases, such as carbon dioxide, which contribute to climate change. Wind generation therefore assists in the national carbon dioxide reduction strategies with particular reference to the Kyoto Protocol.
- ***Sustainable Development*** – Windpower is consistent with the government's Sustainable Development Programme of Action for Energy, to ensure continued delivery of energy services to New Zealanders; and recognition of renewable resources.

14 Other Matters

Other Matters:

- *NZS 6808: 1998 Acoustics – The Assessment and Measurement of Sound From Wind Turbine Generators*; and

- The Government's national policies and guidelines on energy and specifically:
  - The *Energy Efficiency and Conservation Act 2000*
  - The *National Energy Efficiency and Conservation Strategy (2001)*
  - *The Kyoto Protocol*
  - *The Sustainable Development Programme of Action for Energy (2003)*
  - *Resource Management (Energy and Climate Change) Amendment Act 2004*
  - *Climate Change Policy*

NZS 6808:1998 Acoustics – The Assessment and Measurement of Sound From Wind Turbine Generators

14.1 NZS 6808:1998 specifies the sound level from a wind farm should not be more than 5 dBA above the background level, or more than 40 dBA (L95) whichever is the greater when measured at the boundary of a site (or a notional boundary, if a rural site).

14.2 The acoustic audit carried out by Hegley Acoustic Consultants has confirmed that the noise standards that appear in the Proposed Waitomo District Plan (NZS 6801:1991 and NZS 6802:1991) are not applicable to a wind farm development, and are not appropriate to measure wind turbine noise. Mr Hegley has therefore provided an assessment based on the above NZS 6808:1998 standard (refer **Appendix C** and **Section 14.7** above).

14.3 The NZS 6808:1998 standard provides Council with some guidance on the limits of acceptability for sound received at residential and noise sensitive locations. Compliance with the aforementioned standard provides Council with some assurance that the noise levels associated with the wind farm activities are acceptable.

Government Policy and Guidelines

14.4 These are discussed as follows:

The *Energy Efficiency and Conservation Act 2000*

The Energy Efficiency and Conservation Act 2000 is a major legislative basis in New Zealand for promoting energy efficiency, energy conservation and renewable energy.

The Act established the Energy Efficiency and Conservation Authority (EECA) as a stand-alone Crown entity with a role to promote energy efficiency, energy conservation and renewable energy across all sectors of the economy. Importantly, the Act also mandates development of a National Energy Efficiency and Conservation Strategy.

The proposal by Ventus Energy is consistent with the purpose of the Act which is stated in section 5 as:

"The purpose of this Act is to promote, in New Zealand, energy efficiency, energy conservation, and the use of renewable sources of energy."

The *National Energy Efficiency and Conservation Strategy (2001)*
The purpose of this strategy is '*to promote energy efficiency, energy conservation and renewable energy within the context of a sustainable energy future*'. The strategy has two high-level targets – one relating to energy efficiency ('*at least 20% improvement in economy wide energy efficiency by 2012*') and the other to the level of energy supply from renewable energy sources ('*increase renewable energy supply to provide a further 25-55PJ of consumer energy by 2012*'). It is considered that the proposal to harness wind energy at the Taumatatotara site is consistent with the above strategy.

The Kyoto Protocol
The Kyoto Protocol is an international agreement to address global warming and delay climate change by aiming to reduce the total greenhouse gas emissions of developed countries to 5% below the level of emissions in 1990. New Zealand's target is to reduce its greenhouse gas emissions to the level they were in 1990, or take responsibility for excess emissions. The NZ Climate Change Office website (www.climatechange.govt.nz) states that New Zealands latest 'greenhouse gas inventory' shows that NZ emissions are increasing with carbon dioxide emissions in 2003 approximately 37% higher than they were in 1990. '*If NZ does nothing to reduce our emissions, our total emissions are forecasted as being 30% over our target for 2012*'.

In *Environmental Defence Soc (Inc) v Auckland RC [2002] NZRMA 492 (EnvC)* the Court found that the weight to be given to the Kyoto Protocol as an 'other matter' under section 104 of the RMA is dependant on New Zealand's obligations under it and the extent to which government policy has crystallised, to indicate how New Zealand's obligations would be given effect to in domestic law.

In this regard a number of policy responses have been made (many of which are outlined in this report) and the government has a range of programmes to reduce emissions already in place or being developed. This commitment to policy reform to promote renewable energy sources further demonstrates the government's strong position on this matter and supports the need to consider the Kyoto Protocol when making decisions that potentially impact on climate change. The research, promotion, development and increased use of renewable forms of energy such as wind energy will assist New Zealand

in meeting its commitments under the Kyoto Protocol. The proposed wind farm is consistent with these objectives.

The Sustainable Development Programme of Action for Energy (2003)
An overarching goal of this document is *'to ensure the delivery of energy services to all classes of consumers in an efficient, fair, reliable and sustainable manner'*.

The Programme of Action seeks to achieve the following outcomes:

- energy use in New Zealand becomes progressively more efficient and less wasteful;
- our renewable sources of energy are developed and maximised;
- New Zealand consumers have a secure supply of electricity.

The proposed wind farm is considered consistent with all three of the above outcomes.

Resource Management (Energy and Climate Change) Amendment Act (2004)
The changes to the Resource Management Act as a result of the 2004 Amendments are considered in **Section 12** above (Part 2 Matters).

Climate Change Policy
New Zealand's climate change policy was developed in response to New Zealand's role as a member of the United Nations Framework Convention on Climate Change and in order to provide an established means of meeting New Zealand's obligations as a signatory to the Kyoto Protocol. The Climate Change Policy was reviewed in 2005 and among its key considerations was an identified need to reduce the emissions intensity of New Zealand's existing energy mix. The Policy identifies that this is likely to involve a shift in energy production from the use of fossil fuels, to renewable energy sources such as wind. Overall, the wind farm proposal by Ventus Energy is consistent with New Zealand's Climate Change Policy, especially the identified need to reduce greenhouse gas emissions through the development of renewable energy sources.

15 Conclusion

15.1 The Applicant seeks consent from the Waitomo District Council to construct and operate a utility scale wind farm comprised of a maximum of twenty-two horizontal axis turbines together with the access roading required to construct and maintain the turbines, and the erection and operation of two electricity sub-stations on a site south of Taharoa in the Waitomo District.

15.2 The site is zoned Rural in the Proposed Waitomo District Plan. Wind farms are not an activity that is expressly referred to in the Waitomo District Plan. The wind farm activity does not comply with five of the conditions for permitted activities in the Rural Zone (maximum height, maximum building

height, height in relation to boundary, earthworks and noise) and as such is classified as a discretionary activity in accordance with Rule 11.5.1.3.

15.3 Section 104B of the Resource Management Act 1991 sets out a consent authority's powers to grant or refuse discretionary activities and to impose conditions.

15.4 In assessing this application there has been some difficulty in being able to give proper consideration to the effects of the activity, as required under Part 2 of the Act Section 5(2)(c), and Section 104(1)(a). This is largely due to insufficient detail being submitted with the application in relation to noise matters. There is also some uncertainty with regards to the transportation of materials to the site, and the location of the concrete batching plant. It is anticipated that the Applicant will adequately address these issue at the Hearing, to allow the effects to be properly considered.

15.5 My conclusion is subject to consideration of whatever evidence is presented at the hearing and, in particular, clarification of the noise and transportation effects of the proposal.

15.6 However, based on the information available to me to date, and the peer reviews conducted in relation to the potential visual and landscape, noise and roading effects associated with the proposal, I consider that the proposal merits a grant of consent, subject to a series of stringent consent conditions. My reasons for recommending that the application is granted are as follows:

(a) The proposal will meet the sustainable management purpose of the Resource Management Act 1991, and the benefits of the proposal, when seen in the national context, outweigh the site-specific effects, and the effects on the local surrounding area.

(b) The proposal is consistent with legislation and policies that encourage renewable energy, including the policies and environmental outcomes sought by the RMA, and Government policy relating to energy efficiency and climate change.

(c) I am satisfied that the proposed turbines, transmission lines, substations, ancillary buildings and ancillary activities can be accommodated in this environment in a manner consistent with the objectives, policies and environmental outcomes sought by the relevant plans and with the sustainable management purpose of the Act.

(d) Having considered the issues raised by submitters, the actual and potential environmental effects, the policy framework of the relevant district and regional plans and the matters identified in Sections 6, 7 and 8 of the Act, I am satisfied that the proposal, subject to appropriate resource consent conditions is generally consistent with Part 2 of the Resource Management Act 1991.

(e) When viewed in the wider context, the proposal will enable people and communities to provide for their wellbeing. The proposal will contribute positively to sustaining the potential of natural and physical resources to meet the needs of future generations. Provided mitigation measures are successfully implemented, the proposal will present no threat to the life-supporting capacity of air, water, soil or ecosystems.

It is therefore recommended that the application be approved.

16 Recommendation

That:

a) The report of Ben Inger, of Bloxam Burnett and Olliver Limited dated 28 April 2006 be received.

b) In consideration of Section 104, and pursuant to Sections 104B and 108 of the Resource Management Act 1991, the Waitomo District Council grants consent to Ventus Energy (NZ) Limited to construct and operate a utility scale wind farm comprised of a maximum of 22 horizontal axis turbines and associated substation buildings, earthworks and access roads and activities as described in Condition (2) below for the purpose of generating electricity, on a Rural Zoned site located at Taumatatotara West Road, Taharoa, legally described as:

- Part Section 10 Block V Kawhia South Survey District and Section 3 Survey Office Plan 53968 comprised in Certificate of Title 141077;
- Section 3 Block IX Kawhia South Survey District comprised in Certificate of Title SA28A/586;
- Section 1 Survey Office Plan 58558 comprised in Certificate of Title SA47A/876;
- Section 1A Block V Kawhia South Survey District comprised in Certificate of Title SA37A/25;
- Section 12 and Section 22 Block V Kawhia South Survey District comprised in Certificate of Title SA31C/23;
- Section 2 Block V Kawhia South Survey District comprised in Certificate of Title SA37A/26; and
- Part Section 24 Block V Kawhia South Survey District and Section 2 Survey Office Plan 53968 comprised in Certificate of Title SA48B/494.

Subject to the following conditions:

GENERAL

1. The wind farm development shall be constructed, operated and maintained in general accordance with the information, plans and drawings submitted with the application and received by Council on 23rd December 2005; and the additional information received on 30th January 2005 and 8th March 2005. The application documentation comprises of:

(a) Taumatatotara Windfarm Assessment of Environmental Effects, Volume 1 – Main Report, dated March 2005;
(b) Taumatatotara Windfarm Assessment of Environmental Effects, Volume 2 – Book of Figures, dated March 2005.
(c) Further information received 30th January 2005 and 8th March 2005.

Copies of the approved plans (Labelled 'Approved Plans 'A', 'B' and 'C') are attached.

2. For the purposes of this consent and for avoidance of doubt the activities authorised by this consent include:

ii) the installation, operation and maintenance of no more than twenty-two (22) horizontal axis wind turbines ("turbines");
iii) An underground fibre optic network connecting each turbine to the central control system in the on-site operations building(s);
iv) Tracking and placement of an underground network of 33kV transmission lines delivering electricity from each turbine to the two on-site substations;
v) Overhead or underground powerlines connecting the on-site wind farm substations to the two existing 33kV lines that traverse the eastern edge of the landholding;
vi) A fenced compound to house the on-site control building and sub-station equipment;
vii) Earthworks associated with the creation of the turbine building platforms, access roads and other facilities described in items i)-vi) above.
viii) Widening and/or realignment works along parts of Taumatatotara West Road to enable the safe passage of the oversized wind farm components to the site.

3. Each turbine shall be located within a turbine contingency zone of no greater than 100 metre radius from the turbine locations specified in the application. The turbine contingency zones shall avoid locations closer to external property boundaries, significant indigenous vegetation and significant habitats of indigenous fauna.

4. The consent holder shall submit to the Manager Policy and Planning, Waitomo District Council an as-built plan confirming the locations of all constructed turbines, access roads, entranceways, excess material fills, the substations and control building, electricity transmission lines, and road upgrading/realignment works. The Plan shall also include but is not limited to:

- The finished line of cut and fill batters;
- The finished edge line of pavement and seal widening works;
- The location and dimensions of site entrances;
- The finished level of access road centrelines;

- The location, size and extent of all new stormwater drains or culvert extensions;
- The location of all subsoil drains, sumps and manholes; and
- Any underground services installed or altered as part of the works.

This plan shall be certified by a registered surveyor as to the accuracy at the completion of the work and is required to be submitted to Council within 6 months of the completion of construction of the wind farm.

NOISE

Operational Noise

5. The noise from the wind farm shall comply with the requirements of NZS6808:1998, Acoustics – The Assessment and Measurement of Sound from Wind Turbine Generators in relation to any dwelling existing at the date of granting consent, except:

   i. Any dwelling on any site that forms part of the wind farm; and
   ii. The dwellings labelled as H1, H2, H3, and H4 on the approved plans.

6. Prior to the commencement of construction, detailed ambient noise monitoring shall be undertaken within the notional boundary of any dwelling within the 30dBA noise contour (other than the dwellings on the same land as the wind farm) by a person suitably qualified and experienced in acoustics and accepted by the Manager, Policy and Planning, Waitomo District Council. The monitoring shall be undertaken to determine the existing background sound with regard to the requirements of NZS6808:1998. Sufficient field measurements shall be undertaken to demonstrate to the satisfaction of Council's Manager, Policy and Planning, that the best fit regression curve gives an accurate representation of the existing noise environment.

7. Prior to the commencement of construction, the consent holder shall prepare a noise report to demonstrate, to the satisfaction of Council's Manager, Policy and Planning, that the wind farm will comply with the requirements of NZS6808:1998. This report shall be prepared by a person suitably qualified and experienced in acoustics and accepted by the Manager, Policy and Planning, Waitomo District Council.

8. The wind turbines shall not exceed a rotor tip height of 110 metres above ground level and a sound power of 107.2dBA at a wind speed of 10m/s unless it can be demonstrated by a person specialising in acoustics and accepted by the Manager, Policy and Planning, Waitomo District Council that higher turbine heights or noise levels will still comply with the requirements of NZS6808:1998.

Construction Noise

9. All construction work shall comply with the noise requirements of Rule 20.5.1.5 of the Proposed Waitomo District Plan.

10. Prior to the commencement of construction, a Construction Noise Management Plan shall be prepared to the satisfaction of the Manager, Policy and Planning, Waitomo District Council. The Construction Noise Management Plan shall demonstrate how the requirements of Rule 20.5.1.5 of the Proposed Waitomo District Plan will be achieved.

11. The Construction Noise Management Plan shall address, amongst other things, the potential noise effects of construction traffic on the roads and techniques to minimise these effects. Any night time (10.00pm – 7.00am) traffic movements must be included in the evaluation.

Noise Monitoring:

12. Within six months of the commencement of operation of the wind farm, the noise levels shall be measured and results provided to the Manager, Policy and Planning, Waitomo District Council.

TRAFFIC AND ROADING

Construction Programme

13. A Construction Programme shall be prepared by the consent holder and submitted to the satisfaction of the Manager, Policy and Planning, Waitomo District Council prior to any construction works commencing. The Construction Programme shall include the following:

- The hours of construction work on Taumatatotara Road shall be between 7.00am and 7.00pm Monday to Saturday (excluding public holidays), unless written approval is otherwise obtained from the Manager, Policy and Planning, Waitomo District Council to work outside of these hours;
- Provision shall be made to maintain adequate and safe access to and from individual properties along Taumatatotara West Road while transportation movements are undertaken; and
- The Applicant shall arrange to hold a copy of all Resource Consents on site at all times during construction.

Traffic Management Plan

14. A Traffic Management Plan shall be prepared by the consent holder and submitted to the satisfaction of the Manager, Policy and Planning, Waitomo District Council prior to any construction works commencing. The Traffic Management Plan shall be prepared in accordance with the latest edition of the Transit New Zealand Code of Practice for Temporary Traffic Management and shall include but not be limited to:

- The transport route (in general accordance with the route proposed in the application);
- Times and locations when deliveries are prohibited;
- Piloting and traffic management procedures;

- Contingency plans for breakdowns, bridge or pavement failure, severe weather conditions, accidents or roadworks;
- Provisions for co-ordination with other parties, including emergency services;
- Provisions to maintain adequate and safe access to and from individual properties along Taumatatotara West Road while transportation movements are undertaken; and
- A construction timetable, detailing vehicles movements to and from the site, and the hours that the trucks will operate.

15. The Traffic Management Plan shall be designed to ensure that at all times during construction, all Waitomo District Council administered roads shall be kept open. In exceptional circumstances a request may be sought for road closures of up to 10 minutes maximum. Any road closures shall be approved by the Manager, Policy and Planning, Waitomo District Council.

16. If traffic control measures are not carried out in accordance with the Traffic Management Plan and the Transit New Zealand Code of Practice for Temporary Traffic Management, the Road Controlling Authority reserves the right after notifying the Applicant or contractors either verbally or in writing, to instruct the Applicant or contractors to cease all work until the requirements of this Plan and Code of Practice are met. Alternatively the Road Controlling Authority may arrange for the traffic management to be carried out by others, the costs of which will be borne by the Applicant.

Roading Design

17. The Applicant shall provide, to the satisfaction of the Manager, Policy and Planning, Waitomo District Council, pavement deflection data for Taumatatotara West Road both before and after the construction period. The pavement deflection measurements shall be carried out using either Falling Weight Deflectometer or Benkelman Beam testing techniques.

18. Detailed roading design plans for internal site access roads, Taumatatotara West Road, and any other Waitomo District Council roads that are subject to upgrading or realignment works, shall be developed in accordance with appropriate construction standards and submitted to the satisfaction of the Manager, Policy and Planning, Waitomo District Council prior to construction commencing. The detailed design shall include:

- Geotechnical investigation and interpretation report;
- Corner widening design (including cut/fill batters details);
- Taumatatotara West Road / Taharoa Road intersection design;
- Pavement design;
- Surfacing details;
- Shoulder feather-edge details; and
- Drainage (surface water channels and culverts).

Road Maintenance

19. A maintenance regime for Taumatatotara West Road shall be prepared by the consent holder and submitted to the satisfaction of the Manager, Policy and

Planning, Waitomo District Council prior to any construction works commencing. The maintenance regime shall cover the full construction period and may be developed in partnership with an ongoing maintenance programme (shared with the Waitomo District Council's own Network Maintenance Contractors). The maintenance regime shall ensure the following:

- During the construction period, the consent holder shall undertake any necessary works to ensure that Taumatatotara Road is maintained at a quality no less than the quality of the road prior to construction commencing; and
- At the completion of construction, the consent holder shall undertake any necessary works to ensure that Taumatatotara West Road is of a quality that is no less than the quality of the road at the commencement of construction.

20. A bond of $86,000 shall be paid to Council to secure the ongoing performance of condition 19 pursuant to section 108(2)(b) and section 108A of the Resource Management Act 1991. The bond applies to regular maintenance only, not pavement rehabilitation and shall be refunded to the Applicant at such a time as the Manager, Policy and Planning, Waitomo District Council is satisfied that the objectives of the maintenance regime required by condition 19 has been met. Should the Manager, Policy and Planning, Waitomo District Council consider the consent holder is not meeting the objectives of the maintenance regime, the bond will be utilised to ensure compliance.

Access

21. Detail of vehicle access points and permanent entranceways along Taumatatotara West Road shall be provided prior to construction works commencing. The details will include allowances for:

- Pavement widening to a minimum 6.5 metre sealed width;
- Bellmouth radii to a minimum 15 metres;
- Entranceway culverts to a minimum 300mm diameter; and
- Pavement surfacing to a minimum 70 metres at full width, with matching in tapers at 1 in 10.

22. All internal access roads shall be no narrower than 5 metres in width.

LANDSCAPING AND VISUAL

23. Prior to construction commencing the consent holder shall submit to the satisfaction of the Manager, Policy and Planning, Waitomo District Council, a Landscape Mitigation Plan prepared by a suitably qualified Landscape Architect. The Landscape Mitigation Plan shall detail the visual mitigation and landscape restoration strategies that will be undertaken and shall include but not be limited to:

i. A plan showing details of planting and landscaping to be undertaken around the substation and control building;
ii. The height and location of any earth bunds or mounds created for visual, noise, or mitigation purposes;
iii. Topsoil stockpile and management plan for all topsoil stockpiled for more than six months from the time of stripping;
iv. The restoration strategy for any disturbed landforms including:
    1) Permanent earthworks, including all road cuttings;
    2) Temporary earthworks, including construction pads; and
    3) Topsoil restoration.
v. The restoration shall integrate the new landform into the natural contours, and revegetate (with either pasture or planting) so it appears homogenous with the surrounding landscape;
vi. An implementation strategy identifying when the mitigation works will be undertaken;
vii. A maintenance schedule.

24. The colour of the turbines shall be selected to minimise the visual impact. Due consideration will be given to the predominant ambient background sky colour in selection of the final colour. Low reflectivity finishes shall be used on the turbines and the turbine blades where practicable.

25. No spare wind turbine parts shall be stored on the site, and all 'dead' turbines and turbine components shall be removed within one month from the time that they ceased to function, unless exceptional circumstances exist and written approval is obtained from Manager, Policy and Planning, Waitomo District Council.

AIR SAFETY

26. The consent holder shall comply with the Civil Aviation Authority (CAA) Determination issued to Ventus Energy Limited dated 7 February 2006.

27. Those turbines identified as numbers 1, 5, 10, 18 and 22 on the approved plan (and identified below) shall be lit with a medium intensity obstacle light located on the highest practicable point, sufficient to indicate to aircraft the general location of the wind farm.

Turbine ID	**Easting**	**Northing**	**Attitude**
1	2664848	6331439	251m AMSL
5	2665338	6330549	322m AMSL
10	2666640	6329258	319m AMSL
18	2667836	6327401	367m AMSL
22	2668272	6326391	321m AMSL

28. The medium intensity obstacle lights shall –
- be red; and
- have an effective intensity of not less than 1600 cd of red light;

- be visible to aircraft approaching the wind farm from any direction; and
- shall be installed and operated in a way that minimise their visibility to persons on the ground while meeting CAA requirements.

GEOTECHNICAL

29. In accordance with the recommendations of the geotechnical review prepared by Riley Consultants, and submitted with the application (Appendix K of Volume One), the consent holder shall undertake subsurface geotechnical investigation and engineering geological mapping for the wind farm area at the detailed design stage, to ensure that all of the turbine sites are geotechnically feasible, and provided with stable building platforms. The results of these investigations and detailed design of the proposed geotechnical works for each of the turbines shall be provided for the approval of the Manager, Policy and Planning, Waitomo District Council prior to construction commencing.

EFFECTS ON WILDLIFE

Register

30. The consent holder shall keep a register of observations of effects of the wind farm activities on wildlife. This will include evidence of turbine strike (with species, date, weather conditions and other relevant observations), notes of avoidance behaviour observed, and other observed interaction of wildlife with the wind farm. Ground inspections with nil results should also be recorded. The register shall be maintained for the life of the consents, and shall be made available to Council within 2 working days of its request.

Inspections

31. In accordance with Condition 28 above, all wind farm personnel will inspect the area around the turbine bases when visiting or passing by a turbine, throughout the life of the consents, for evidence of wildlife mortality.

32. The consent holder shall undertake dedicated inspections of all turbine bases for evidence of wildlife mortality at monthly intervals for the first two years of operation. If construction is staged, later turbines shall also continue to be inspected for a full two years.

33. If no significant adverse effects on wildlife are evident then dedicated inspections shall be discontinued, with the prior approval of the Manager, Policy and Planning, Waitomo District Council.

If a significant adverse effect is found (through dedicated monitoring or other monitoring) then monthly inspections shall continue in the interim and a plan developed, to the satisfaction of the Manager, Policy and Planning, Waitomo District Council and in consultation with the Department of Conservation, acting reasonably, to address the effects. Such a plan shall propose a monitoring regime and identify methods and options to avoid,

remedy or mitigate the adverse effects. Specifically excluded from a plan will be any modification or restriction on the operation of the wind turbines.

Reporting:

34. An annual report, detailing the information required in conditions 28 – 31 above shall be provided to Waitomo District Council and the Department of Conservation. Any unidentified species remains recovered shall be referred to the Department of Conservation for identification as soon as is practicably possible following their discovery.

Bird Perches

35. No telecommunications devices or signs shall be connected/attached to any part of the turbines and/or the accessory structures.

36. With the exception of the transmission lines connecting the substation to the existing transmission lines, all other intra project lines within the wind farm shall be underground.

37. The turbine towers shall be tubular in design.

ECOLOGICAL EFFECTS

Native Vegetation

38. The clearance and trimming of native vegetation associated with the wind farm activities shall be restricted to the minimum area required to undertake the road realignment works, and any realignments of the power line routes. In particular, the consent holder shall avoid the removal of pole stand Rimu where practicable.

39. The consent holder shall develop and implement a weed control programme for the site and access roads, to the satisfaction of Council, and for the first 1-2 years of operation.

COMMUNICATIONS

40. In the event that the wind farm activities result in any disruption to free to air (not satellite) television, Broadband Wireless access licenses and/or microwave path operators at those properties in the area surrounding the wind farm site, the consent holder shall assist those parties to obtain reception comparable to the pre-construction quality, to the satisfaction of Council. The consent holder shall advise the Manager Policy and Planning, Waitomo District Council of the agreed mitigation measures in writing.

COMPLAINTS REGISTER

41. The consent holder shall maintain a complaints register for the wind farm activities. The register shall record all complaints received and shall include:

a) The date, time and duration of the incident that has resulted in the complaint;
b) The location of the complainant;
c) The cause of the incident where appropriate;
d) Any corrective action undertaken by the consent holder in response to the complaint.

The register shall be available to Council within 2 working days of its request.

REVIEW AND MONITORING

42. Pursuant to sections 128 to 130 of the Resource Management Act the Waitomo District Council may undertake a review of conditions of consent, within twelve months of the commencement of operation of the wind farm and thereafter on an annual basis for the following purpose:

(i) to review the effectiveness of the conditions of this resource consent in avoiding or mitigating any adverse effects on the environment from the exercise of this resource consent (in particular the potential adverse environmental effects in relation to noise, vegetation removal, earthworks, and the visual, landscape and amenity effects), and if necessary to avoid, remedy or mitigate such effects by way of further or amended conditions; or

(ii) to address any adverse effect on the environment which has arisen as a result of the exercise of this consent; or

(iii) if necessary and appropriate, to require the holder of this resource consent to adopt the best practicable option to remove or reduce adverse effects on the surrounding environment; or

(iv) to review the adequacy of and the necessity for monitoring undertaken by the consent holder.

The Council will undertake the review in consultation with the consent holder. The consent holder shall pay the actual and reasonable costs of the review.

43. Pursuant to section 36 of the Resource Management Act 1991 the consent holder shall pay the actual and reasonable costs incurred by the Council when monitoring the conditions of this consent.

LAPSE PERIOD

44. This consent shall lapse eight years after the date of it being granted, unless the consent is either given effect to before that lapsing date, or unless the

Waitomo District Council fixes a longer period pursuant to section 125 of the Resource Management Act 1991.

Advisory Notes

1) The Applicant shall also ensure compliance with conditions of the Waikato Regional Council resource consent. Conditions related to matters covered by that consent have been omitted from this consent to avoid duplication.

2) All on-site works shall comply with the requirements of the Health and Safety in Employment Act 1992.

3) This consent covers road widening and realignment works associated with Taumatatotara West Road only. The Applicant shall obtain any other resource consents for road widening.

4) The Applicant will need to consult with and meet the requirements of all road controlling authorities affected by the transportation of the turbine components, including Transit New Zealand.

Reasons for the Decision

1) The proposal will meet the sustainable management purpose of the Act, and the benefits of the proposal, when seen in the national context, outweigh the site-specific effects, and the effects on the local surrounding area.

2) The proposal is consistent with legislation and policies that encourage renewable energy, including the policies and environmental outcomes sought by the RMA, and Government policy relating to energy efficiency and climate change.

3) The proposed turbines, transmission lines, substations, ancillary buildings and ancillary activities can be accommodated in this environment in a manner consistent with the objectives, policies and environmental outcomes sought by the relevant plans and with the sustainable management purpose of the Act.

4) The proposal, subject to appropriate resource consent conditions, is generally consistent with Part 2 of the Resource Management Act 1991.

5) When viewed in the wider context, the proposal will enable people and communities to provide for their wellbeing. The proposal will contribute positively to sustaining the potential of natural and physical resources to meet the needs of future generations. Provided mitigation measures are successfully implemented, the proposal will present no threat to the life-supporting capacity of air, water, soil or ecosystems.

REFERENCES

Environment Court Decision No. 148/2005: *Genesis Power Limited and The Energy Efficiency and Conservation Authority versus Franklin District Council* (Awhitu Windfarm)

Ashby, M. 1994: *Winds Up: Planning the Future Now*; Connell Wagner Limited, Wellington, New Zealand

Energy Efficiency and Conservation Authority 1995; *Guidelines for Local Authorities: Wind Power*, EECA Publication Wellington, New Zealand

Attachment 2

2011 Variation to Ventus consent

Decision report and conditions

WAITOMO DISTRICT COUNCIL REPORT ON A NON-NOTIFIED APPLICATION PURSUANT TO SECTION 127 OF THE RESOURCE MANAGEMENT ACT 1991 – WAITOMO DISTRICT COUNCIL LAND USE CONSENT RM050019A

COUNCIL REFERENCE:	RM050019A
APPLICANT:	Ventus Energy (NZ) Ltd
PROPERTY ADDRESS:	Taumatatotara West Road, Te Anga
LEGAL DESCRIPTION:	Section 2 Block V Kawhia South Survey District (SA37A/26) Section 1 Survey Office Plan 58558 (SA47A/876) Section 12 and Section 22 Block V Kawhia South Survey District (SA31C/23) Section 1A Block V Kawhia South Survey District (SA37A/25)
ZONING – WAITOMO DISTRICT PLAN:	Rural
PROPOSAL:	An application has been made in accordance with Section 127 of the Resource Management Act 1991 to change the conditions of resource consent RM050019 to increase the maximum consented height of the 11 northernmost consented wind turbines to 121.5 metres. The current maximum consented height is 110 metres. The remaining consented turbines will remain at a maximum consented height of 110 metres.
REPORT DATE:	12 March 2011

1.0 BACKGROUND

1.1 Waitomo District Council granted land use consent RM050019 to Ventus Energy (NZ) Ltd on 13th June 2006. The resource consent approval was for 22 wind turbines with a maximum height of 110 metres from the ground to the top of the vertically extended blade tip. The resource consent decision is subject to 53 conditions of consent, including an extended lapse period of eight years. Construction on the wind farm has not yet commenced.

2.0 THE SITE

2.1 The site of the proposed wind farm is located on an unnamed ridgeline, situated approximately 6.5 kilometres south of Taharoa (from Turbine 1) and 2.5 – 3 kilometres to west of Te Anga.

2.2 The existing land use of the site is predominantly pastoral grazing (sheep and cattle) with scattered pockets of plantation radiata pines. Small fragments of native bush also exist in the surrounding area. The topography of the site ranges from moderate to very steep hill country. Surrounding land uses are predominantly rural.

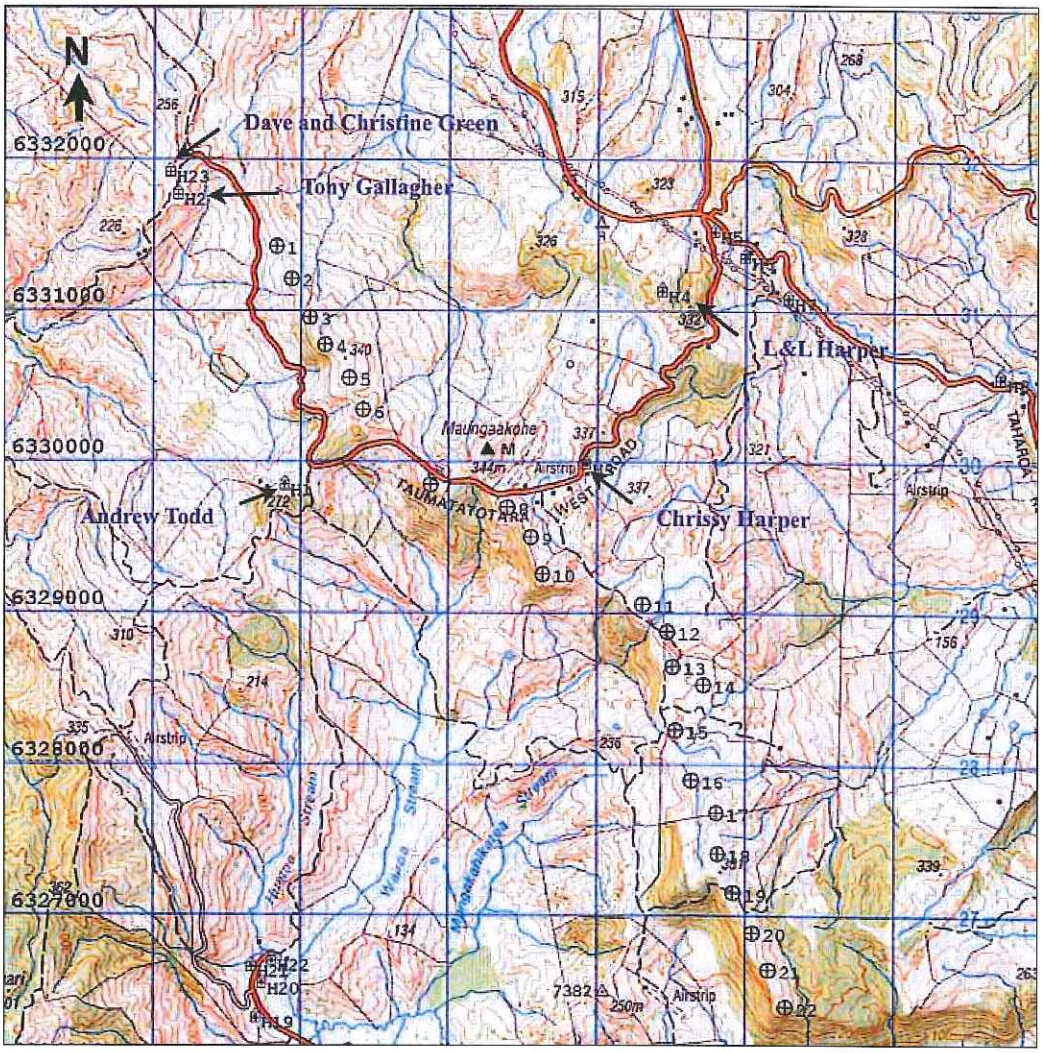
2.3 Taumatatotara West Road traverses through the centre of the site in an east-west direction, and effectively 'divides' the wind farm site into two parts, with turbines 1-6 located on the northern side of Taumatatotara West Road, and turbines 7-22 located to the south.

2.4 The southern part of the ridgeline, in particular, is visually prominent with respect to a large but sparsely populated area of the nearby Marokopa Valley.

2.5 The application which has been made by Ventus Energy (NZ) Ltd relates specifically to the northern 11 consented wind turbines. Turbines 7 to 11 will be located just to the south of Taumatatotara West Road while turbines 1 to 6 will all be located to the north and east of the road.

2.6 The nearest dwellings to turbines 1 to 11 are shown on the site layout plan provided by the Applicant as an appendix to the further information response dated February 2012. A scanned copy of the site layout plan is included as **Diagram 1** below.

Diagram 1: Site Layout Plan with Turbine and Dwelling Locations



2.7 All of the dwellings that are labelled with occupant names on the map (**Diagram 1**) are located on land that forms part of the wind farm site itself (Harper's and Gallagher's). Written approval to this application has been provided from the owners and occupiers of all five of these dwellings (see section 8 of this report).

2.8 The site is zoned Rural in the Proposed Waitomo District Plan, as are all of the adjoining properties. There are no designations, sites of significance or other special features affecting the site that are identified on the District Plan maps. However, the planning maps do denote three areas zoned 'Conservation' located in close proximity to the wind farm site (the Maungaakohe Scenic Reserve administered by DOC to the south-west, and two open space covenant areas to the north-east).

2.9 There are a number of agricultural airstrips in the surrounding area. The Applicant has consulted with the Civil Aviation Authority (CAA) in relation to the proposal, and their written comments are included in the appendices of the application.

3.0 THE PROPOSAL

3.1 The proposal involves changes and deletions to conditions of resource consent RM050019 which authorised the construction and operation of a 22 turbine wind farm on the site.

3.2 The changes which are being sought are associated with a proposal to increase the maximum consented height of the 11 northernmost wind turbines from 110 metres to 121.5 metres. The existing height limit of 110 metres will be retained in respect of the 11 southernmost consented wind turbines.

3.3 The application explains that the increase in height is necessary because wind turbine design has evolved since the application was initially made. Turbines now typically have larger rotors and taller towers. Furthermore the wind monitoring data collected at the site has been independently analysed meaning the wind regime is now better understood. Taller towers will have the advantage of allowing for a reduction in the turbulent effect of wind closer to the ground. The Applicant considers that larger turbines (in respect of turbines 1-11) will therefore give better economic returns for the project.

3.4 The 121.5 metre proposed turbine height is based on a nominal turbine design with a 76 metre hub height and a 90 metre rotor diameter. A turbine with these dimensions would have a clearance between the blade tip and the ground of 31 metres.

3.5 The application seeks amendments to conditions 1, 3 and 11.

4.0 SECTION 127 RESOURCE MANAGEMENT ACT 1991

4.1 Section 127 of the RMA states:

> *"(1) The holder of a resource consent may apply to a consent authority for a change or cancellation of a condition of the consent, subject to the following:*
>
> *(a) the holder of a subdivision consent must apply under this section for a change or cancellation of the consent before the deposit of the survey plan (and must apply under section 221 for a variation or cancellation of a consent notice after the deposit of the survey plan); and*

(b) no holder of any consent may apply for a change or cancellation of a condition on the duration of the consent.

(2) Repealed.

(3) Sections 88 to 121 apply, with all necessary modifications, as if –

(a) the application were an application for a resource consent for a discretionary activity; and

(b) the references to a resource consent and to the activity were references only to the change or cancellation of a condition and the effects of the change or cancellation respectively.

(4) For the purposes of determining who is adversely affected by the change or cancellation, the consent authority must consider, in particular, every person who –

(a) made a submission on the original application; and

(b) may be affected by the change or cancellation."

4.2 The application is able to be processed under section 127 of the RMA as it seeks a variation to the consented activity, and the resulting effects will not be materially different. The overall nature of the activity will remain the same and the only change that will result relates to the height of turbines 1 to 11.

4.3 The effects of the proposed changes and cancellations are considered in section 6 of this report. Consideration has been given to all persons who made submissions to the original application as part of the notification assessment in section 8.

5.0 PEER REVIEW

Visual and Landscape Effects

5.1 A specialist review of the visual and landscape effects of the proposed change has been undertaken by Mansergh Graham on behalf of the Waitomo District Council. The review was commissioned by the Council and with the agreement of the Applicant following a request made pursuant to Section 92(2) of the Resource Management Act 1991.

5.2 The Mansergh Graham assessment reports on the assessment of visual and landscape effects provided by the Applicant which was prepared by Opus International Consultants Ltd ('Opus'). The findings of the Mansergh Graham report are relied on for the purposes of this assessment. The main points and conclusions of the Mansergh Graham report are summarised below:

- The Opus report generally follows an acceptable methodological approach to the assessment of landscape and visual effects;
- The effects of the turbine height increase on landscape and visual amenity values will be less than minor, as stated within the report prepared by Opus. This is principally due to the context of the consented wind farm, the relatively small proposed increase in the turbine size and the distance between potentially affected parties and the wind farm;
- All properties around the application site have provided written approval and therefore shadow flicker is not expected to be an issue. Any shadow flicker effects beyond a theoretical 1.2km flicker effect limit are expected to be less than minor and will only occur for a relatively short period of time during the day when the top 11m of the turbine (the extension) is between the viewer and the sun.

6.0 ASSESSMENT UNDER SECTION 104 OF THE RMA

6.1 The variation is to be considered as a discretionary activity under Section 104 of the RMA (in accordance with Section 127(3)(a) of the Act). Section 104 sets out those matters that Council must consider when assessing an application for resource consent. The matters that are relevant to the consideration of this application (subject also to Part II, Purpose and Principles) are:

> *"a) Any actual and potential effects on the environment of allowing the activity; and...*
> *b) Any relevant provisions of –*
> *(vi) A plan or proposed plan; and*
> *c) Any other matters the consent authority considers relevant and reasonably necessary to determine the application."*

Each of the relevant matters is considered in the following sections of this report.

6.2 Section 104(1)(a) – Assessment of Actual and Potential Effects on the Environment of Allowing the Activity

6.3 The effects on the environment related to the proposed changes include visual and landscape effects, shadow flicker effects, ornithological effects and aviation effects resulting from the increased height of the turbines. Other effects, including noise, traffic and roading, geotechnical (earthworks) and cultural effects either will not change as a result of the proposal or will continue to be mitigated by existing conditions of consent.

Visual and Landscape Effects

6.4 The visual and landscape assessment undertaken by Opus on behalf of the Applicant has assessed the potential visual and landscape effects as a result of the proposal to increase the height of the 11 northernmost turbines. That report has been reviewed by Dave Mansergh of Mansergh Graham (Appendix A) on behalf of Waitomo District Council.

6.5 The Mansergh Graham review assessment has considered the assessment methodology and findings of the specialist visual and landscape assessment prepared by Opus which was submitted by the Applicant with the further information response dated February 2012. It concludes that the Opus report generally follows an acceptable methodological approach to the assessment of landscape and visual effects.

6.6 The Opus report concludes that the change in height of the turbines will be difficult to discern at dwellings to the south of the site based on the viewing distance, including at the nearest residences where approvals have not been provided on Coutts Road. On that basis the report concludes that there will be no discernible change to the effects on landscape character and visual amenity relative to the consented turbine height. The assessment also identifies that the increased height will potentially result in four properties along Coutts Road seeing part of one additional turbine relative to the consented turbine height. That assessment is supported by the wire frame images that are included within Appendix 3 of the Opus assessment. As the properties will only have a partial view of the additional turbine, the assessment concludes that the associated effects will be less than minor.

6.7 The Mansergh Graham report concludes that the effects of the turbine height increase on landscape and visual amenity values will be less than minor, as stated within the report

prepared by Opus. This is principally due to the context of the consented wind farm, the relatively small proposed increase in the turbine size and the distance between potentially affected parties and the wind farm.

6.8 The findings of the Mansergh Graham report are relied on for the purposes of this assessment. On the basis of the Mansergh Graham assessment, the visual and landscape related effects will be less than minor.

Shadow Flicker Effects

6.9 The Mansergh Graham review assessment also considers the effects of the proposed increase in turbine height in relation to the potential for shadow flicker to cause a nuisance.

6.10 Written approval to the application has been provided from the owners and occupiers of the dwellings nearest to turbines 1 to 11 (refer to section 8 of this report). Therefore effects on those dwellings must be disregarded in terms of this application. The nearest dwelling where written approvals have not been provided is approximately 3.2km from the nearest wind turbine.

6.11 The Mansergh Graham review report (Appendix A) confirms that any shadow flicker effects beyond a theoretical 1.2km flicker effect limit are expected to be less than minor and will only occur for a relatively short period of time during the day when the top 11m of the turbine (the extension) is between the viewer and the sun. The associated effects in terms of the proposed increase in turbine height are therefore considered to be less than minor.

Ornithological Effects

6.12 The Applicant has also provided a specialist assessment with the application from Kessels and Associates Ltd in terms of potential ornithological effects relating to the change. That assessment concludes that the proposed increase in turbine height will have *"no discernible increase on mortality risk associated with strike for birds and bats, nor will it increase habitat displacement"*. On the basis of this assessment, the ornithological effects of the change in turbine height will be negligible and less than minor.

6.13 The resource consent conditions include requirements for monitoring and reporting of ornithological effects as well as specific design requirements (conditions 37 to 44). Those conditions will remain and will not be amended.

Aviation Effects

6.14 The Applicant has provided a letter from the Civil Aviation Authority (CAA) which confirms their requirements in relation to the wind farm. The letter advises that the change in the height of the turbines will not impact on the CAA's original determination. However, the letter also advises that the CAA policy has been updated since the time that the initial determination was made by the CAA.

6.15 The resource consent already includes conditions (33 to 35) which relate to requirements for obstacle lights. It is suggested that condition 33 should also be amended to include reference to the CAA letter included with the application (dated 23 August 2011). A recommendation to that effect is included in section 11 of this report.

Noise Effects

6.16 The application identifies that the change in the height of turbines 1 to 11 will not have any additional noise effects relative to the consented turbine height.

6.17 Conditions 7 to 17 deal with noise from the wind farm. Those conditions will continue to apply. Amongst other things, the conditions require that compliance must be achieved with the standard *NZS6808:1998 Acoustics – The Assessment and Measurement of Sound from Wind Turbine Generators*. The onus of demonstrating compliance with that standard will be on the Consent Holder. In that regard, condition 9 requires that the Applicant must engage a person suitably qualified and experienced in acoustics to undertake background noise monitoring and condition 10 requires a person with the same qualifications and experience to prepare a noise report to demonstrate that the proposed turbines will achieve compliance with NZS6808:1998.

6.18 Condition 11 specifies that the wind turbines must not exceed a height of 110 metres or a sound power level of 107.2 dBA unless it can be demonstrated by a person specialising in acoustics and accepted by Waitomo District Council that higher turbine heights or sound power will still comply with NZS6808:1998. The Applicant has sought to change this condition. However, no expert assessment has been provided to support the increased turbine height.

6.19 It is considered that the condition as worded provides an opportunity for Council to approve higher wind turbine heights than 110 metres if it can be satisfactorily demonstrated that they will achieve compliance with NZS6808:1998. While the Applicant has applied to amend condition 11 so that it refers to 121.5 metres instead of 110 metres, that amendment is not considered to be necessary. Furthermore it would be inappropriate to make that change in the absence of expert assessment.

6.20 Accordingly a new advice note is recommended to clarify that an increase in the height of turbines 1 to 11 will be acceptable subject to the necessary acoustic reporting that is required by the current wording of condition 11. An advice note to that effect is included in the recommendation in section 9 of this report.

6.21 The existing noise conditions will control noise effects so that noise from the wind turbines must meet the appropriate noise standards. As those standards are not proposed to be changed, the effects of the increase in the height of turbines 1 to 11 will still need to be managed so that the effects will be no different to those anticipated and approved under the existing resource consent conditions.

Traffic/Roading Effects

6.22 The application identifies that the proposal to construct taller turbines is based on an increase in the tower height. The tower height is not the critical component for transportation as the tower sections are shorter than the blades. The tower components also have a lesser weight than the nacelles. Therefore it is the blades and the nacelles that control the road upgrade and maintenance requirements.

6.23 Conditions 18 to 28 deal with traffic and roading effects. The conditions include a requirement for a traffic management plan during the transportation of the wind turbine components, as well as requirements for monitoring, upgrading and maintenance of public roads used to transport the wind farm infrastructure to the site. The Applicant does not seek

to amend any of those conditions and they will therefore continue to adequately control traffic and roading related effects.

6.24 The effects of the change in the height of turbines 1 to 11 will therefore be negligible in relation to traffic and roading related effects.

Other Effects

6.25 The application identifies that there will be no changes in respect to effects relating to matters including geotechnical stability, vibration, radio and television communications, hydrology, archaeological/heritage and cultural related impacts.

6.26 Furthermore, there are existing resource consent conditions which will continue to apply in respect of some of these matters. Those conditions are commented on as follows:

- Geotechnical stability will continue to be subject to requirements for further investigations and detailed design (condition 36). Conditions imposed on the resource consents issued by Waikato Regional Council also address land stability issues.
- Condition 47 deals with effects relating to radio and television communications. The condition requires the consent holder to rectify any issues in terms of disruption to those services if problems arise following the wind farm construction. That condition will remain in place and will continue to apply.

6.27 Vibration related effects were considered during the processing of the original resource consent application for the wind farm. Mr Nevil Hegley of Hegley Acoustic Consultants was engaged to review the noise and vibration aspects of the application. Mr Hegley confirmed at that time that the turbines will not generate adverse effects with regards to vibration. Therefore it follows that the increase in wind turbine height will not result in any vibration related effects.

6.28 Effects relating to hydrology predominantly relate to land disturbance works necessary to construct the wind farm. The resource consent issued by Waikato Regional Council deals with these matters. The proposal to increase the height of turbines 1 to 11 is not expected to create any new effects in respect of hydrology.

6.29 Effects relating to archaeology, heritage and cultural matters will not change. The existing environment includes 22 consented (but not yet built) wind turbines. It is not proposed to change the location of any of the wind turbines and the increase in height therefore will not result in any new effects in respect of these matters.

6.30 Section 104(1)(b) – Assessment of relevant provisions of the Operative Waitomo District Plan

6.31 The objectives and policies of most relevance to this application are those relating to the Rural Zone, as set out in Section 11 of the Operative Waitomo District Plan. The relevant objectives and policies have been extracted and are included below.

Objectives

11.3.1 To promote the Rural Zone as a productive working environment where the use and development of its natural resources, consistent with meeting environmental safeguards, is encouraged.

11.3.3 *To ensure that significant archaeological, historical and cultural features are protected from adverse effects arising from the removal of vegetation, or other development of land. See also Section 21, Heritage Resources.*

11.3.4 *To protect areas of significant indigenous vegetation and significant habitat of indigenous fauna.*

11.3.5 *To ensure that rural development and land use does not give rise to increased erosion and thus degradation of water quality.*

11.3.8 *To promote use of rural land in a manner which encourages maintenance and enhancement of amenity values of the rural environment, protects outstanding natural features and landscapes from inappropriate use and development, and preserves the natural character of the coastal environment, wetlands, lakes and rivers, and their margins.*

11.3.9 *To encourage maintenance and enhancement of rural visual character.*

11.3.12 *To ensure the adverse effects of rural buildings situated close to boundaries, and large non-farm buildings, are avoided, remedied or mitigated.*

Policies

11.4.1 *To ensure the Rural Zone functions as a productive working environment where the use and development of its natural resources, consistent with meeting environmental safeguards, is encouraged.*

11.4.4 *To avoid, remedy or mitigate any effects of the use or development of rural land that gives rise to erosion which adversely affects water quality.*

11.4.10 *To avoid, remedy or mitigate the adverse effects of removal of areas of significant indigenous vegetation and significant habitat of indigenous fauna.*

11.4.12 *To ensure that all rural activities, including extractive industries, are established and operated so as to avoid, remedy or mitigate adverse effects on amenity or on neighbours, or on significant karst features.*

11.4.13 *To encourage mitigation of the adverse effects of all rural activities, including afforestation and forestry clearance, on adjacent sites. Particularly that mitigation should occur in areas that are visually sensitive, including areas with significant tourist resources, areas of high landscape quality and in the coastal environment.*

11.4.17 *To avoid, remedy or mitigate the adverse effects of rural buildings situated close to boundaries, and large non-farm buildings, on sunlighting, privacy, landscaping and amenity.*

6.32 The wind farm was assessed in terms of these same objectives and policies during the processing of the initial resource consent application. They are generally of little relevance in terms of the effects of the change and the amended wind farm incorporating higher turbines 1 to 11 will not be contrary to them.

7.0 RESOURCE MANAGEMENT ACT 1991 – PART II

7.1 Applications considered under Section 104 are also subject to Part II of the Act (Purpose and Principles). Part II outlines and promotes the concept of sustainable management, lists matters of national importance as well as other matters related to achieving the purpose of the RMA, and requires the principles of the Treaty of Waitangi to be taken into account.

7.2 In particular, the following sections of Part II are applicable to this application:

5. Purpose

(1) The purpose of this Act is to promote the sustainable management of natural and physical resources.

(2) In this Act, "sustainable management" means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural wellbeing and for their health and safety while –

(a) Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and

(b) Safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and

(c) Avoiding, remedying, or mitigating any adverse effects of activities on the environment.

7. Other Matters

"In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall have particular regard to –

(b) The efficient use and development of natural and physical resources:
(c) The maintenance and enhancement of amenity values:
(f) Maintenance and enhancement of the quality of the environment:
(g) Any finite characteristics of natural and physical resources:
(i) The effects of climate change:
(j) The benefits to be derived from the use and development of renewable energy".

8. Treaty of Waitangi

"In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall take into account the principles of the Treaty of Waitangi."

7.3 In respect to Section 5(a), the wind farm proposal is an important means of harnessing a natural resource to provide for the energy needs of New Zealand. Wind energy is a renewable resource and therefore the proposal will provide for the ability of future generations to meet their needs. One of the needs of future generations will be electricity and energy, and the use of wind to meet that need is sustainable. The proposal is therefore consistent with Section 5(a).

7.4 Section 5(b) requires that the life supporting capacity of air, water, soil and ecosystems be safeguarded. The proposal will have minimal effect on the life supporting capacity of the air and soil, and is not expected to have any significant effect on the water resource. Conditions require that issues relating to land stability are addressed as part of detailed design. The proposal is not expected to have any effect on the life supporting capacity of ecosystems. The proposal is therefore consistent with section 5(b).

7.5 Section 5(c) requires any adverse environmental effects to be avoided, remedied or mitigated. The environmental effects associated with the wind farm will continue to be mitigated by the existing (and amended) conditions of consent. The proposal is therefore consistent with section 5(c) of the Act.

7.6 Section 7(b) requires regard to be had to the efficient use and development of natural and physical resources. The Applicant has identified that the proposed increase in the height of turbines 1 to 11 will enable the wind farm to more efficiently harness the wind resource at the site. The proposal is therefore considered to represent an efficient use and development of the land and wind resource. The use of wind (a renewable resource) to generate electricity is considered an efficient use and development of natural resources.

7.7 Section 7(c) relates to amenity values. The predominant amenity related effect will be in terms of visual amenity. Those matters have been given consideration in the Opus landscape and visual effect assessment provided by the Applicant and in the review undertaken by Mansergh Graham. The Mansergh Graham review (see Appendix A) concludes that the "*effects of the turbine height increase on landscape and visual amenity values will be less than minor*". Accordingly in my opinion the amenity value of the area will be generally maintained by the proposal and the application is therefore consistent with Section 7(c) of the Act.

7.8 With regard to Section 7(f), the maintenance and enhancement of the quality of the environment has been considered. The section 2 definition of 'Environment' includes 'ecosystems and their constituent parts, including people and communities', 'all natural and physical resources', 'amenity values' and 'social, economic, aesthetic and cultural conditions'. As previously stated, the proposal will generally maintain amenity values. Conditions of consent will continue to address effects on ecosystems and on people and the local community. The proposal is therefore consistent with section 7(f).

7.9 Subsections 7(i) and 7(j) are particularly relevant to this proposal. These two subsections were added by the *Resource Management (Energy and Climate Change) Amendment Act 2004* and reflect the Government's commitment to its obligations under the Kyoto Protocol to reduce greenhouse gases and promote the generation of energy from renewable sources. The proposal will support the feasibility of the construction of the consented wind farm, which in turn will yield national benefits in terms of the use of a renewable energy source (as opposed to the burning of fossil fuels), contribution to security of energy supply, providing energy to meet the needs of communities and potential economic growth that could derive from the energy generated. The proposal is therefore consistent with sections 7(i) and (j).

7.10 Section 8 of the Resource Management Act requires that in considering the application the Council take into account the principles of the Treaty of Waitangi. Local groups representing tangata whenua interests were involved during the processing of the original application. The change will not significantly alter the environmental effects relative to the original application, nor will it result in any increase in terms of cultural effects or impacts

on any sites of significance. The wind turbine locations will not change, only the maximum consented height of turbines 1 to 11. The proposed change and the process that has been followed in relation to the wind farm proposal is considered to be consistent with section 8 of the Act.

8.0 NOTIFICATION

8.1 The provisions of the Resource Management Act 1991 ("RMA") relevant to an assessment of notification are sections 95A to 95F, with the consideration of effects limited to effects resulting from the changes proposed only.

8.2 Section 95A states as follows:

" Section 95A Public notification of consent application at consent authority's discretion

(1) A consent authority may, in its discretion, decide whether to publicly notify an application for a resource consent for an activity.

(2) Despite subsection (1), a consent authority must publicly notify the application if—

(a) it decides (under section 95D) that the activity will have or is likely to have adverse effects on the environment that are more than minor; or

(b) the applicant requests public notification of the application; or

(c) a rule or national environmental standard requires public notification of the application.

(3) Despite subsections (1) and (2)(a), a consent authority must not publicly notify the application if—

(a) a rule or national environmental standard precludes public notification of the application; and

(b) subsection (2)(b) does not apply.

(4) Despite subsection (3), a consent authority may publicly notify an application if it decides that special circumstances exist in relation to the application."

8.3 Section 95D of the RMA sets out the way in which a consent authority must decide whether the effects are likely to be more than minor for the purpose of reaching a determination under Section 95A. In this case there are no relevant trade competition effects.

8.4 However, a number of parties have provided written approval to the application. Effects on those persons must be disregarded when undertaking the assessment in terms of notification and in terms of assessing the resource consent application under section 104 of the Act. The parties who have provided written approval are listed in Table 1 which follows. The location of the properties where written approvals have been provided is shown on the diagram in Appendix C.

Table 1: Written Approval List

Name	Owner/Occupier	Description
Andrew Todd and Doreen Rangitata Putaranui	Occupier	Occupier of H1
Tony Gallagher	Occupier	Occupier of H2
David Green	Occupier	Occupier of H23
Kris Harper	Occupier	Occupier of H3
John Gallagher and Glenice Gallagher (G and J Gallagher Farm Ltd)	Owner	See Appendix C for land ownership. Owner of H1, H2, H23.
Larry and Lynette Harper	Owner & Occupier	See Appendix C for land ownership. Owner of H3. Owner and occupier of H4.

8.5 The original land use consent application was processed on a notified basis. A total of fifteen submissions were received to the application.

8.6 A table which lists the submissions received and the issues raised in each submission is included in Appendix B. The table demonstrates that although some submissions related to visual and/or landscape effects, the minor nature of the increase in turbine height and the distance to the nearest dwellings will ensure that the change in effects will be less than minor. That assessment is supported by the reporting undertaken by Opus and by Mansergh Graham.

8.7 Other effects associated with the change have been assessed in section 6 of this report. That assessment concludes that the effects of the change will be less than minor in respect of those matters. The assessment also concludes that the existing resource consent conditions will continue to avoid, remedy and mitigate the effects of the wind farm.

8.8 Having had regard to the notification provisions of the RMA, the notification report prepared in relation to the application determined that the application did not require notification for the following reasons:

a) The landscape and visual effects assessment prepared by Opus Consultants and provided with the application concludes that landscape and visual related effects will be 'less than minor'. This finding is supported by the findings of the peer review report undertaken by Mansergh Graham. Therefore landscape and visual effects will be less than minor.

b) There are no other adverse effects related to the proposed change that will be minor or more than minor.

c) The submissions that were received to the original resource consent application have been considered. None of the submitters are considered to be affected parties in relation to the change.

d) There are no special circumstances that justify public notification.

9.0 CHANGES TO CONSENT CONDITIONS

9.1 In assessing the conditions of consent, the following changes are recommended (additions shown <u>underlined</u> and deletions shown in ~~strikethrough~~):

a) Amend condition 1 so that it reads as follows:

"The wind farm development shall be constructed, operated and maintained in general accordance with the information, plans and drawings submitted with the application and received by Council on 23rd December 2005; and the additional information received on 30th January 2005 and 8th March 2005 except as otherwise amended by the s127 application dated 21st November 2011 and the further information response dated 28th February 2012. The application documentation comprises of:

(a) Taumatatotara Windfarm Assessment of Environmental Effects, Volume 1 – Main Report, dated March 2005;
(b) Taumatatotara Windfarm Assessment of Environmental Effects, Volume 2 – Book of Figures, dated March 2005.
(c) Further information received 30th Jnuary 2005 and 8th March 2005.
(d) Further Information provided in respect of the revised proposal approved as part of the change to the conditions of consent in accordance with Section 127 of the Resource Management Act 1991, namely :

i. Report dated 21st November 2011; titled 'Taumatatotara Windfarm Assessment of Environmental Effects for a Turbine Tip Height Increase', prepared by Ventus Energy (NZ) Ltd;
ii. Further information response dated 28th February 2012; titled 'Taumatatotara Windfarm Further Information for a Turbine Tip Height Increase', prepared by Ventus Energy (NZ) Ltd;
iii. Report dated 24th February 2012; titled 'Taumatatotara Wind Farm Landscape and Visual Assessment for S92(1) Further Information Request', prepared by Opus International Consultants Ltd."

b) Amend condition 3 so that it reads as follows:

"The turbines shall have a maximum height ~~of 110 metres~~ measured from the ground to the top of the vertically extended blade tip as follows:

(a) Turbines 1 to 11 inclusive – maximum height of 121.5 metres
(b) Turbines 12 to 22 inclusive – maximum height of 110 metres".

c) Amend condition 33 so that it reads as follows:

"The consent holder shall comply with the Civil Aviation Authority (CAA) Determinations issued to Ventus Energy Limited dated 7 February 2006 and 23 August 2011."

d) Insert a new advice note 7:

"For the purposes of condition 11, a height greater than 110 metres will be approved for turbines 1 to 11 inclusive subject to the necessary confirmation being provided in respect of compliance with NZS6808:1998. Condition 3 also requires that the maximum height of turbines 1 to 11 inclusive must not exceed 121.5 metres and that the maximum height of turbines 12 to 22 inclusive must not exceed 110 metres."

9.2 The changes that are recommended above are consistent with the changes that were requested by the Applicant with one exception. The Applicant sought for condition 11 to be amended to refer to a maximum turbine height of 121.5 metres. Condition 11 states:

"The wind turbines shall not exceed a rotor tip height of 110 metres above ground level and a sound power of 107.2dBA unless it can be demonstrated by a person specialising in acoustics and accepted by the Manager, Policy and Planning, Waitomo District Council that higher turbine heights or sound power will still comply with the requirements of NZS6808:1998."

9.3 It is considered that the condition as worded provides an opportunity for Council to approve higher wind turbine heights than 110 metres in respect of turbines 1 to 11 inclusive if it can be satisfactorily demonstrated that they will achieve compliance with NZS6808:1998. An amendment to condition 11 is therefore not considered to be necessary. Furthermore it would be inappropriate to make that change in the absence of an expert acoustic assessment.

9.4 The recommended advice note 7 will clarify that an increase in the height of turbines 1 to 11 will be acceptable subject to the necessary acoustic reporting that is required by the current wording of condition 11.

10.0 CONCLUSION

10.1 This assessment has demonstrated that the proposed changes to conditions of resource consent RM050019 will have less than minor effects on the environment. Furthermore, the amended proposal will be consistent with the objectives and policies of the Operative Waitomo District Plan.

10.2 The proposal is considered to be consistent with section 127 and Part II of the Resource Management Act 1991. It is therefore recommended that the resource consent conditions be amended to incorporate the changes set out in sections 9 and 11 of this report. The full set of resource consent conditions incorporating the amendments resulting from this application is included in Appendix D.

11.0 RECOMMENDATION

That pursuant to Section 127 of the Resource Management Act 1991, the Waitomo District Council hereby grants consent to Ventus Energy (NZ) Ltd to change the conditions of Waitomo District Council land use consent reference RM050019. The land use consent shall be amended as follows:

a) Amend condition 1 so that it reads as follows:

"The wind farm development shall be constructed, operated and maintained in general accordance with the information, plans and drawings submitted with the application and received by Council on 23rd December 2005; and the additional information received on 30th January 2005 and 8th March 2005 except as otherwise amended by the s127 application dated 21st November 2011 and the further information response dated 28th February 2012. The application documentation comprises of:

(a) Taumatatotara Windfarm Assessment of Environmental Effects, Volume 1 – Main Report, dated March 2005;
(b) Taumatatotara Windfarm Assessment of Environmental Effects, Volume 2 – Book of Figures, dated March 2005.
(c) Further information received 30th January 2005 and 8th March 2005.
(d) Further Information provided in respect of the revised proposal approved as part of the change to the conditions of consent in accordance with Section 127 of the Resource Management Act 1991, namely:

i. Report dated 21st November 2011; titled 'Taumatatotara Windfarm Assessment of Environmental Effects for a Turbine Tip Height Increase', prepared by Ventus Energy (NZ) Ltd;
ii. Further information response dated 28th February 2012; titled 'Taumatatotara Windfarm Further Information for a Turbine Tip Height Increase', prepared by Ventus Energy (NZ) Ltd;
iii. Report dated 24th February 2012; titled 'Taumatatotara Wind Farm Landscape and Visual Assessment for S92(1) Further Information Request', prepared by Opus International Consultants Ltd."

b) Amend condition 3 so that it reads as follows:

"The turbines shall have a maximum height ~~of 110 metres~~ measured from the ground to the top of the vertically extended blade tip as follows:

(a) Turbines 1 to 11 inclusive – maximum height of 121.5 metres
(b) Turbines 12 to 22 inclusive – maximum height of 110 metres".

e) Amend condition 33 so that it reads as follows:

"The consent holder shall comply with the Civil Aviation Authority (CAA) Determinations issued to Ventus Energy Limited dated 7 February 2006 and 23 August 2011."

c) Insert a new advice note 7:

"For the purposes of condition 11, a height greater than 110 metres will be approved for turbines 1 to 11 inclusive subject to the necessary confirmation being provided in respect of compliance with NZS6808:1998. Condition 3 also requires that the maximum height of turbines 1 to 11 inclusive must not exceed 121.5 metres and that the maximum height of turbines 12 to 22 inclusive must not exceed 110 metres."

Reasons for the Decision:

1. The application is considered to satisfy Sections 127 and 104 of the Resource Management Act 1991. The proposal is also consistent with Part II of the Act.

2. The application is able to be processed under section 127 of the RMA as it seeks a variation to the consented activity, and the resulting effects will not be materially different. The overall nature of the activity will remain the same and the only change that will result relates to the maximum height of turbines 1 to 11.

3. The proposal is consistent with the objectives and policies of the Operative Waitomo District Plan.

4. A specialist assessment relating to the landscape and visual effects of the proposal has been submitted with the application. The findings of the report support Council's own assessment that the effects on the environment relating to the change will be less than minor in terms of visual and landscape effects.

5. The peer review of the landscape and visual effects aspects of the application undertaken by Council concludes that the effects of the change will be less than minor.

6. The existing and amended conditions of consent will ensure that any adverse environmental effects that may arise from this proposal will continue to be adequately avoided, remedied or mitigated.

_____

Ben Inger
Planner – Bloxam Burnett & Olliver Ltd

Approved/Declined

_____

John Moran – Planning and Policy Manager

Date: _____

Appendix A – Mansergh Graham Peer Review Report (Landscape and Visual Effects)

mansergh graham
LANDSCAPE ARCHITECTS

23 Naylor Street . PO Box 542 . Waikato Mail Centre
Hamilton 3240 . Phone 07 858 4959 . www.mgla.co.nz

12 March 2012

Bloxam Burnett & Olliver
Level 5, 18 London Street
PO Box 9041
Hamilton

Attention: Ben Inger

RE: Review of the landscape and visual components of the application to modify the conditions of consent for the Taumatatotara Wind Farm

Please find attached my review of the visual and landscape components of the application to modify the conditions of consent for the Taumatatotara Windfarm. I have undertaken a site inspection, as well as a review of all information received.

The AEE documentation contains a comprehensive explanation of the changes that will occur with the construction of the Windfarm. The assessment of what these changes will mean in terms of effects on visual and landscape amenity and rural character is less comprehensive.

However, I generally concur with the findings of the report that effects of the proposed increase in the height of the 11 northernmost turbines will be *less that minor*. This is principally due to the context of the consented wind farm, the relatively small proposed increase in the turbine size and the distance between potentially affected parties and the Windfarm.

Please contact the writer, if you have any questions.

Yours faithfully

Dave Mansergh Dip P&RM (Dist), BLA(Hons), MLA, ANZILA
Registered NZILA Landscape Architect
Director

INTRODUCTION

In November 2011, Mansergh Graham Landscape Architects Ltd was engaged by BBO, on behalf of Waitomo District Council, to review the visual, landscape, and amenity components of the assessment of environmental effects (AEE) for the Taumatatotara Windfarm.

This document has been prepared as part of an analysis of the adequacy of information relating to visual, landscape, and amenity effects identified within the AEE.

This document has been reviewed within the context of the Resource Management Act 1991 and the Waitomo District Plan.

AEE DOCUMENTATION REVIEW APPROACH

Approach

The following approach was used in the review of the landscape and visual effects section of the above reports and assessment of the effects of the application:

1. Review relevant sections of the Resource Management Act including:
   a. Section 6 matters.
   b. Section 7 matters.

2. Desktop review of the resource consent application and AEE documentation, as well as the landscape and visual assessment. This information was reviewed to determine whether it meets the relevant provisions of the RMA and is of "sound" professional practice. In particular the following was assessed:
   a. Identification and description of the existing landscape context.
   b. Identification of the nature of the proposed activity/development.
   c. Identification of the potentially affected parties and potential viewing audience.
   d. Identification, analysis and rating of potential effects on landscape, visual and amenity values.
   e. Report graphics and photomontages
   f. Conclusions and recommendations.

3. Inspection of the subject site and surrounding landscape context.

The content of the report was also compared with other visual assessments for similar applications. A site familiarity inspection has been undertaken in association with this application.

S92 Request

Preliminary review of the AEE, prepared by Ventus Energy (NZ) Ltd, found that there was insufficient information to fully understand the visual and landscape components of the application. In response to a S92 request, supplementary information was provided by Ventus and a *Landscape Visual Effect Assessment (LVEA)* was prepared by Opus International Ltd. This report takes into account all the information supplied.

Documents Reviewed

Documents and/or extracts received and reviewed are as follows:

- Taumatatotara Windfarm. Further Information for a Turbine Tip Height Increase Prepared by Ventus Energy (NZ) Ltd. 28 February 2012.
- Taumatatotara Wind Farm. Landscape and Visual Assessment for s92 (1) Information Request. Prepared by Opus International Consultants Ltd. December 2011.

AUDIT OF THE ASSESSMENT OF LANDSCAPE, VISUAL AND AMENITY EFFECTS

The following audit reviews the landscape and visual amenity components of the responses to the s92 request from Mansergh Graham landscape Architects and all accompanying AEE documentation to determine whether they meet the provisions of the RMA and are of standard or 'sound' professional practice.

Identification and Description of the Existing Landscape Context

At a broad scale, the project is identified as being located within the Western Hill Country of the Waikato District, which is described as follows:

Steep pastoral hill country inter-dispersed with exotic tree stands and areas of native vegetation.

Within a 10km study area surrounding the project site, key elements of the local context are identified as:

- *steep sided hills with well defined ridgelines and narrow valley systems to the north and south of the site;*
- *A predominantly pastoral landcover with areas of remnant native vegetation associated with the hill slopes and valley systems that run off the ridgelines;*
- *Isolated areas of exotic trees scattered across the landscape;*
- *Rural houses and farm buildings generally sparsely located in the surrounding landscape and typically located in sheltered low-lying areas.*

A number of photos of the site and the surrounding area are contained in Appendix 1 of the report.

Reviewer's comments

The description of the surrounding landscape components is adequate; however greater emphasis could have been placed on how these components (landcover, landform, development) contribute to the existing landscape character and amenity values of the wider landscape.

However, when read alongside the photos in the report, a reasonable impression of the surrounding landscape character can be achieved.

Identification of the Nature of the Proposed Development

Consent has been granted for the construction of 22, 110m high turbines within the site. Associated development includes new access roads and transmission lines. The current application seeks to increase the height of the 11 northernmost turbines from 110m to 121m. Greater detail regarding the rotor types, dimensions and ancillary components is provided in the AEE.

Reviewer's comments

The main components of the application relevant to landscape and visual effects appear to have been identified.

Identification of the Potentially Affected Parties and Potential Viewing Audience.

The visual catchment of the turbines was identified following ZTV analysis and site inspection. In broad terms, potential receptor groups (viewers) are identified as including the following:

...Single residential properties and travellers through the area (i.e drivers, cyclists and pedestrians).

The assessment specifically addresses effects from the following view locations:

...Public roads and areas adjacent to residential properties, particularly along Marokopa and Coutts Road where properties have a direct view of the site.

ZTV maps have been produced for both the consented windfarm (110m) and the proposed windfarm with turbines (121m) following an s92 request for a comparison of the two applications.

Reviewer's comments

While the methodology used to determine the extent of potentially affected parties is an acceptable approach, it is considered that the comparison of ZTV maps for the consented and proposed windfarms could have been more clearly presented.

The s92 request noted that the comparison of ZTV maps should be presented in such a manner that *any change in potential turbine visibility can be clearly identified by comparing the consented ZTV analysis map and the application ZTV map*. A map which clearly showed new areas where the turbine tip extension would be theoretically visible (where previously the 110m turbines would not have been visible) would have clearly communicated the extent to which the proposed turbines will increase the visual catchment of the windfarm.

It appears from the two maps that the visibility of the two options is similar. While, the small increases in potential visibility are difficult to discern, the ZTV table provided in the Ventus further information report (section 4.2) clearly indentifies where there are potential increases in the number of turbines visible from surrounding dwellings. This table indicates that from four houses an additional turbine will become visible with the proposed tip height extension. It is noted that this does not mean that the entire turbine will be visible, rather, that a part of the tip extension will be visible. This is further illustrated in the wire frame images in Appendix 3 of the Landscape and Visual Assessment prepared by Opus International Consultants Ltd, which are commented on later in this report.

Written Approvals

In response to an s92 request, a map identifying properties and dwellings for which written approval has been supplied by Ventus. This is useful in that it can be used to cross reference between the site layout map and ZTV maps and identify where potential effects cannot be considered because written approval has been received.

Identification, analysis and rating of potential effects on landscape, visual and amenity values.

The landscape effects of the windfarm are described in terms of landform, landcover, and landuse.

Physical changes to the landscape from the construction of the windfarm, with the potential to give rise to landscape effects, are identified as including:

- The formation earthworks for the construction of the access road and turbine foundations;
- The construction of substations and ancillary control buildings;
- The construction and or connection to of electrical power lines; and
- The installation of the wind turbines.

It is identified that the extent of change and the effects on landscape character of the above components were considered during the consenting process (November 2005), and the level of effects were judged as being within *acceptable limits* given that consent was granted.

The Opus report contends that the proposed increase in turbine height will have *no discernable effect on landscape character* and that this is illustrated in the photographic montages (Appendix3, Figures 2.0, 2.1, 3.0 and 3.1). It is noted that the access road, power lines and earthworks will not alter in relation to the consented scheme.

The Opus report identifies that the high degree of modification within the surrounding landscape and the remoteness of the location means that it has a good capacity to absorb change.

The relatively small increase in the turbine height is considered to have a *less than minor* effect from all surrounding public locations and house sites. From locations south of the site, it is identified that the proposed 121m turbines will be seen at the far northern extent of the windfarm, which the report describes as further reducing effects on visual amenity, as these turbines recede into the distance.

Visual effects ratings used in the report are as follows.

> *Major Effects*
> *The project will be visible and immediately apparent element within the landscape and will result in a change to the overall character and/or affect to the viewer.*
>
> *Moderate Effect*
> *The project may form a visible and recognisable new element within the landscape and would be discernable by the viewer*
>
> *Minor Effect*
> *The project may result in being discernable within the landscape, but will not have a marked effect on the overall quality of the landscape or affect the viewer.*
>
> *No Effect*
> *The project will not be discernable and will have no effect on the landscape or viewer.*

Reviewer's comments

In general, the report contains a clear explanation of the changes that will occur with the extension of the turbine heights of northernmost 11 turbines. However, the assessment of how these changes effect visual and landscape amenity and rural character is not as comprehensive.

The assessment generally focuses on the visibility of the proposal from the surrounding landscape. It does not address in detail how the proposal affects existing visual and landscape amenity, or the rural character of the landscape in depth. However, it is clear that the relatively small extent of the turbine height increase, in combination with the distance at which the windfarm will be viewed from surrounding locations will mean that effects on visual and landscape amenity will be *very low*.

Shadow Flicker

Additional information was requested regarding the effect of the tip height extension on shadow flicker. In response Ventus have confirmed that the dwellings nearest the proposed 121m turbines will be beyond the range at which shadow flicker will be an issue.

Reviewer's comments

Because the applicant has identified that there will be no houses within 1.2km of the turbines (subject to the consent), shadow flicker is not expected to be an issue. It is noted that all properties around the application site have provided sign off. Any flicker effects beyond the 1.2km theoretical flicker effect limit are expected to be less than minor and will only occur for a relatively short period of time during the day when the top 11m of the turbine (the extension) is between the viewer and the sun.

Photomontages

In response to an s92 request for an additional photomontage from each view location showing the increase in size of the turbines subject to this application within the context of the remaining turbines, montages from two locations have been supplied (from the corner of Marokopa and Coutts Road and from Taharoa Road). In addition, wire frame images have been supplied from various other surrounding house sites.

Reviewer's comments

In general, it is considered that the photomontages are valuable in terms of communicating the extent of visual effects from a limited range of view locations. It would have been helpful in terms of communicating cumulative effects if in Appendix 3, Figure 3, the southernmost turbines were shown as well as those subject to the proposed increase in height.

The wire frame images do not aid in communicating the extent of visual effects as well as a photomontage due to the lack of contextual visual information. Nevertheless they do usefully illustrate the very small extent to which the visibility of the windfarm will increase as a consequence of the current application.

Residual Effects

In response to an s92 response, full references to public opinion surveys and research into public perception research have been supplied by the applicant.

Reviewer's comments

These references now support comments made in the AEE regarding the potential effects of turbines on landscape and visual amenity.

CONCLUSIONS AND RECOMMENDATIONS

In general, it is considered that the report and S92 responses contains a comprehensive explanation of the changes that will occur with the construction of the windfarm, however the assessment of how these changes effect visual and landscape amenity and rural character is not as comprehensive. The assessment tends to focus on the visibility of the proposal from the surrounding landscape, with less emphasis on the effects of the proposed turbine height extension on the amenity derived from the existing landscape character.

The report generally follows an acceptable methodological approach to the assessment of landscape and visual effects.

The inclusion of additional photomontages and wireframe images depicting views of the turbines from surrounding locations have greatly assisted in the review of the application documentation.

In general, it is considered that effects of the turbine height increase on landscape and visual amenity values will be *less than minor* as stated within the report prepared by Opus International Ltd.

Appendix B – Assessment of Submissions

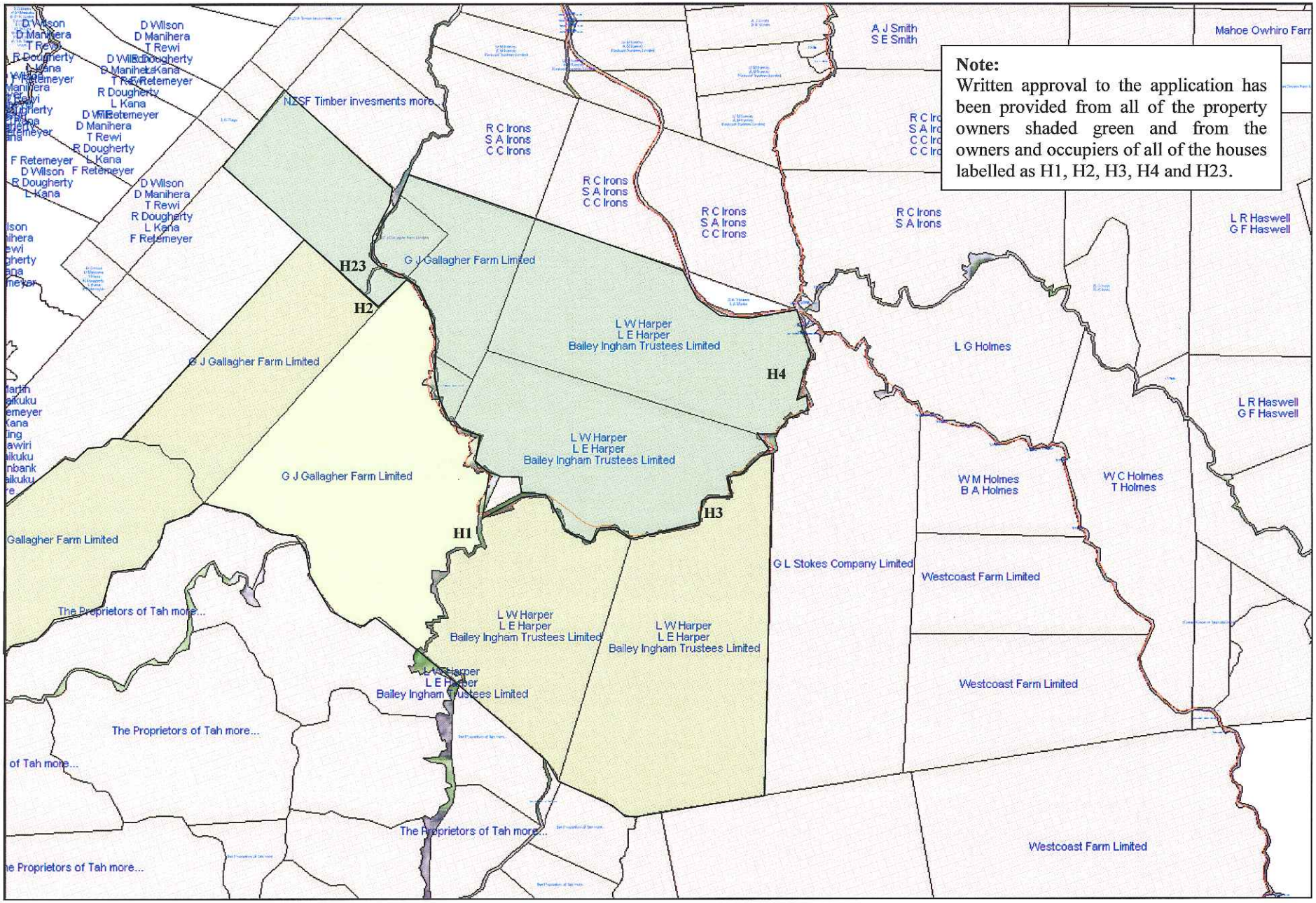
Table 1: Submitter Table

SUBMITTER	ADDRESS	SUPPORT/OPPOSE/ NEUTRAL	S127 AFFECTED PARTY
Wind Farm Developments (Australia) Limited	PO Box 10-905, Wellington	Support	The submission was in support of the proposal. The submitter is not considered to be an affected party in terms of the s127 application.
M, J, & N Phillips	719 Marokopa Road	Oppose	The submission raised issues regarding the turbines spoiling the natural environment, traffic effects and lack of consultation. The submission also stated that the wind farm will not have the economic and social benefits outlined in the application. The wind farm has already been granted resource consent and the increase in height of turbines 1-11 will not result in any changes in traffic effects. The existing environment includes the consented wind farm and therefore it is already anticipated that the existing 'natural environment' will be modified. The visual and landscape effects of the increase in turbine height have been considered in the landscape and visual report as well as the peer review. The Opus report concludes that due to the distance of turbines 1-11 to the dwellings on Marokopa Rd to the south of Coutts Rd, the change in turbine height will not be noticeable. The submitter is not considered to be an affected party in terms of the s127 application.
Department of Conservation (DOC)	PO Box 38, Te Kuiti	Neutral	The DOC submission sought for requested conditions to be imposed relating to the monitoring of the effects of the wind farm on wildlife. Those conditions were imposed on the resource consent and the Applicant doesn't seek to change them as part of this application. The Applicant has also provided a letter from Kessels and Associates confirming that there will be *"no discernible increase on mortality risk associated with strike for birds and bats, nor will it increase habitat displacement effects"*. The submitter is not considered to be an affected party in terms of the s127 application.
R & S Irons	83 Te Waitere Road	Oppose	Concerns raised in the submission related to earthworks, heavy vehicle movements and impacts relating to electricity line voltage. The s127 application will not result in any changes in respect of these matters. The submitter is not considered to be an affected party in terms of the s127 application.
Mr M Paterson	669 Marokopa Road	Oppose	The submission raised visual effects as a concern as well as traffic effects. The relief sought by the submitter was to remove the 5 turbines closest to Marokopa Road. Those turbines are not affected by the s127 application and will remain at the maximum height as currently consented. The visual and landscape effects of the increase in turbine height have been considered in the landscape and visual report as well as the peer review. The Opus report concludes that due to the distance of turbines 1-11 to the dwellings on Marokopa Rd to the south of Coutts Rd, the change in turbine height will not be noticeable. The s127 proposal will not alter traffic related effects.

			The submitter is not considered to be an affected party in terms of the s127 application.
Mrs M Paterson	669 Marokopa Road	Oppose	The submission raised visual effects as a concern as well as land stability, economic impacts and inadequate consultation. The relief sought by the submitter was to remove at least the 5 turbines closest to Marokopa Road. Those turbines are not affected by the s127 application and will remain at the maximum height as currently consented. The visual and landscape effects of the increase in turbine height have been considered in the landscape and visual report as well as the peer review. The Opus report concludes that due to the distance of turbines 1-11 to the dwellings on Marokopa Rd to the south of Coutts Rd, the change in turbine height will not be noticeable. Land stability effects are already addressed through conditions of consent which will remain in place. The s127 proposal will not alter economic effects. The submitter is not considered to be an affected party in terms of the s127 application.
C & D Gilbert	443 Marokopa Road, Castle Craig Farm	Oppose	The submission sought relocation of turbines 19-22 which are the turbines nearest Marokopa Road. None of those turbines are affected by the s127 application. The submitter is not considered to be an affected party in terms of the s127 application.
M Haddad	158 Coutts Road	Oppose	The submission raised visual effects as a concern. The relief sought by the submitter was to remove the 5 turbines closest to Marokopa Road. Those turbines are not affected by the s127 application and will remain at the maximum height as currently consented. The visual and landscape effects of the increase in turbine height have been considered in the landscape and visual report as well as the peer review. The Opus report concludes that the viewing distance to the nearest turbines from Coutts Rd is sufficient that those properties will not discern the increase in turbine height. Also the report identified that while some dwellings on Coutts Rd will see part of one additional turbine, the associated effects will be less than minor. The submitter also raised concerns about noise and road traffic. The s127 application will not result in any changes in respect of these matters. The submitter is not considered to be an affected party in terms of the s127 application.
G Pilgrim	Marokopa Road, Castle Craig Farm	Oppose	The submission related specifically to turbines 18-22 which are the turbines nearest to Marokopa Road. The submission sought their removal due to adverse visual, noise and traffic effects. The submitter also expressed concern at the lack of consultation. Turbines 18-22 are not affected by the s127 application and will remain at the maximum height as currently consented. The submitter is not considered to be an affected party in terms of the s127 application.
C Pilgrim	Marokopa Road, Castle Craig Farm	Oppose	The submission related specifically to turbines 18-22 which are the turbines nearest to Marokopa Road. The submission sought their removal due to adverse visual, noise and traffic effects. The submitter also expressed concern at the lack of consultation. Turbines 18-22 are not affected by the s127

			application and will remain at the maximum height as currently consented. The submitter is not considered to be an affected party in terms of the s127 application.
Ministry of Economic Development	PO Box 1473, Wellington	Support	The submission was in support of the proposal. The submitter is not considered to be an affected party in terms of the s127 application.
Energy Efficiency and Conservation Authority	Po Box 388, Wellington	Support	The submission was in support of the proposal. The submitter is not considered to be an affected party in terms of the s127 application.
Airways Corporation of New Zealand	PO Box 294, Wellington	Support	The submission was generally in support of the proposal. It also requested that the Applicant should consult the CAA in respect of the proposal. The CAA has provided a letter in relation to the s127 application which confirms they have no issues with the changes proposed. The submitter is not considered to be an affected party in terms of the s127 application.
Waikato District Health Board	PO Box 505, Hamilton	Oppose	The submission relates to noise effects. The existing condition which requires compliance with a specified maximum noise level will be retained without modification. Therefore the existing noise conditions will continue to control noise effects. The submitter is not considered to be an affected party in terms of the s127 application.
Tim Stokes	781 Taharoa Road	Oppose	The submitter raised concerns about vibration effects, health effects associated with the high voltage power lines and lack of consultation. The s127 application will not result in any changes in respect of these matters. The submitter is not considered to be an affected party in terms of the s127 application.

Appendix C – Written Approval Plan


Note:
Written approval to the application has been provided from all of the property owners shaded green and from the owners and occupiers of all of the houses labelled as H1, H2, H3, H4 and H23.
H23
H2
H1
H3
H4
NZSF Timber invesments more...
G J Gallagher Farm Limited
R C Irons
S A Irons
C C Irons
L W Harper
L E Harper
Bailey Ingham Trustees Limited
A J Smith
S E Smith
Mahoe Owhiro Farm
L G Holmes
L R Haswell
G F Haswell
W M Holmes
B A Holmes
W C Holmes
T Holmes
G L Stokes Company Limited
Westcoast Farm Limited
The Proprietors of Tah more...
D Wilson
D Manihera
T Rewi
R Dougherty
L Kana
F Retemeyer

Appendix D – Amended Decision Text

That:

a) The submission by Mr M Taitoko be declared to be out of time pursuant to Section 97 of the Resource Management Act 1991 and ruled invalid.

b) In consideration of Section 104, and pursuant to Sections 104B and 108 of the Resource Management Act 1991, the Waitomo District Council grants consent to Ventus Energy (NZ) Limited to construct and operate a utility scale wind farm comprised of a maximum of 22 horizontal axis turbines and associated substation buildings, earthworks and access roads and activities as described in Conditions (1) and (2) below for the purpose of generating electricity, on a Rural Zoned site located at Taumatatotara West Road, Taharoa, legally described as:

- Part Section 10 Block V Kawhia South Survey District and Section 3 Survey Office Plan 53968 comprised in Certificate of Title 141077;
- Section 3 Block IX Kawhia South Survey District comprised in Certificate of Title SA28A/586;
- Section 1 Survey Office Plan 58558 comprised in Certificate of Title SA47A/876;
- Section 1A Block V Kawhia South Survey District comprised in Certificate of Title SA37A/25;
- Section 12 and Section 22 Block V Kawhia South Survey District comprised in Certificate of Title SA31C/23;
- Section 2 Block V Kawhia South Survey District comprised in Certificate of Title SA37A/26; and
- Part Section 24 Block V Kawhia South Survey District and Section 2 Survey Office Plan 53968 comprised in Certificate of Title SA48B/494;

subject to the following conditions:

General

1. The wind farm development shall be constructed, operated and maintained in general accordance with the information, plans and drawings submitted with the application and received by Council on 23rd December 2005; and the additional information received on 30th January 2005 and 8th March 2005 except as otherwise amended by the s127 application dated 21st November 2011 and the further information response dated 28th February 2012. The application documentation comprises of:

   (a) Taumatatotara Windfarm Assessment of Environmental Effects, Volume 1 – Main Report, dated March 2005;
   (b) Taumatatotara Windfarm Assessment of Environmental Effects, Volume 2 – Book of Figures, dated March 2005.
   (c) Further information received 30th January 2005 and 8th March 2005.

(d) Further Information provided in respect of the revised proposal approved as part of the change to the conditions of consent in accordance with Section 127 of the Resource Management Act 1991, namely:

i. Report dated 21st November 2011; titled 'Taumatatotara Windfarm Assessment of Environmental Effects for a Turbine Tip Height Increase', prepared by Ventus Energy (NZ) Ltd;
ii. Further information response dated 28th February 2012; titled 'Taumatatotara Windfarm Further Information for a Turbine Tip Height Increase', prepared by Ventus Energy (NZ) Ltd;
iii. Report dated 24th February 2012; titled 'Taumatatotara Wind Farm Landscape and Visual Assessment for S92(1) Further Information Request', prepared by Opus International Consultants Ltd.

2. For the purposes of this consent and for avoidance of doubt the activities authorised by this consent include:

a) the installation, operation and maintenance of no more than twenty-two (22) horizontal axis wind turbines ("turbines");
b) An underground fibre optic network connecting each turbine to the central control system in the on-site operations building(s);
c) Tracking and placement of an underground network of 33kV transmission lines delivering electricity from each turbine to the two on-site substations;
d) Overhead or underground powerlines connecting the on-site wind farm substations to the two existing 33kV lines that traverse the eastern edge of the landholding;
e) A fenced compound to house the on-site control building and sub-station equipment;
f) Earthworks associated with the creation of the turbine building platforms, access roads and other facilities described in items a) to e) above.
g) Widening and/or realignment works along parts of Taumatatotara West Road to enable the safe passage of the oversized wind farm components to the site.

3. The turbines shall have a maximum height measured from the ground to the top of the vertically extended blade tip as follows:

(a) Turbines 1 to 11 inclusive – maximum height of 121.5 metres
(b) Turbines 12 to 22 inclusive – maximum height of 110 metres.

4. Each turbine shall be located within a turbine contingency zone of no greater than 100 metre radius from the turbine locations specified in the application. The turbine contingency zones shall avoid locations closer to external property boundaries, significant indigenous vegetation and significant habitats of indigenous fauna.

5. Prior to construction, the consent holder shall submit to the Manager Policy and Planning, Waitomo District Council for approval a plan specifying the final proposed locations of turbines 19 to 22 and a report outlining the reasons for the final locations. The locations of these turbines shall be chosen so that they are located as far as practicable back from the western ridgeline, taking into account geotechnical and other such location requirements, so as to minimise their visual impact as viewed from the west and south.

6. The consent holder shall submit to the Manager Policy and Planning, Waitomo District Council an as-built plan confirming the locations of all constructed turbines, access roads,

entranceways, excess material fills, the substations and control building, the spare turbine component storage area, electricity transmission lines, and road upgrading/realignment works. The Plan shall also include but is not limited to:

a) The finished line of cut and fill batters;
b) The finished edge line of pavement and seal widening works;
c) The location and dimensions of site entrances;
d) The finished level of access road centrelines;
e) The location, size and extent of all new stormwater drains or culvert extensions;
f) The location of all subsoil drains, sumps and manholes; and
g) Any underground services installed or altered as part of the works.

This plan shall be certified by a registered surveyor as to the accuracy at the completion of the work and is required to be submitted to Council within 6 months of the completion of construction of the wind farm.

Noise

Operational Noise

7. The noise from all other activities on the site (other than wind turbine generator operation and construction activities) shall not exceed the following limits when measured in accordance with the requirements of NZS 6801:1991 Measurement of Sound and assessed in accordance with the requirements of NZS 6802:1991 Assessment of Environmental Sound:

7.00am to 7.00pm 45dBA L_{10}
7.00pm to 7.00am 35dBAL_{10}
7.00pm to 7.00am 60dBA L_{max}

8. The noise from the wind farm shall comply with the requirements of NZS6808:1998, Acoustics – The Assessment and Measurement of Sound from Wind Turbine Generators in relation to any dwelling existing at the date of the granting of this consent, except:

a) Any dwelling on any site that forms part of the wind farm; and
b) The dwellings labelled as H1, H2, H2A, H3, and H4 on the approved plans.

9. Prior to commencing any development of the wind farm, detailed ambient noise monitoring shall be undertaken within the notional boundary of any dwelling within the 30dBA noise contour (other than the dwellings specifically referred to in (a) and (b) of condition 8 above) by a person suitably qualified and experienced in acoustics and accepted by the Manager, Policy and Planning, Waitomo District Council. The monitoring shall be undertaken to determine the existing background sound in terms of the requirements of NZS6808:1998 Acoustics – The Assessment and Measurement of Sound from Wind Turbine Generators. Sufficient field measurements shall be undertaken to demonstrate to the satisfaction of Council's Manager, Policy and Planning, that the best fit regression curve gives an accurate representation of the existing noise environment.

10. Prior to commencing any development of the wind farm, the consent holder shall prepare a noise report to demonstrate, to the satisfaction of Council's Manager, Policy and Planning, that the wind farm will comply with the requirements of NZS6808:1998. This report shall be prepared by a person suitably qualified and experienced in acoustics and accepted by the Manager, Policy and Planning, Waitomo District Council.

11. The wind turbines shall not exceed a rotor tip height of 110 metres above ground level and a sound power of 107.2dBA unless it can be demonstrated by a person specialising in acoustics and accepted by the Manager, Policy and Planning, Waitomo District Council that higher turbine heights or sound power will still comply with the requirements of NZS6808:1998.

Construction Noise

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

a) Site works;
b) Wind turbine generator assembly and placement;
c) Concrete placement;
d) Wind turbine removal; and
e) Land reinstatement

Shall be measured and assessed in accordance with the requirements of NZS6803:1999 Acoustics – Construction Noise. The noise limits shall be those set out in Table 2 of NZS6803 for works of "long term" duration (the levels for long term construction work are reproduced in the table below).

Time	Weekdays		Saturdays		Sundays	
	L_{eq}	L_{max}	L_{eq}	L_{max}	L_{eq}	L_{max}
0630-0730	55dBA	75dBA	45dBA	75dBA	45dBA	75dBA
0730-1800	70dBA	85dBA	70dBA	85dBA	55dBA	85dBA
1800-2000	65dBA	80dBA	45dBA	75dBA	45dBA	75dBA
2000-0630	45dBA	75dBA	45dBA	75dBA	45dBA	75dBA

13. No concrete trucks shall be permitted to enter the site before 7.00am or leave the site after 7.00pm.

14. Prior to the commencement of construction, a Construction Noise Management Plan shall be prepared to the satisfaction of the Manager, Policy and Planning, Waitomo District Council. The Construction Noise Management Plan shall demonstrate how the requirements of condition 12 will be achieved.

15. The Construction Noise Management Plan shall address, amongst other things, the potential noise effects of construction traffic on the roads and techniques to minimise these effects. Any night time (10.00pm – 7.00am) traffic movements must be included in the evaluation.

Noise Monitoring:

16. Within six months of the commencement of operation of the wind farm, the noise levels shall be measured and results provided to the Manager, Policy and Planning, Waitomo District Council.

17. The consent holder shall pay all costs associated with noise compliance measurements, monitoring and reporting.

Traffic and Roading

Construction Programme

18. A Construction Programme shall be prepared by the consent holder and submitted to the satisfaction of the Manager, Policy and Planning, Waitomo District Council prior to any construction works commencing. The Construction Programme shall include the following:

    a) The hours of construction work on Taumatatotara West Road and other Waitomo District Council administered roads shall be between 7.00am and 7.00pm Monday to Saturday (excluding public holidays), unless written approval is otherwise obtained from the Manager, Policy and Planning, Waitomo District Council to work outside of these hours;
    b) Provision shall be made to maintain adequate and safe access to and from individual properties along Taumatatotara West Road and other Waitomo District Council administered roads while transportation movements are undertaken; and
    c) The consent holder shall arrange to hold a copy of all Resource Consents on site at all times during construction.

Traffic Management Plan

19. A Traffic Management Plan shall be prepared by the consent holder and submitted to the satisfaction of the Manager, Policy and Planning, Waitomo District Council prior to any construction works commencing. The Traffic Management Plan shall be prepared in accordance with the latest edition of the Transit New Zealand Code of Practice for Temporary Traffic Management and shall include but not be limited to:

    a) The transport route (in general accordance with the route proposed in the application);
    b) Times and locations when deliveries are prohibited;
    c) Piloting and traffic management procedures;
    d) Contingency plans for breakdowns, bridge or pavement failure, severe weather conditions, accidents or roadworks;
    e) Provisions for co-ordination with other parties, including emergency services;
    f) Provisions to maintain adequate and safe access to and from individual properties along Taumatatotara West Road and other Waitomo District Council administered roads while transportation movements are undertaken; and
    g) A construction timetable, detailing vehicles movements to and from the site, and the hours that the trucks will operate.

20. The Traffic Management Plan shall be designed to ensure that at all times during construction, all Waitomo District Council administered roads shall be kept open. In exceptional circumstances a request may be sought for short term road closures. Any road closures shall be approved by the Manager, Policy and Planning, Waitomo District Council.

21. If traffic control measures are not carried out in accordance with the Traffic Management Plan and the Transit New Zealand Code of Practice for Temporary Traffic Management, the Waitomo District Council reserves the right after notifying the consent holder or contractors either verbally or in writing, to instruct the consent holder or contractors to cease all work until the requirements of this Plan and Code of Practice are met. Alternatively the Manager, Policy and Planning, Waitomo District Council, may arrange

for the traffic management to be carried out by others, the costs of which will be borne by the consent holder.

Roading Design

22. The consent holder shall provide, to the satisfaction of the Manager, Policy and Planning, Waitomo District Council, pavement deflection data for relevant sections of Waitomo District Council roads that are to be utilised for transportation of construction materials and turbine components both before and after the construction period. The pavement deflection measurements shall be carried out using either Falling Weight Deflectometer or Benkelman Beam testing techniques.

23. The consent holder shall provide, to the satisfaction of the Manager, Policy and Planning, Waitomo District Council, bridge inspection findings and details of axle loadings resulting from the transportation of the turbine components, to verify that all Waitomo District Council bridges are able to accommodate the transportation of these loads without resulting in any damage. If the Manager, Policy and Planning, Waitomo District Council considers it to be necessary, Council may require the consent holder to provide an appropriate level of supervision of heavy loads across Waitomo District Council bridges.

24. Detailed roading design plans for internal site access roads, Taumatatotara West Road, and any other Waitomo District Council roads that are subject to upgrading or realignment works, shall be developed in accordance with appropriate construction standards and submitted to the satisfaction of the Manager, Policy and Planning, Waitomo District Council prior to construction commencing. The detailed design shall include:

a) Geotechnical investigation and interpretation report;
b) Corner widening design (including cut/fill batters details);
c) Taumatatotara West Road / Taharoa Road intersection design;
d) Pavement design;
e) Surfacing details;
f) Shoulder feather-edge details;
g) Drainage (surface water channels and culverts);
h) Safe stopping sight distance; and
i) Minimised cut earthworks for the construction of the internal access roads.

Road Maintenance

25. A maintenance regime covering all Waitomo District Council roads and bridges to be utilised for transportation of construction materials and turbine components shall be prepared by the consent holder and submitted to the satisfaction of the Manager, Policy and Planning, Waitomo District Council prior to any construction works commencing. The maintenance regime shall cover the full construction period and may be developed in partnership with an ongoing maintenance programme (shared with the Waitomo District Council's own Network Maintenance Contractors). The maintenance regime shall ensure the following:

a) During the construction period, the consent holder shall undertake any necessary works to ensure that the roads and bridges utilised for transportation of construction materials and turbine components are maintained at a quality no less than the quality of the road and bridges prior to construction commencing.

26. A bond of $86,000 shall be paid to Council to secure the ongoing performance of condition 25 with regard to Taumatatotara West Road maintenance only, pursuant to section

108(2)(b) and section 108A of the Resource Management Act 1991. The bond applies to regular maintenance only, not pavement rehabilitation and shall be refunded to the consent holder at such a time as the Manager, Policy and Planning, Waitomo District Council is satisfied that the objectives of the maintenance regime required by condition 25, as it relates to Taumatatotara West Road, has been met. Should the Manager, Policy and Planning, Waitomo District Council consider the consent holder is not meeting the objectives of the maintenance regime with regard to the maintenance of Taumatatotara West Road, the bond will be utilised to undertake the work.

Access

27. Detail of vehicle access points and permanent entranceways along Taumatatotara West Road shall be provided prior to construction works commencing. The details will include allowances for:

    a) Pavement widening to a minimum 6.5 metre sealed width;
    b) Bellmouth radii to a minimum 15 metres;
    c) Entranceway culverts to a minimum 300mm diameter; and
    d) Pavement surfacing to a minimum 70 metres at full width, with matching in tapers at 1 in 10.

28. All internal access roads shall be a minimum of 5 metres in width.

Landscaping and Visual

29. Prior to construction commencing the consent holder shall submit to the satisfaction of the Manager, Policy and Planning, Waitomo District Council, a Landscape Mitigation Plan prepared by a suitably qualified Landscape Architect. The Landscape Mitigation Plan shall detail the visual mitigation and landscape restoration strategies that will be undertaken and shall include but not be limited to:

    a) A plan showing details of planting and landscaping to be undertaken around the substation, control building and spare turbine part storage area;
    b) The height and location of any earth bunds or mounds created for visual, noise, or mitigation purposes;
    c) Topsoil stockpile and management plan for all topsoil stockpiled for more than six months from the time of stripping;
    d) The restoration strategy for any disturbed landforms including:
        i. Permanent earthworks, including all road cuttings;
        ii. Temporary earthworks, including construction pads; and
        iii. Topsoil restoration.
    e) The restoration shall integrate the new landform into the natural contours, and revegetate (with either pasture or planting) so it appears homogenous with the surrounding landscape;
    f) An implementation strategy identifying when the mitigation works will be undertaken;
    g) A maintenance schedule.

30. The colour of the turbines shall be selected to minimise the visual impact. Due consideration will be given to the predominant ambient background sky colour in selection of the final colour. Low reflectivity finishes shall be used on the turbines and the turbine blades where practicable.

31. All 'dead' turbines and turbine components shall be removed within one month from the time that they ceased to function, unless exceptional circumstances exist and written approval is obtained from Manager, Policy and Planning, Waitomo District Council.

32. Upon decommissioning of the wind farm, all visible structures (including turbines, substations and hard stand areas) shall be removed from the site. All foundations shall be buried under a minimum of two metres of soil and revegetated, unless otherwise approved by the Manager, Policy and Planning, Waitomo District Council.

Air Safety

33. The consent holder shall comply with the Civil Aviation Authority (CAA) Determinations issued to Ventus Energy Limited dated 7 February 2006 and 23 August 2011.

34. Those turbines identified as numbers 1, 5, 10, 18 and 22 on the approved plan (and identified below) shall be lit with a medium intensity obstacle light located on the highest practicable point, sufficient to indicate to aircraft the general location of the wind farm.

Turbine ID	Easting	Northing	Attitude
1	2664848	6331439	251m AMSL
5	2665338	6330549	322m AMSL
10	2666640	6329258	319m AMSL
18	2667836	6327401	367m AMSL
22	2668272	6326391	321m AMSL

35. The medium intensity obstacle lights shall –
- be red; and
- have an effective intensity of not less than 1600 cd of red light;
- be visible to aircraft approaching the wind farm from any direction; and
- shall be installed and operated in a way that minimise their visibility to persons on the ground while meeting CAA requirements.

Geotechnical

36. In accordance with the recommendations of the geotechnical review prepared by Riley Consultants, and submitted with the application (Appendix K of Volume One), the consent holder shall undertake subsurface geotechnical investigation and engineering geological mapping for the wind farm area, to ensure that all of the turbine sites are geotechnically feasible, and provided with stable building platforms. The results of these investigations and detailed design of the proposed geotechnical foundation works for each of the turbines shall be provided for the approval of the Manager, Policy and Planning, Waitomo District Council prior to construction commencing.

Effects on Wildlife

Register

37. The consent holder shall keep a register of observations of effects of the wind farm activities on wildlife. This will include evidence of turbine strike (with species, date, weather conditions and other relevant observations), notes of avoidance behaviour observed, and other observed interaction of wildlife with the wind farm. Ground inspections with nil results should also be recorded. The register shall be maintained for

the life of the consent, and shall be made available to Council within 2 working days of its request.

Inspections

38. In accordance with Condition 37 above, all wind farm personnel will inspect the area around the turbine bases when visiting or passing by a turbine, throughout the life of the consent, for evidence of wildlife mortality.

39. The consent holder shall undertake dedicated inspections of all turbine bases for evidence of wildlife mortality at monthly intervals for the first two years of operation. If construction is staged, later turbines shall also continue to be inspected for a full two years.

40. If no significant adverse effects on wildlife are evident then dedicated inspections shall be discontinued, with the prior approval of the Manager, Policy and Planning, Waitomo District Council.

If a significant adverse effect is found (through dedicated monitoring or other monitoring) then monthly inspections shall continue in the interim and a plan developed, to the satisfaction of the Manager, Policy and Planning, Waitomo District Council and in consultation with the Department of Conservation, acting reasonably, to address the effects. Such a plan shall propose a monitoring regime and identify methods and options to avoid, remedy or mitigate the adverse effects. Specifically excluded from a plan will be any modification or restriction on the operation of the wind turbines.

Reporting:

41. An annual report, detailing the information required in conditions 37 – 40 above shall be provided to Waitomo District Council and the Department of Conservation. Any unidentified species remains recovered shall be referred to the Department of Conservation for identification as soon as is practicably possible following their discovery.

Bird Perches

42. No telecommunications devices or signs shall be connected/attached to any part of the turbines and/or the accessory structures.

43. With the exception of the transmission lines connecting the substation to the existing transmission lines, all other intra project lines within the wind farm shall be underground.

44. The turbine towers shall be tubular in design.

Ecological Effects

Native Vegetation

45. The clearance and trimming of native vegetation associated with the wind farm activities shall be restricted to the minimum area required to undertake the road realignment works, and any realignments of the power line routes. In particular, the consent holder shall avoid the removal of pole stand Rimu where practicable.

46. The consent holder shall develop and implement a weed control programme for the site and access roads, to the satisfaction of Council, and for the first 2 years of operation.

Communications

47. In the event that the wind farm activities result in any disruption to free to air (not satellite) television, Broadband Wireless access licenses and/or microwave path operators at those properties in the area surrounding the wind farm site, the consent holder shall assist those parties to obtain reception comparable to the pre-construction quality, to the satisfaction of Council. The consent holder shall advise the Manager Policy and Planning, Waitomo District Council of the agreed mitigation measures in writing.

Complaints Register

48. The consent holder shall appoint a representative who shall be the Waitomo District Council's principal contact person in regard to matters relating to this resource consent. The consent holder shall inform the Manager Policy and Planning, Waitomo District Council of the representative's name and how they can be contacted prior to this resource consent being commenced.

49. The consent holder shall maintain a complaints register for the wind farm activities. The register shall record all complaints received and shall include:

a) **The date, time and duration of the incident that has resulted in the complaint;**
b) **The location of the complainant;**
c) **The cause of the incident where appropriate;**
d) **Any corrective action undertaken by the consent holder in response to the complaint.**

The register shall be available to Council within 2 working days of its request.

Implementation, Review and Monitoring

50. Pursuant to sections 128 to 130 of the Resource Management Act the Waitomo District Council may undertake a review of conditions of consent, within twelve months of the commencement of operation of the wind farm and thereafter on an annual basis for the following purpose:

a) to review the effectiveness of the conditions of this resource consent in avoiding or mitigating any adverse effects on the environment from the exercise of this resource consent (in particular the potential adverse environmental effects in relation to noise, vegetation removal, earthworks, and the visual, landscape and amenity effects), and if necessary to avoid, remedy or mitigate such effects by way of further or amended conditions; or

b) to address any adverse effect on the environment which has arisen as a result of the exercise of this consent; or

c) if necessary and appropriate, to require the holder of this resource consent to adopt the best practicable option to remove or reduce adverse effects on the surrounding environment; or

d) to review the adequacy of and the necessity for monitoring undertaken by the consent holder.

The Council will undertake the review in consultation with the consent holder. The consent holder shall pay the actual and reasonable costs of the review.

51. The consent holder shall pay all costs associated with the implementation of this consent in order to achieve and demonstrate compliance with the consent conditions therein.

52. Pursuant to section 36 of the Resource Management Act 1991 the consent holder shall pay the actual and reasonable costs incurred by the Council when monitoring the conditions of this consent.

Lapse Period

53. This consent shall lapse eight years after the date of it being granted, unless the consent is either given effect to before that lapsing date, or unless the Waitomo District Council fixes a longer period pursuant to section 125 of the Resource Management Act 1991.

Advisory Notes

1) The consent holder shall also ensure compliance with conditions of the Waikato Regional Council resource consent. Conditions related to matters covered by that consent have been omitted from this consent to avoid duplication.

2) All on-site works shall comply with the requirements of the Health and Safety in Employment Act 1992.

3) This consent covers road widening and realignment works associated with Taumatatotara West Road only. The consent holder shall obtain any other resource consents required for road widening, including any resource consents required from Waikato Regional Council.

4) The consent holder will need to consult with and meet the requirements of all road controlling authorities affected by the transportation of the turbine components, including Transit New Zealand.

5) The consent holder will need to consult with the Manager, Policy and Planning, Waitomo District Council in order to facilitate proceeding with the establishment of a turbine viewing area on Marokopa Road.

6) If the transmission lines connecting the substation to the existing electricity transmission lines are located above ground, they shall be designed and located so that they are a permitted activity in accordance with Rule 15.5.1 of the Proposed Waitomo District Plan and the NZ Electrical Code of Practice for Electrical Safe Distances (NZECP 34:2001).

7) For the purposes of condition 11, a height greater than 110 metres will be approved for turbines 1 to 11 inclusive subject to the necessary confirmation being provided in respect of compliance with NZS6808:1998. Condition 3 also requires that the maximum height of turbines 1 to 11 inclusive must not exceed 121.5 metres and that the maximum height of turbines 12 to 22 inclusive must not exceed 110 metres.

Attachment 3

WRC consent decision

Combined s95 Non Notification and s42a Planning Report for Resource Consent

Applicant:	Taumatatotara Wind Farm Limited		
Address of Site:	Taumatatotara West Road, Te Anga		
Application Number:	APP141827	**File No.:**	61 34 30A
Project Code:	RC25287	**Application document:**	16340543

1 PROPOSAL

Taumatatotara Wind Farm Limited has made an application for resource consent to undertake earthworks totalling approximately 259,000m3 of soil disturbance associated with the construction of roading and platforms for a wind farm at Taumatatotara West Road, Te Anga at or about NZTM 1756000 E 5768000 N as identified on Figure 1 below.

The activities to be considered are as follows:

Reference Id	Activity Subtype	Activity Description
AUTH141827.01.01	Land - disturbance	Undertake earthworks totalling approx. 200,000m3 of soil disturbance associated with the construction of tracks

This report assesses the application, the potential environmental effects and the relevant planning provisions in the Resource Management Act 1991 and Waikato Regional Council policies and plans. The report recommends whether to process the consent with or without notification and whether consent(s) should be granted.

Figure 1: Aerial photo of site location & surrounds

2 BACKGROUND

Earthworks associated with the construction and development of 22 windfarm turbines was granted consent in 2008.

"Shortly after the consents were granted, wholesale electricity market slumped, largely due to the economic downturn associated with the global financial crisis, which made the project uneconomic. In recent times the electricity market has improved and, in association with larger turbine rotors which reduce the cost of energy, wind farms are now a viable alternative to other forms of electricity generation. Larger turbines capture greater energy from the wind for a disproportionately small increase in capital cost."

The earthworks consent expired and in 2013 Taumatatotara Wind Farm Limited applied for another similar earthworks consent. This consent application has been on hold since 2013. In 2020 Taumatatotara Wind Farm Limited submitted more information to proceed the application but for a smaller windfarm – 11 wind turbines. The environmental effects of the earthworks have been determined by the applicant to be less than in the original proposal. The most recent information submitted for the smaller scale proposal being assessed in this report is being treated as a new application.

3 SITE AND PROPOSAL

The proposed windfarm site is 10km south of Taharoa Village and above the Taumatatotara Gorge in the Waitomo District. It is located on farms owned by three separate landowners.

Below is a description of the site as described in the application documents:

"The site and the adjacent hills generally have very defined but level ridgelines with steep slopes on the flanks, particularly on the southern side. The local peak to the northern end of the site has an elevation of 340m with the remainder of the site ranging between 300m and 320m at the southern end. The gradient of the construction site is moderate to steep with slopes generally between 1 in 20 and 1 in 5. The site is currently used for grazing cattle and sheep with a very small plantation of radiata pines at the location of turbine 7. Further details on the site's slopes can be seen in Attachment 2."

The proposal is to undertake bulk earthworks associated with the development of 11 turbine sites and associated tracking needed to access those sites.

There are to be two access points into the site, both from Taumatatotara West Road. An access road 2.03 km long will be formed to the north, serving turbines 1-6. Turbine 7 can be accessed via a short track directly off Taumatatotara West Road. Turbines 8-11 are accessed via a 2.1km road heading south. These roads generally follow existing farm tracks. The roads will be 6m wide to allow for large machinery such as mobile cranes and transporters.

The application provides a Road Construction Methodology which can be seen on pages 7 and 8 in section 3.3.

The wind turbines foundations will be constructed from reinforced concrete and will be 2.5m to 3.5m below ground surface. Retaining walls may be required to support cut faces where steep batters are required. The design life of the turbines is based on 50 years.

The method of transportation of the turbines has been amended from the previous application. The new application document proposes:

"In relation to movement of the turbine components, there are three distinct types with each having their own criticality:

- *Nacelle - heaviest (and bulky)*
- *Tower Sections – bulkiest*
- *Blades - longest*

The basic outcome from the analysis on new transportation methods is:

- *Nacelles can now be easily split into components to reduce size and weight.*
- *Tower Sections are made with thicker steel and shorter lengths to keep the diameter low and the weight manageable.*
- *Blades can be transported with a specialist cantilevered transporter system to allow the blades to negotiate tight corners - see photograph in Figure 2 below. This modern trailer unit will therefore minimise roadside cuts such as identified in previously consented proposals.*

These improvements will lead to reduced loads on the roading network, thereby reducing potential for instability, and easier movement around tight corners."

An underground cable network will also need to be installed during development of the windfarm. Interconnecting cables will be laid underground following the road alignment. This will be done using a specialised cable laying machine. The cable laying is part of this application and earthworks for the interconnecting cables will be incorporated into the erosion and sediment control plan.

The application documents suggest that the development of the wind farm will be constructed at one time and during one earthworks season.

A final location of the wind turbines has not yet been confirmed. I recommend a requirement to finalise the location of the turbines and submit to WRC before works commence, to be added into the condition set.

Taumatatotara Wind Farm Limited hold a Land Use consent from Waitomo District Council (WDC) which was granted in 2008. A lapse date extension was applied in 2016 for a further 8 years. This consent expires in 2024.
The applicant has also lodged an application with WDC for a change in conditions for the active consent it holds from WDC. At the time of writing this report, the change in conditions application with WDC is still being processed.

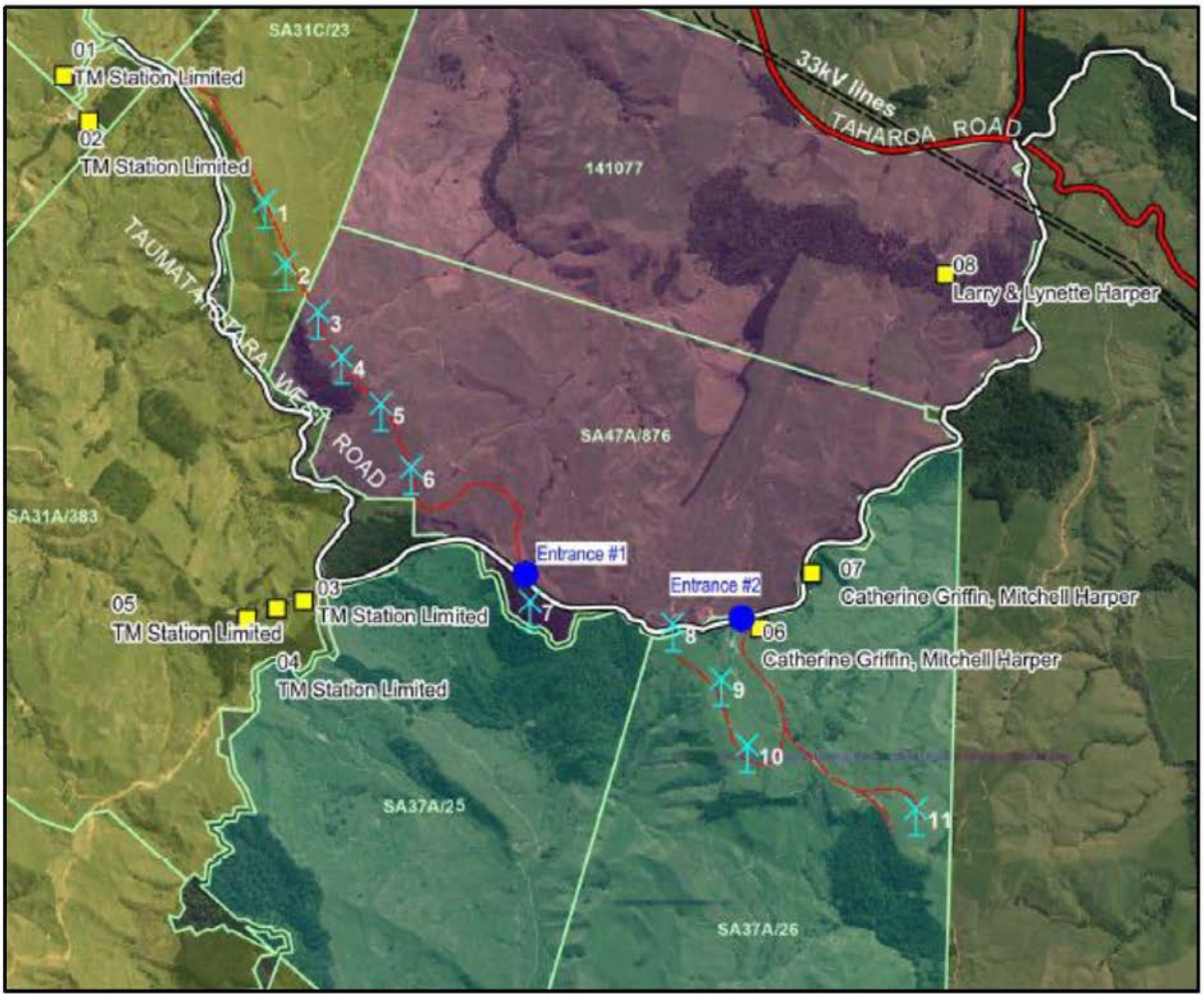


Figure 2: Indicative location of turbines

4 STATUS OF ACTIVITIES UNDER THE PLANS

The application has been assessed against the Waikato Regional Plan (WRP) as follows:

- AUTH141827.01.01 is assessed as a Discretionary under Rule 5.1.4.13 of the Waikato Regional Plan

5.1.4.13 Discretionary Activity Rule – Soil Disturbance, Roading and Tracking and Vegetation Clearance

1. *Any soil disturbance, roading and tracking, and vegetation clearance and any associated deposition of slash into or onto the beds of rivers and any subsequent discharge of contaminants into water or air that does not comply with the conditions of Permitted Activity Rule 5.1.4.11;*
2. *Soil cultivation within two metres of the bed of a river or lake that does not comply with Rule 5.1.4.12;*

are discretionary activities (requiring resource consent).

Advisory Notes:

- *District plans may have rules, which restrict land disturbance and vegetation clearance in areas outside of high risk erosion areas.*
- *Information requirements to enable the assessment of any application under this Rule are set out in Section 8.1.4.1 of this Plan. In addition, assessment shall also take into account the matters identified in Policy 1 of Section 5.1.3.*

The provisions of section 104B and 105 of the Act which are relevant to the determination of applications for discretionary activities, also apply.

5 PROCESS MATTERS

The resource consent application was accepted on 8/05/2020. The application was put on hold for the following period:

The application was placed on s92(1) request for further information hold from 21 May 2020.
The applicant supplied the further information on the 24th July 2020.
The information was accepted on the 3rd August 2020 and the application was taken off hold on this date and continued to be processed.
The application was placed on hold under s37 of the Act for draft condition review. The timeframe for processing the application was extended from the 7th August 2020 to the 20 August 2020.

6 ASSESSMENT FOR THE PURPOSE OF NOTIFICATION

6.1 Adequacy of information

It is my opinion that the information contained within the application is substantially suitable and reliable for the purpose of making a recommendation of and decision on notification. The information within the application is sufficient to understand the characteristics of the proposed activity as it relates to provisions of the Regional/Coastal Plan, for identifying the scope and extent of any adverse effects on the environment, and to identify persons who may be affected by the activity's adverse effects.

6.2 S95A: Determining whether the application should be publicly notified

Step 1(a): Has the applicant requested public notification? (s95A(3)(a))

The applicant has not requested public notification.

Step 1(b): Is there further information to consider? (s95A(3)(b))

The applicant has not failed to respond as statutorily required to a further information request (s92(1))or to the commissioning of a report (s92(2)) under s95C.

Step 2(a): Is there a Rule or NES that precludes public notification? (s95A(5)(a))

There are no rules in the Regional Plan or national environmental standard relevant to this proposal that preclude public notification.

Step 2(b): Is the activity for one or more controlled activity, or "residential activity" under the Regional Plan? (s95A(5)(b)(i) and (ii))

The activity is not for a controlled activity or "residential activity" which is a discretionary or restricted discretionary activity under the Regional Plan.

Step 3(a): Is there a rule or NES that requires public notification? (s95A(8)(a))

There are no rules in the Regional Plan or national environmental standard relevant to this proposal that require public notification.

Step 3(b): Will the activity have adverse effects on the environment that will be, or are likely to be, more than minor? (s95A(8)(b))

In forming this opinion (a) to (e) are assessed as below.

(a) There are no persons on which effects can be disregarded. (s95D(a)

(b) There are no rules in the Regional Plan or national environmental standard relevant to this proposal that permit an activity with this effect. (s95D(b))

(c) There are no restricted discretionary activities for which effects must be disregarded as the effect does not relate to a rule in the Plan or NES which restricts discretion.(s95D(c))

(d) There are no trade competition effects to be disregarded (s95D(d))

(e) There are no persons who have given written approval (s95D(e))

The assessment below considers adverse effects on the environment that are potentially more than minor.

Table 2: Potential Adverse Environmental Effects Assessment
Erosion and sediment control: Construction works at the proposed site will result in areas of soil becoming exposed and therefore vulnerable to erosion. Steeper parts of the site are particularly prone to erosion and subsequent instability. Without appropriate erosion and sediment control, the earthworks and vegetation clearance phase of the development may result in significant discharge of sediment into receiving waterways. A s92 further information request was issued to the applicant to provide further details on the erosion and sediment control on site. The applicant provided two erosion and sediment control plans (one for turbines 1-6 and one for turbines 7-11 – WRC doc#16933196 and #16931482 respectively) and an erosion and sediment control report (WRC doc#16932982). Kerry Pearce (Land Management Consultant) provided a technical review of the erosions and sediment control documents which I have relied on for this assessment. His technical assessment can be found in WRC doc #16949686. Mr Pearce's summary states: *"Overall, the applicant's proposed erosion and sediment control methodology is considered to be appropriate for the scale of earthworks to be undertaken provided the above information is provided and certified by WRC prior to the commencement of earthworks. Provided that all erosion and sediment controls are constructed and maintained in general accordance with WRC Guidelines, it is considered that sediment laden flows will be treated to an appropriate standard prior to being discharged off site.* *It is also considered that provided the conditions of consent are complied with the resulting effects on the environment from sediment discharges during the earthworks will be appropriately managed. Recommendations to ensure this is the case have been included in this memorandum.* *In principle, the overall proposed earthworks and erosion and sediment control methodology is generally appropriate for this site."* Based on the technical review Mr Pearce has provided, I recommend conditions requiring a final erosion and sediment control plan, a flocculation management plan, and an earthworks construction management plan. I rely on Mr Pearce's review of the application and further information in a technical capacity and

consider, provided the earthworks and construction align with what is submitted in the application and supporting documents, that the effects of erosion and sediment control will be less than minor.

Dust Management: In the joint hearing report prepared by Peter Stevens (Environmental Consultant, PS Environmental Services) in 2014 an assessment of dust emissions has been documented. I consider that there are no changes in the effects of dust emissions from the 2004 assessment of the application compared to the assessment being undertaken in this report. This is due to the minimal change in the proposal other than the scale of the site (i.e 22 turbines is now proposed as 11 turbines).

I therefore have adopted the assessment from the 2004 joint hearing report (WRC DOC# 1059635):

"At earthworks sites, where areas of vegetation have been cleared, there is potential for significant exposure of the soil surface, which in turn can lead to the discharge of dust beyond the boundary of the work site. The risk and severity of dust generation and movement is determined by the influence of factors such as wind velocity, the moisture content of the soil, the percentage of fine soil particles, and the roughness of the soil surface (McClaren and Cameron 1996). Vehicle movements over dry bare soil surfaces can also generate nuisance dust emissions.

Adverse effects associated with the emission of dust relate to:

- *Potential health effects from breathing in dust particles;*
- *Soiling and amenity effects. Dust discharges can deposit on surfaces such as cars, window ledges and household washing. For most people the primary effect of dust nuisance is annoyance at the increased requirement for cleaning;*
- *Visibility effects. These effects are largely related to aesthetics and are usually only of concern in the immediate area of a specific activity;*
- *Effects on vegetation. Excessive dust deposits can adversely effect vegetation through reduced photosynthesis due to reduced light penetration through the leaves, increased incidence of plant pests and diseases (i.e. dust deposits can act as a medium for the growth of fungal disease), and reduced effectiveness of pesticide sprays due to decreased penetration.*

In my opinion the adverse effects at the proposed site, relating to the emission of dust, will be minor for the following reasons:

i.) The proposed development site is relatively isolated from nearby dwellings and built up areas.

ii.) The mitigation measures proposed by the applicant including minimising the area of bare soil exposed as well as retaining as much vegetation as possible and replanting throughout the site, will help to reduce emissions.

iii.) A series of conditions are recommended, which will help to avoid and/or minimise dust emissions at the site."

I agree with the above assessment and conclude that if resource consent conditions are complied with the effects of dust emissions will be no more than minor.

Effects on Indigenous Vegetation: The vegetation at the sites chosen for the wind turbines consists entirely of exotic pasture. The primary impact on vegetation from the proposal involve the upgrading of the access road. The existing area is currently heavily grazed heavily by stock, and contains only common species , almost all of them exotic according to the 2004 joint hearing report.

As the proposed road realignments follow the existing formed roads, effects on wildlife habitat and corridors for species with large home ranges is likely to be minor. Therefore, effort toward fauna habitat replacement is not considered to be necessary provided no nesting or roosting sites of

threatened species are found within the extension footprint during construction.

Machinery bought in from other areas increase the risk of new exotic weed species establishing in the area. Therefore, it is critical that all machinery is thoroughly cleaned before it is bought on site to remove any attached seed or plant matter. Ensure all machinery is thoroughly cleaned before being allowed on site to prevent the introduction of weeds.

Provided consent conditions are adhered to, I consider these effects would be no more than minor.

Effects on Waterways: No significant streams or wetlands would be directly affected by the proposed wind turbines or public road realignments. All the waterways in question are small, upper catchment, ephemeral and significantly impacted by agricultural practices.
A drainage channel will be formed between the toe of the uphill batter and the edge of the road. This will intercept any rainwater runoff, which will then be directed under the road via appropriately sized pipes or culverts into channels where available.
As the roading will be near to the main ridgelines, catchments serving the culverts will be small, and generally less than 0.5 ha. The culverts have been identified as a permitted activity.
However, there is still a risk that sediments from road works and turbine site construction could enter waterways and adversely affect aquatic macroinvertebrate or fish and their habitats downstream of the proposed works. Provided good practice silt control techniques are implemented during construction, these effects would be no more than minor, and appropriate resource consent conditions would ensure that these measures are implemented.

Further discharges to waterways could result from construction material, lubrication fluid or fuel spillage from machinery. In order to minimise the likelihood of discharges of this nature, I recommend that no refuelling of machinery occur near surface water or drainage systems.

Tangata Whenua values: The application states the following:
"In respect of Iwi, their issues were canvassed at the 2008 hearing (Joint hearing with Waitomo District Council). A representative of the Maniopoto Iwi Trust Board attended the hearing, as did a representative of the Marakopa Marae. Both generally supported the application. At that time Ventus agreed that a representative of Iwi would monitor the construction phase of the project and Ventus supports this still occurring. Ventus Energy supports appropriate conditions being applied if there are any cultural issues encountered on the project – for example an accidental discovery protocol applied in the event of any remains of significance being discovered during the earthworks phase."

I had requested in the s92 further information letter for any further communication about the updated proposal to be submitted to council as part of the application process.

Maniapoto representatives were contacted and sent the application documents to review.
Maniapoto responded with the following:
"Further to our discussion, Ngā Tai o Kāwhia are neutral towards the application as presented providing that there are appropriate conditions to:

1. *Manage environmental effects, including discharges to air, land and water, sediment and erosion controls, so that these effects will be less than minor.*
2. *Manage accidental discoveries of wāhi tapu and archaeological sites.*
3. *Invite at least two tāngata whenua representatives to monitor the construction phase of the project, including appropriately resourcing those representatives."*

Although there are no wahi tapu sites/archaeological sites in the vicinity, I recommend including a condition around the accidental discovery protocol and a condition that supports a representative of the Iwi groups being able to monitor the on-site works and accommodate for management of the environmental effects as proposed by iwi.

I consider, if conditions are complied with, that effects on Tangata Whenua Values will be less than minor.

Geotechnical Effects: The application document provides a geotechnical review for the proposed windfarm. They have concluded:

"This inspection has indicated many proposed turbine sites are located in close proximity to slopes affected by creep/ground movement on the basis of the walkover inspection and desktop study. All sites are considered geotechnically feasible and will require specific assessment at detailed design stage.

Setbacks will be needed from the steeper slopes. Foundations are likely to consist of a variety of large pad and piled systems. Some sites are likely to require inground protection walls. Specific subsurface investigation will need to be undertaken at each of the sites.

The access route to the site appears adequate, though may need to be locally widened. Such works are envisaged to be relatively minor.

A suitable aggregate could be sourced from a quarry north of the subject site."

As the exact locations of each turbine platform are yet to be determined, I recommend that a Land Stability Plan is prepared by a suitably qualified geotechnical engineer and submitted to the council prior to works commencing. The Land Stability Plan will include detailed geotechnical investigations for each turbine site and any required earthworks as well as for the stability of the overburden disposal areas.

In addition, I have recommended that an independent peer review of the Land Stability Plan be undertaken prior to works commencement.

Provided that the consent conditions are complied with, I consider that any potential adverse geotechnical effects will be minimised during and post construction.

The actual or potential adverse effects of the proposal on the environment will be, or are likely to be, minor or less than minor.

Step 4: Are there special circumstances that warrant public notification (s95A(9))?

There are no other matters or special circumstances that warrant public notification.

6.3 S95B: Determining whether the application should be limited notified

Step 1: Is there a Statutory Acknowledgment Area under s95E? (s95B(3)(a))

The activity is not on, or adjacent to, or might affect, any land that is the subject of a statutory acknowledgement nor is the person to who the statutory acknowledgment is made, considered affected under s95E.

Step 2: Is there a rule or NES that precludes limited notification? (s95B(6)(a))

There are no rules in the Regional Plan or national environmental standard relevant to this proposal that preclude limited notification.

Step 3: Are there persons who are affected to a "minor or more than minor" extent? (s95B(8))

(a) There are no rules in the Regional Plan or national environmental standard relevant to this proposal that permit an activity with this effect on a person. (s95E(2)(a))

(b) There are no controlled or restricted discretionary activities for which effects must be disregarded on persons as the effect does not relate to a rule in the Plan or NES which reserves control or restricts discretion.(s95E(2)(b))

(c) There are no persons who have given written approval (s95E(3)(a))

(d) There are no persons whose approval it is unreasonable to seek. (s95E(3)(b))

Step 4: Are there Special Circumstances? (s95B(10))

There are no special circumstances existing that warrant notification to any other persons not already determined to be eligible for limited notification.

7 SECTION 95 NOTIFICATION RECOMMENDATION AND DECISION UNDER DELEGATED AUTHORITY

It is recommended the application proceed on a **non notified** basis for the reasons discussed above:

Reporting Officer:

Emma Symes **Date: 18 August 2020**
Resource Officer
Resource Use Directorate

Approved By:

Jorge Rodriguez **Date: 20 August 2020**
Team Leader
Resource Use Directorate
Acting under authority delegated subject to the provisions of the RMA 1991 which at the time of decision had not been revoked.

8 SECTION 104

A decision was made under section 95 of the Act to process the application on a non-notified basis. An assessment of and decision on the application under section 104 of the Act is provided below.

9 SECTION 104(1)(a) - ACTUAL AND POTENTIAL EFFECTS ON THE ENVIRONMENT

9.1 Effects Disregarded

Section 104(2) states that when forming an opinion for the purposes of s104(1)(a) a council may disregard an adverse effect of the activity on the environment if the plan or a NES permits an activity with that effect (i.e. a council may apply the "permitted baseline").

Section 104(3)(a) states that when forming an opinion for the purposes of s104(1)(a) a council must not have regard to any effect on a person who has given written approval to the proposal, nor any effects of trade competition.

9.2 The following actual and potential effects are relevant to this proposal:

Section 104(1)(a) of the RMA provides that when considering a consent application, the consent authority must, subject to Part 2, have regard to the actual and potential effects on the environment of allowing the activity. Case law has determined that the "environment" must be read as the environment which exists at the time of the assessment and as the environment may be in the future as modified by the utilisation of permitted activities under the plan and by the exercise of resource consents which are being exercised, or which are likely to be exercised in the future. It does not include the effects of resource consents which might be sought in the future nor any past reversible effects arising from the consent being considered.

The assessment of adverse effects in the approved notification report is also relevant for the purposes of the assessment required under s104(1)(a).

Positive effects that have been identified in the application document have been copied below:

"The proposed earthworks will assist in facilitating the development of the wind farm project which will in turn lead to a greater amount of electricity being generated. Up to 47MW will be able to be produced, up from the output of the consented turbines. The power output from the proposed new machines demonstrates the significant improvements in wind power technology and the positive benefits such technology can bring to the wider community."

In summary, it is considered the actual and potential effects of the proposal are able to be avoided, remedied or mitigated through the imposition of conditions and are therefore acceptable.

10 SECTION 104(1)(b) - RELEVANT POLICIES & PLANS

10.1 National Environmental Standards for Electricity Transmission Activities

The National Environmental Standards for Electricity Transmission Activities (NES) are regulations made under the Resource Management Act 1991. The NES came into effect on 14 January 2010.

The National Environmental Standard for Electricity Transmission Activities is relevant to this proposal.

10.2 National Policy Statement for Fresh Water Management / Renewable Electricity Generation / Electricity Transmission/ NZ Coastal Policy Statement/Urban Development Capacity

The National Policy Statement for Renewable Electricity Generation 2011 (NPS REG) sets out the objective and policies for renewable electricity generation under the Resource Management Act 1991. The NPS REG came into effect on 13 May 2011.

This NPS REG will drive a consistent approach to planning for renewable electricity generation in New Zealand. It gives clear government direction on the benefits of renewable electricity generation and requires all councils to make provision for it in their plans.

The NPS REG is relevant to this proposal. Relevant policies within the NPS REG are:

- Policy A - Recognising the benefits of renewable electricity generation activities
- Policy B - Acknowledging the practical implications of achieving New Zealand's target for electricity generation from renewable resources
- Policy C1 - Acknowledging the practical constraints associated with the development, operation, maintenance and upgrading of new and existing renewable electricity generation activities

The application provides an assessment on the relevant policies in the NPSREG. I agree with the applicant's assessment therefore will not repeat the assessment from the report here. Please refer to the application document, pages 14-15 for further details.

I consider the proposal is not inconsistent with the NPSREG.

10.3 Waikato Regional Policy Statement (RPS)

The RPS is a high-level broad-based document containing objectives and policies of which the purpose is to provide an overview of the resource management issues of the region and to achieve integrated management of the natural and physical resources of the Region.

RPS is relevant to this proposal. The application identifies individual objectives and policies:
Objective 3.5 - Energy
Objective 3.14 - Mauri and values of freshwater bodies
Objective 3.25 – Values of Soil
Policy 6.6 – Significant infrastructure and energy resources

Tangata Whenua Values are recognised and acknowledged in the application. I have identified relevant policies and objectives that relate to Tangata Whenua and the proposal in the RPS:
Objective 3.9 – Relationship of Tangata Whenua with the environment
Policy 4.3 – Tangata Whenua

I have also identified relevant policies in relation to the proposal which include:
Policy 14.1 - Maintain or enhance the life supporting capacity of the soil resource
Policy 14.3 – Soil Contaminants

I agree with the objectives and policies the application identifies.
I consider the proposal is not inconsistent with the RPS.

10.4 Waikato Regional Plan

The Waikato Regional Plan ("WRP") is operative. The purpose of regional plans is to help the Council carry out its functions under s30 of the RMA.
The application document identifies the objectives and policies below:

Chapter 5 – Land and Soil Module

Objective 5.1.2 – Accelerated soils
Policies under 5.1.3:

- *Policy 1 - Managing Activities that Cause or Have the Potential to Cause Accelerated Erosion and Encouraging Appropriate Land Management Practices*
- *Policy 2 - Use of Regulatory and Non-Regulatory Approaches of Management for Soil Disturbance/Vegetation Clearance Activities in High Risk Erosion Areas*
- *Policy 3: Promote Good Practice*
- *Policy 4: Approved Operators Approach*

Overall, I agree with the assessment in the application and consider that the proposal is not inconsistent with the Land and Soil module provisions of the Waikato Regional Plan.

11 SECTION 104(1)(c) – ANY OTHER MATTER CONSIDERED RELEVANT AND REASONABLY NECESSARY

11.1 Other Relevant Matters

The following policy initiatives, as per s104(1)(c) of the RMA are considered relevant to this assessing this application as they outline the higher-level strategic goals identified for New Zealand in achieving its goals for renewable energy:

- New Zealand Energy Strategy 2011–2021
- The Government's 100 per cent renewable electricity target by 2035
- Transpower's 2018 long-range planning report called "Te Mauri Hiko, Electricity Futures".

The application has been assessed against these policy documents and is not inconsistent with the above initiatives.

11.2 Iwi Environmental Plans

"The Maniapoto Environmental Management Plan is a direction setting document and describes issues, objectives, policies and actions to protect, restore and enhance the relationship of Maniapoto with the environment including economic, social, cultural and spiritual relationships." (Taken from Maniapoto Maori Trust Board Website.)

The applicant has been in contact with Maniapoto regarding the proposal.
The application states the applicant is happy to work with local iwi throughout the construction of the project.

12 PART 2 MATTERS

Section 104 of the RMA is subject to Part 2 of the Act:

- Section 5 of the RMA outlines the Act's purpose, the basic principle of which is sustainable management.
- Section 6 of the RMA outlines matters of national importance.
- Section 7 outlines the other matters for consideration.
- Section 8 concerns the principles of the Treaty of Waitangi.

I have established throughout my report that the activity will have a less than minor effect on the environment and is consistent with the policy intent of the relevant objectives and policies of the Waikato Regional Plan.

Overall, the application is considered to meet the relevant provisions of Part 2 of the RMA as the proposal achieves the purpose (section 5) of the RMA, being the sustainable management of natural and physical resources.

13 CONCLUSIONS

In considering the subject resource consent the main potential adverse environmental effects associated with the proposed works are considered to be erosion and sediment controls, dust management, effects on Indigenous Vegetation, effects on waterways and Tangata Whenua values.

However, for the reasons outlined in section 6 of this report, I am satisfied that these adverse effects can be avoided, remedied or mitigated such that the adverse environmental effects associated with the works are likely to be minor.

The overall proposal has been assessed in respect to their consistency with the objectives and policies of the Regional Council's policies and plans, and the statutory provisions of the RMA. Provided the activity is undertaken in accordance with the application for consent and subsequent supporting documentation, and the recommended consent conditions in the attached Resource Consent Certificate, I consider that the application will not be inconsistent with Council's policy and plans, or the statutory provisions of the RMA.

14 CONSENT TERM

The Applicant has requested a consent term of 15 years and a lapse period of 10 years.

In assessing the consent term, I have considered the following matters:

- certainty and security for the applicant given the substantial investment;
- Actual and potential adverse effects of the proposed activities on the environment; and
- Section 123 of the Resource Management Act.

I recommend a term be granted for 15 years with a lapse period of 10 years based on the above points.

15 MONITORING

The Waikato Regional Council has a statutory obligation under section 35 of the RMA 1991 to monitor the exercise of resource consents being carried out within the Waikato Region. Consequently, Waikato Regional Council staff or its authorised agents will monitor this site both during and after the works have been completed.

If resource consent is granted for the project, then I consider that monitoring requirements should be included as conditions of the consents. This monitoring should address issues such as:

- the quality of discharges from the construction site;
- the maintenance of erosion and sediment control devices;
- the performance of erosion and sediment controls.

16 RECOMMENDATION

I recommend that in accordance with s104B, and 108 resource consent application APP141827 be granted in accordance with the duration and conditions prescribed in the attached Resource Consent Certificate for the following reasons:

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

Emma Symes **Date: 20 August 2020**
Resource Officer
Resource Use Directorate

17 DECISION

Jorge Rodriguez **Date: 20 August 2020**
Team Leader
Resource Use Directorate

RESOURCE CONSENT CERTIFICATE

Resource Consent: AUTH141827.01.01

File Number: 61 34 30A

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

Taumatatotara Wind Farm Limited
C/- VGA
PO Box 99983
Newmarket
Auckland 1149

(hereinafter referred to as the Consent Holder)

Consent Type: Land Use Consent

Consent Subtype: Land - disturbance

Activity authorised: Undertake earthworks totalling approx. 259,000m3 of excavation associated with the development of a wind farm including construction of tracks and wind turbine platforms.

Location: Taumatatotara West Road, Te Anga

Map reference: NZTM 1756000.0000 E 5768000.0000 N

Consent duration: This consent will commence on the date of decision notification and will expire on 25 August 2035

Lapse Period: This consent lapses ten years after the date it is granted unless the consent is given effect to or the Council extends the period after which the consent lapses.

Subject to the conditions overleaf:

General Conditions

1. The soil disturbance and construction related activities authorised by this resource consent shall be undertaken in general accordance with the application for this resource consent, and all associated information submitted in relation to this application, except where otherwise required in the resource consent conditions below, titled:

   Documents:
   - "Taumatatotara Wind Farm Application for Resource Consent for Bulk Earthworks." Prepared for Ventus Energy (NZ) Ltd and dated April 2020 (The Application).
   - "Taumatatotara Wind Farm Turbines T1-T11 EROSION AND SEDIMENT CONTROL PLAN 19142-EN-REP-001 Rev A". Prepared by Blue Wallace Surveyors Limited, dated 17 July 2020 (The Erosion and Sediment Control Plan).

   Plans:
   - Overall Site Plan. Drawing Number #1 Rev F.
   - Extents of Works Plan. Drawing Number #2 Rev F.
   - Erosion and Sediment Control Layout Plans. Drawing Numbers #13 through to #17 Rev F.
   - Sediment Control Pond Detail. Drawing Number #18 and #19 Rev F.
   - Decanting Earth Bund Detail. Drawing Number #20 Rev F.
   - Diversion Channel / Bund Detail. Drawing Number #21 Rev F.
   - Silt & Super Silt Fence Detail. Drawing Number #22 Rev F.

2. The consent holder shall be responsible for all contracted operations related to the exercise of this resource consent; and shall ensure contractors are made aware of the conditions of this resource consent and ensure compliance with those conditions.

3. A copy of this consent shall be kept onsite at all times that physical works authorised by this resource consent are being undertaken and shall be produced without unreasonable delay upon request from a servant or agent of the Waikato Regional Council.

4. The consent holder shall notify the Waikato Regional Council as soon as practicable and as a minimum requirement within 24 hours of the consent holder becoming aware of any of the conditions of this resource consent being exceeded and/or of any accidental discharge, sediment control device failure, or other circumstances which are likely to result in the conditions of this resource consent being exceeded. The consent holder shall, within 7 days of the non-compliance, provide a written report to the Waikato Regional Council, identifying the non-compliance, possible causes, steps undertaken to remedy the effects of the incident and measures that will be undertaken to ensure future compliance.

Pre-Start Requirements

5. The consent holder shall inform the Waikato Regional Council in writing at least 10 working days prior to the commencement of activities of the start date of the works authorised by this resource consent.

6. Prior to activities commencing as authorised by this resource consent, the consent holder shall appoint a representative(s) who shall be the Waikato Regional Council's principal contact person(s) in regard to matters relating to this resource consent. The consent holder shall inform the Waikato Regional Council of the representative's name and how they can be contacted, prior to this resource consent being exercised. Should that person(s) change during the term of this resource consent, the consent holder shall immediately inform the Waikato Regional

Council and shall also give written notice to the Waikato Regional Council of the new representatives' name and how they can be contacted.

7. The consent holder shall arrange and conduct a pre-construction site meeting and invite, with a minimum of 10 working days' notice, the Waikato Regional Council, the site representative(s) nominated under condition 7 of this consent, the contractor, and any other party representing the consent holder prior to any work authorised by this consent commencing on site.

   The following information shall be made available at the pre-start meeting:
   - Timeframes for key stages of the works authorised under this consent
   - Resource consent conditions
   - Finalised Erosion and Sediment Control Plan
   - Flocculation Management Plan

   A pre-start meeting shall be held prior to the commencement of the earthworks activity in each period between October 1 and April 30 that this consent is exercised.

   Advice Note: *In the case that any of the invited parties, other than the site representative does not attend this meeting, the consent holder will have complied with this condition, provided the invitation requirement is met.*

8. Prior to exercising this consent the consent holder shall establish a sediment control team which is to be managed by an appropriately qualified person experienced in erosion and sediment control and associated environmental issues. The sediment control team shall consist of personnel who have clearly defined roles and responsibilities to monitor compliance with the consent conditions and will be available to meet with the Waikato Regional Council monitoring personnel on a weekly basis, or as otherwise agreed in writing, to review erosion and sediment control issues. The person managing the sediment control team shall: Be experienced in erosion and sediment control implementation and monitoring; Be recognised by his/her peers as having a high level of knowledge and skill as appropriate for the role; Have completed recognised training in erosion and sediment control; and, be approved in writing by the Waikato Regional Council.

Earthworks Design and Management Plan

9. The consent holder shall prepare an "**Earthworks Design and Management Plan"** and submit this to the Waikato Regional Council for written approval in a technical certification capacity no later than 20 working days prior to the commencement of any earthworks on the site.

   This plan shall include but not be limited to:
   a) The staging of works planned and the description of earthworks in each stage including general site plans;
   b) Outline the engineering controls, supervision and certification that will be applied to each stage;
   c) Outline the site specific design parameters and performance standards that will be applied to each stage, considering both static and seismic conditions;
   d) Outline stability analysis design procedures that will be used for each stage, including the method of determining turbine setback zones and stability of existing natural slopes loaded by the works;
   e) Outline engineering and management procedures for material sources, use, disposal and treatment, stockpiling, fill placement and disposal of unsuitable materials;
   f) Detail measures for groundwater control, including details of subsoil drainage, within disposal areas;

g) Confirm volumes of cut, fill and unsuitable material (based on available information at the time). A contingency of plus or minus 20% shall be added to the total excavation of 259,000m3 provided for in this consent, and for the access road to be up to 10m in width dependent upon the type of transporter chosen;
h) Detail measures for dealing with situations that do not conform at the time of construction with the design assumptions;
i) Outline the methods of site assessment by suitably qualified persons that will be used to determine the need for the installation of sub soil drainage systems to all earthworks activities that will be required during construction;
j) Such other procedures that will be employed to ensure land stability is not compromised by construction works.
k) The format of Producer Statements to be adopted for Design (PS1), Design Review (PS2), Construction (PS3) and Construction Review (PS4).

10. Any changes to the Earthworks Design and Management Plan shall be approved in writing by the Waikato Regional Council, acting in a technical certification capacity, prior to the implementation of any changes proposed.

11. The consent holder shall ensure that a copy of the certified ESCP, including any certified amendments, is kept onsite and this copy is updated within 5 working days of any amendments being certified.

12. The Consent Holder shall engage Chartered Professional Engineers with geotechnical and civil engineering experience to direct and supervise appropriate site investigations, and undertake design, peer review, supervision and certify the construction of all works in accordance with the procedures set out in the Earthworks Design and Management Plan. The peer review resources engaged by the consent holder shall be agreed in writing by the Waikato Regional Council.

13. Producer Statements as detailed in condition 9 above for Design and Design Review shall be submitted to the Waikato Regional Council no later than 10 days prior to subject works commencing.

    Advisory Note: The consent holder may at any time and with notification to the Waikato Regional Council (but without written approval) undertake minor works such as are required to carry out site investigations for the purposes of design, including the formation of minor access required for the same. It is expected that these activities will be undertaken in accordance with the permitted activity rules and associated criteria of the Waikato Regional Council.

14. The consent holder shall ensure that all cut and fill batters associated with access roads, borrow areas, and turbine platforms and pads (and associated hard stand) shall be re-contoured to visually reintegrate into the natural landform, and within 3 months of earthworks being completed in each of these areas shall be re-vegetated to visually integrate with surrounding vegetation patterns. This re-contouring and re-vegetation shall occur in a progressive manner on the site as earthworks have been completed.

15. The Consent Holder shall employ a suitably qualified geotechnical engineer to ensure that cut slopes and spoil disposal sites are individually and appropriately assessed for stability prior to, during and following individual cutting and filling operations, and to ensure that appropriate drainage is installed at each site.

Erosion and Sediment Control Plan

16. The consent holder shall provide the Waikato Regional Council with a finalised 'Erosion and Sediment Control Plan' (ESCP), at least 20 working days prior to the commencement of

earthworks for the activities authorised by this consent. The objective of the ESCP shall be to minimise sediment discharge from the site to the extent practicable over the earthworks period.

17. The ESCP shall be based on those specific principles and practices which are contained within the Waikato Regional Council document titled "Erosion and Sediment Control – Guidelines for Soil Disturbing Activities" (Technical Report No. 2009/02 – dated January 2009), and including at least the following:

    a) Details of all principles, procedures and practices that will be implemented to undertake erosion and sediment control to minimise the potential for sediment discharge from the site;
    b) The final location of the turbines and subsequent design criteria and dimensions of all key erosion and sediment control structures. Final turbine locations may vary by up to 150m from those set out in the plans accompanying the application;
    c) A site plan of a suitable scale to identify:
        i. The locations of waterways
        ii. The extent of soil disturbance and vegetation removal
        iii. Any "no go" and/or buffer areas to be maintained undisturbed adjacent to watercourses
        iv. Areas of cut and fill
        v. Locations of topsoil stockpiles
        vi. All key erosion and sediment control structures
        vii. The boundaries and area of catchments contributing to all sediment retention structures
        viii. The locations of all specific points of discharge to the environment.
    d) Construction timetable for the erosion and sediment control works and the bulk earthworks proposed;
    e) Timetable and nature of progressive site rehabilitation and re-vegetation proposed;
    f) Maintenance, monitoring and reporting procedures;
    g) Rainfall response and contingency measures including procedures to minimise adverse effects in the event of extreme rainfall events and/or the failure of any key erosion and sediment control structures.

    The ESCP shall be approved in writing by the Waikato Regional Council, acting in a technical certification capacity, prior to commencement of any works authorised by this consent and the consent holder shall undertake these works in accordance with the approved ESCP.

18. Any changes proposed to the ESCP provided as part of the application shall be confirmed in writing by the consent holder and certified in writing by the Waikato Regional Council acting in a technical certification capacity, prior to the implementation of any changes proposed.

19. The consent holder shall ensure that a copy of the certified ESCP, including any certified amendments, is kept onsite and this copy is updated within 5 working days of any amendments being certified.

20. Prior to bulk earthworks commencing, a certificate signed by a suitably qualified and experienced person shall be submitted to the Waikato Regional Council, to certify that the erosion and sediment controls have been constructed in accordance with the erosion and sediment control plan.

    Certified controls shall include the Decanting Earth Bunds, Dirty Water Diversions, and Clean Water Diversions. The certification for these subsequent measures shall be supplied immediately upon completion of construction of those measures. Information supplied if applicable, shall include:

a) Contributing catchment area;
b) Shape and volume of the structure (dimensions of structure);
c) Position of inlets/outlets; and
d) Stabilisation of the structure.

Flocculation

21. Prior to the commencement of bulk earthworks, the consent holder shall undertake flocculent bench testing to determine the reactivity of soils to chemical treatment within those areas of the site where runoff is proposed to be treated by sediment retention ponds and decanting earth bunds.

22. If/where soils positively react to chemical treatment, the implementation of a flocculation treatment system shall be maintained as a contingency throughout the duration of earthworks and shall be implemented at the request of the Waikato Regional Council monitoring officer in accordance with the Flocculation Management Plan required by Condition 14.

23. Prior to the commissioning of any flocculation treatment system, the consent holder shall provide the Waikato Regional Council with a 'Flocculation Management Plan' (FMP), for the written approval of the Waikato Regional Council acting in a technical certification capacity. The FMP shall include as a minimum:
    a) Specific design details for the flocculation system;
    b) Monitoring, maintenance (including posts-storm) and including a record system;
    c) Details of optimum dosage (including assumptions);
    d) Results of any initial flocculation trial;
    e) A spill contingency plan; and
    f) Contact details of the persons responsible for the operation and maintenance of the flocculation treatment system and the organisational structure to which this person shall report.

24. The FMP required by Condition 14 shall be approved in writing by the Waikato Regional Council, acting in a technical certification capacity, prior to the commencement of bulk earthworks and the consent holder shall undertake all flocculation activities in accordance with the approved FMP.

25. Any changes proposed to the FMP required by Condition 14 shall be confirmed in writing by the consent holder and approved in writing by the Waikato Regional Council acting in a technical certification capacity, prior to the implementation of any changes proposed.

Construction

26. The consent holder shall ensure that sediment losses to natural water arising from the exercise of this resource consent are minimised during the duration of the works and during the term of this consent. In this regard, erosion and sediment control measures shall be established and maintained in accordance with Waikato Regional Council document titled "Erosion and Sediment Control – Guidelines for Soil Disturbing Activities" (Technical Report No. 2009/02 – dated January 2009).

27. All sediment retention ponds and decanting earth bunds implemented on site shall incorporate the following measures to ensure that treatment efficiencies are maximized over the duration of the earthworks activities:

    a) Reverse grading invert to maximise sediment capture at the front end of the device; and

b) Installation of silt fence baffles extending across the width of the device invert – single baffles for decanting earth bunds and double baffles for sediment retention ponds.
c) The minimum volume of sediment retention ponds and decanting earth bunds shall be 3 percent of the contributing catchment (300m^3 capacity for each hectare of contributing catchment).

28. Dirty water diversion drains shall incorporate sediment pits excavated at no greater than 50m intervals along the drains to allow for capture of gross sediment particles and minimise sediment loading on treatment devices.

29. All earthmoving machinery, pumps, generators and ancillary equipment shall be operated in a manner, which ensures spillages of fuel, oil and similar contaminants are prevented, particularly during refuelling and machinery servicing and maintenance. Refuelling and lubrication activities shall be carried out away from any water body, ephemeral water body, or overland flow path, such that any spillage can be contained so that it does not enter surface water.

30. The consent holder shall ensure that, as far as practicable, all clean water run-off from stabilised surfaces including catchment areas above the site shall be diverted away from the exposed areas via a stabilised system to prevent erosion. The consent holder shall also ensure the outfall(s) of these systems are protected against erosion.

31. No vehicles or earth moving machinery shall enter any waterways on the subject site at any time. All machinery shall be operated from an appropriate distance beyond any waterways to avoid bank instability.

32. All activities undertaken on site shall be conducted and managed in a manner that ensures that all dust emissions are kept to a practicable minimum. To this end there shall be no discharge of dust as a result of the activities authorised by this consent that causes an objectionable or offensive effect beyond the boundary of the property that the activities are being undertaken on.

    Note: *For the purposes of Condition 23 of this consent, the Waikato Regional Council will consider an effect that is objectionable or offensive to have occurred if any appropriately experienced officer of the Waikato Regional Council determines it so after having regard to:*
    - *The frequency, intensity, duration, location and effect of the dust emission(s), and/or*
    - *Receipt of complaints from neighbours or the public, and/or*
    - *Where relevant written advice from an experienced officer of the Waitomo District Council or the Waikato District Health Board has been issued.*

Winter Works

33. The consent holder shall ensure that the site is appropriately stabilised by 30 April of each year unless otherwise approved in writing by the Waikato Regional Council. Stabilisation shall be undertaken by providing adequate measures (vegetative and/or structural and including, pavement, metalling, hydro-seeding, re-vegetation and mulching) that will minimise erosion of exposed soil to the extent practical.

34. Earthworks shall not be conducted during the period 1 May to 30 September inclusive during any year that this consent is current, apart from necessary maintenance works, unless agreed to in writing by the Waikato Regional Council.

35. Requests to undertake earthworks during the period 1 May to 30 September inclusive, for any year that this consent is current, shall be submitted in writing to the Waikato Regional Council

by 1 April and shall be in the form of amendments to the certified E&SCP in accordance with condition 16 of this consent.

Advice Note: *In considering a request for the continuation of winter earthworks, the Waikato Regional Council will consider a number of factors; including:*

- *The nature of the site and the winter soil disturbance works proposed;*
- *The quality of the existing/proposed erosion and sediment controls;*
- *The compliance history of the site/operator;*
- *Seasonal/local soil and weather conditions;*
- *Sensitivity of the receiving environment; and*
- *Any other relevant factor.*

Water Quality

36. The consent holder shall measure the suspended solids concentration and turbidity at the outlet of all stormwater retention structures approved in the Erosion and Sediment Control Plan.

37. Water sampling shall be undertaken where there is a rainfall event of greater than 25 millimetres in the preceding 24 hours and at a minimum of monthly intervals. The consent holder shall within twenty-four hours of the rainfall reading being taken, measure the suspended solids concentration and turbidity at the discharge points specified. Results shall be forwarded to the Waikato Regional Council within 7 days of analysis.

38. Additionally, if flocculants are being used and if recommended in the Flocculation Management Plan, water sampling at the respective sediment retention device/s shall include testing for pH, and soluble aluminium.

    Advice Note: *In the event that the sediment retention structures are not discharging when sampling is due, water sampling shall be undertaken at the next discharge event.*

39. The activity or discharge shall not result in the suspended solids concentration in the stormwater discharged from the site exceeding 80 grams per cubic metre, unless there is a rainfall event greater than 50mm in the preceding 24 hours in which case the activity or discharge shall not result in the suspended solids concentration in the stormwater discharged from the site exceeding 100 grams per cubic metre.

40. The consent holder shall ensure that the stormwater discharge shall not cause a conspicuous change in the colour or visual clarity of the receiving water body. If a conspicuous change to colour or visual clarity of the receiving water body is observed by the Consent Holder, the Waikato Regional Council shall be advised in writing within 24 hours.

41. Any sampling required by the conditions of this resource consent, the frequency of sampling, analyses and reporting may be altered or reduced with the written approval of the Waikato Regional Council if the applicant can demonstrate that its erosion and sediment control measures are effective in managing discharges from the site.

42. The consent holder shall ensure that all sediment laden run-off from the site is treated by sediment retention structures. These structures shall be fully operational before bulk earthworks commence and shall be maintained to perform at least at 80% of their operational capacity.

Dust

43. The consent holder shall manage the earthworks, filling and ancillary activities in such a manner to ensure that dust emissions are kept to a practicable minimum, including;
    a) Measures including, but not limited to, the use of water to suppress dust from the site and from access roads;
    b) The revegetation of disturbed land which is currently not being worked;
    c) The regrassing of topsoil stockpiles;
    d) The area of land open for stockpiling, load out and rehabilitation activities shall be kept to a practicable minimum.

44. There shall be no discharge of airborne particulate matter that causes an adverse effect beyond the boundary of the site.

45. Should airborne particulate matter resulting from the exercise of this consent generate a complaint, the consent holder shall provide a written report to the Waikato Regional Council within five (5) working days of the complaint being made known to the consent holder. The report shall specify:

    a) The cause or likely cause of the event and any factors that influenced its severity;
    b) The nature and timing of any measures implemented by the consent holder to avoid, remedy or mitigate any adverse effects; and,
    c) The steps to be taken in future to prevent recurrence of similar events.

    Advice Note: *Chapter 6.4 of the Waikato Regional Plan 2012 provides guidance on the assessment of the effect of odour and dust emissions.*

46. If so required by the Waikato Regional Council, the consent holder shall carry out immediate sealing of any problematic dust generating surfaces within the site using hydro-seed/hydro-mulch, polymer soil stabilisers or a similar dust control product to provide instant remediation of dust effects to the satisfaction of the Waikato Regional Council.

47. The consent holder shall ensure that an adequate supply of water for dust control and an effective means for applying that quantity of water, is available at all times during construction, and until such time as the site is fully stabilised unless otherwise agreed in writing with the Waikato Regional Council.

Monitoring and Maintenance

48. The consent holder shall ensure that all erosion and sediment control structures are inspected on a weekly basis and within 24 hours of each rainstorm event that is likely to impair the function or performance of the controls.

49. The consent holder shall carry out monitoring and maintenance of erosion and sediment controls in accordance with the conditions of this resource consent and shall maintain records detailing:
    a) The date, time and results of the monitoring undertaken; and
    b) The erosion and sediment controls that required maintenance; and
    c) The date and time when the maintenance was completed.

    These records shall be provided to the Waikato Regional Council at all reasonable times and within 72 hours of a written request to do so.

50. The consent holder shall provide to the Resource Use Group of the Waikato Regional Council, a report by 1 May each year a Compliance and Monitoring Report. As a minimum this report shall include the following:

a) earthworks and filling activities undertaken during the preceding 12 months and proposed to be carried out during the following 12 months;
b) any water quality data collected;
c) daily rainfall records;
d) a compliance audit of all consent conditions;
e) any reasons for non-compliance or difficulties in achieving compliance with all consent conditions;
f) recommendations on alterations to monitoring required by consent conditions;
g) any necessary updates to the management plans;
h) any other issues considered important by the consent holder;
i) Provision of any sediment discharge monitoring data; and discussion and interpretation of the monitoring results.

Site Restoration

51. The removal of any erosion and sediment control measure from any area where soil has been disturbed as a result of the exercise of this resource consent shall only occur after consultation and written approval has been obtained from the Waikato Regional Council acting in a technical certification capacity. In this respect, the main issues that will be considered by the Waikato Regional Council include:
    a) The quality of the soil stabilisation and/or covering vegetation;
    b) The quality of the water discharged from the rehabilitated land; and
    c) The quality of the receiving water.

52. The consent holder shall ensure those areas of the site which have been completed shall be progressively stabilised against erosion as soon as practically possible and within a period not exceeding 3 days after completion of any works authorised by this resource consent. Stabilisation shall be undertaken by providing adequate measures (vegetative and/or structural) that will minimise sediment runoff and erosion and in accordance with Waikato Regional Council document titled "Erosion and Sediment Control – Guidelines for Soil Disturbing Activities" (Technical Report No. 2009/02 – dated January 2009). The consent holder shall monitor and maintain the site until vegetation is established to such an extent that it prevents erosion and prevents sediment from entering any surface water.

53. Re-vegetation and/or stabilisation of all disturbed areas shall be completed in accordance with the measures detailed in Waikato Regional Council document titled "Erosion and Sediment Control – Guidelines for Soil Disturbing Activities" (Technical Report No. 2009/02 – dated January 2009).

Rehabilitation

54. As soon as practicable after the completion of any of the works authorised by this resource consent, the consent holder shall stabilise and re-contour all disturbed areas to limit/prevent sediment runoff and erosion. The consent holder shall maintain the site until vegetation is established to such an extent that it prevents erosion and prevents sediment from entering any watercourse.

55. The consent holder shall undertake hydro-seeding of all cut slopes and batters, or other means of stabilisation as proposed by the consent holder in relation to turbine platforms, as soon as practicable after their formation to ensure rapid revegetation.

56. The consent holder shall undertake a maintenance programme to ensure rehabilitation of disturbed areas including weed control, to the satisfaction of the Waikato Regional Council. The

programme shall ensure the re-establishment of indigenous plant species on areas where soil is disturbed on Taumatatotara West Road.

Land Stability Plan

57. At least 20 working days prior to works commencement, the consent holder shall provide to the Waikato Regional Council a Land Stability Plan containing the following information for all works authorised by this consent:
    a) A detailed geotechnical investigation, including current site stability, slope stability, and potential risks;
    b) Road design including all crossings, stormwater, and erosion control measures;
    c) Measures that will be undertaken to avoid land instability and/or erosion;

    The Land Stability Plan shall be written by an appropriately experienced, and qualified geotechnical engineer.

58. The consent holder shall exercise this consent in accordance with the approved Land Stability Plan. Any subsequent changes to the Land Stability Plan shall only be made with the written approval of the Waikato Regional Council. In the event of any conflict or inconsistency between the conditions of this consent and the provisions of the Land Stability Plan, then the conditions of this consent shall prevail.

59. The consent holder shall ensure that a copy of the approved Land Stability Plan including any approved amendments, is kept onsite at all times that physical works authorised by this consent are being undertaken and the onsite copy of the Land Stability Plan shall be updated within 5 working days of any amendments being approved. The Land Stability Plan shall be produced without unreasonable delay upon request from a servant or agent of the Waikato Regional Council.

Peer Review

60. Prior to exercising this consent, the consent holder shall engage, at its own cost, an Independent Peer Reviewer(s) to review the Land Stability Plan required by condition 57 of this consent, to assess whether or not the design has been undertaken by appropriately qualified personnel in accordance with best practice.

61. The peer review required by condition 60 of this consent shall include review of the following aspects as a minimum:
    (a) Design
    (b) Site Stability
    (c) Construction methods
    (d) Hazards and hazard mitigation should the works result in erosion and/or slope failure

62. The Independent Peer Reviewer(s) shall be:
    (a) Independent of the planning, design, construction, management and monitoring of this site;
    (b) Experienced in road and earthworks design, construction, management and monitoring;
    (c) Recognised by his/her peers as having such experience, knowledge and skill;
    (d) Approved in writing by the Waikato Regional Council.

63. The Independent Peer Reviewer(s) shall report directly to the Waikato Regional Council in writing on all matters which are submitted to it for review, other than draft proposals submitted to it by the consent holder and which are superseded.

64. The consent holder shall provide the Peer Reviewer(s) with all records, plans, designs, etc, that the Peer Reviewer requests, and shall afford the Peer Reviewer full access to the site at all reasonable times.

Archaeological sites

65. The consent holder shall ensure that the exercise of this resource consent does not disturb sites of spiritual or cultural significance to Tangata Whenua. In the event of any archaeological remains being discovered, the works in the vicinity of the discovery shall cease immediately and the Waikato Regional Council shall be notified within 24 hours. Works may recommence on the written approval of the Waikato Regional Council after considering:

    (a) Tangata Whenua interests and values;
    (b) The consent holder's interests; and
    (c) Any archaeological or scientific evidence

Administration

66. The Consent Holder shall pay the Waikato Regional Council any administrative charge fixed in accordance with section 36 of the Resource Management Act (1991), or any charge prescribed in accordance with regulations made under section 360 of the Resource Management Act (1991).

Lapse Date

67. This consent shall lapse ten years after the date it is granted unless the consent is given effect to or the Council extends the period after which the consent lapses.

Attachment 4

Mansergh Graham Landscape memo

PROJECT MEMORANDUM

mansergh graham
LANDSCAPE ARCHITECTS

Date:	8 September 2021
To:	Waitomo District Council, PO Box 404, Te Kuiti
Attention:	Mr Chris Dawson
Memo:	5
RE:	**Taumatatotara Windfarm Application –Notification (Landscape and Visual Effects)**

Purpose

The purpose of this memorandum is to identify the affected persons and properties where the effects of the proposed increased turbine height are likely to be *minor* or *more than minor* (to determine affected persons for limited notification).

Concern Around the Methodology Adopted and Rating of Effects

As previously identified in *MGLA Memorandum 4*, I am concerned that the methodology adopted in the preparation of the WSP landscape and visual assessment reports potentially leads to the underestimation of effects. The memo states:

> *The WSP LVE report appears to be largely based on desktop review and analysis of the original assessment prepared in 2012 (as stated in the methodology section) with limited ground truthing carried out in 2019 in support of this application. There also seems to be a disconnect between the view locations identified in the WSP LVE report and the photomontages prepared by Energy3 Ltd, suggesting that the photomontages have not been prepared from view locations identified by the author of the LVE report. While the LVE report identifies that a site visit was undertaken in 2019, many of the photographs contained within the graphic attachment were taken in 2012 and have not been. It is unknown if these locations were visited during the ground truthing visit. In addition, reliance appears to have been made on the Google Earth Street View tool for the assessment of effects from view location 22. In my opinion, limited reliance can be placed on this tool for analysis purposes.*
>
> *Because the ratings provided are not supported by any analysis or independent research that explains how a difference in size affects visual perception and ratings, I am unable to verify how the effect ratings provided have been determined and therefore their validity. Without this information, it is difficult to understand why a 58% increase in the size of the proposed turbine only results in either a "low" adverse effect, or when considered in conjunction with the removal of the southern turbines, a "low-moderate" to "high" positive effect.*

It is also noted that the *minor* threshold adopted in the WSP reports differs from that contained in recommendations contained in the *New Zealand Institute of Landscape Architects Te Tangi a te Manu – Aotearoa New Zealand Landscape Assessment Guidelines, April 2021.* The WSP memo states:

> *Between: 'Very Low' to 'Low' to 'Moderate to Low' to 'Moderate' to 'Moderate to High' to 'High' to 'Very High'. New Zealand Institute of Landscape Architects Te Tangi a te Manu – Aotearoa New Zealand Landscape Assessment Guidelines, April 2021.* ***It is generally understood that 'less than minor' effects are equivalent to 'Very Low', and 'Low' effects are equivalent to 'minor' effects in an RMA 1991 context within the NZ Landscape Guidelines****, although the two scales do not align absolutely.* ***'Very Low' and 'Low' effects in this case are considered to be less than minor.***[1] [Emphasis added]

[1] Footnote 6, Page 3. WSP Memorandum 2. 23 August 2021

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Potentially Affected Properties and Notification Recommendations

In considering the issue of notification, *MGLA Memorandum 4* identified several properties where there was a risk that the proposed increase in the height of the northern 11 turbines would result in minor or more than minor effects on landscape character and visual amenity. The memorandum stated:

> *In terms of the effects on properties in the south of the visual catchment (in and around Coutts Road and Marokopa Road), I am satisfied that any variation in effect levels associated with an increased in height in the northern turbines will be balanced by the removal of the southern turbines, and while there is still some uncertainty around the level of effects, these are likely to have less of an influence on these locations.*
>
> *While I have not undertaken an independent assessment of effects, based on previous experience, I would have expected the effect levels identified to be greater, meaning that the increase in the size of the proposed turbines potentially underestimates the level of effect from some locations. This may result in effect levels being greater than the "Less than Minor" notification threshold of the RMA occurring in some areas.*
>
> *Properties where I consider there may be a risk of this occurring are identified on the following map.*

A copy of the map appended to MGLA Memorandum 4 is attached to this memo.

The above has been partially addressed by the receipt of further information from the application in August 2021 and is discussed in more detail below.

Affected Persons/Properties Identified in the Landscape and Visual Assessment (WSP 22 March)

The *Taumatatotara Windfarm Ltd Landscape and Visual Assessment Proposed Variation to Consent* (WSP, 22 March 2021) assesses the effects of reducing the number of turbines within the consented windfarm from twenty-two to eleven turbines and increasing the overall height (height) of the remaining eleven turbines from the consented 121.5m to 172.5m.

The WSP report rates the effects on visual amenity from

Location	Visual Effect Rating	Effect Type
Dwelling 22 (Taharoa Road):	low	adverse
Dwelling 18 (Marokopa Road)	low-moderate	positive
Dwelling 21 (Marokopa Road)	high positive	positive
Dwelling 19 (off Marokopa Road)	moderate positive.	positive
Dwelling 20 (off Marokopa Road)	moderate positive.	positive
Dwelling 14 (Coutts Road)	low-moderate positive	positive
Dwelling 15 (Coutts Road)	low-moderate positive	positive
Dwelling 16 (Coutts Road)	low-moderate positive	positive
Dwelling 17 (Coutts Road)	low-moderate positive	positive
Dwelling 13 (Coutts Road)	high positive	positive
Dwelling 11 (Coutts Road)	low-moderate positive	positive
Dwelling 12 (Coutts Road)	low-moderate positive	positive
Public Roads	low (adverse) - very high (positive)	adverse/ positive

Affected Person/Properties Identified in the s92 Response of 23 August

MGLA Memorandum 4 identified that

> *Uncertainty still exists around visual effects views from the dwellings and living areas associated with those properties in and around the northern eleven turbines that were not visited or assessed by WSP (Taharoa Road, Te Waitere Road, Taumatatotara East Road and Taumatatotara West Road). From these locations, any positive effects associated with the removal of the southern 11 turbines are likely to be less pronounced.*

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The letter from Shearer Consulting Ltd (12 April 2021) identifies that written approval has been received from:

> *1. SA34B/404 – the owners of that property – Alan and Sue Smith – have signed a written approval of affected persons form – it is forwarded with this letter.*
>
> *2. iSA48B/494 – The owners of that property are Tim and Mary Stokes. We have assessed the ZVI Maps prepared by Energy3, previously forwarded to Council and do not believe the views from this property are significantly different from the existing consented environment.*
>
> *3. Attached to this letter is a further assessment in the form of a Memorandum, completed by WSP. This Memorandum concentrates on the effects on "houses 26 and 28", both of which are located on Te Waitere Road – SA30d/453 (house 26), and SA42C/698 (house 28).*

The consultant planner has confirmed that several of the titles identified in the attached map are either under common ownership or have provided written approval for the proposed height increase. These are summarised in the following table:

Title	Landowner	Status
SA991/75	TM Station Limited	Other land holdings of TM Station, assume sign off as owns SA31C/23 which will have turbines on it.
SA1051/298	TM Station Limited	Other land holdings of TM Station, assume sign off as owns SA31C/23 which will have turbines on it.
SA31A/383	TM Station Limited	Other land holdings of TM Station, assume sign off as owns SA31C/23 which will have turbines on it.
141077	L & L Harper	Other land holdings of L & L Harper, assume sign off as owns SA47A/876 which will have turbines on it.
SA48B/494	G L Stokes	Written approval provided
SA34B/404	Allan & Suzanne Smith, 313 Te Waitere Road, Taharoa	Written approval provided

A review of the further information received from the applicant on 23 August 2021 (WSP Memorandum 2) included the assessment of the visual effects on the following dwellings as being either *Low* or *Moderate*.

Title	Landowner	Status
SA30D/453	Te Waitere View Limited (House #26)	No written approval provided
SA42C/698	Te Waitere View Limited (House #28)	No written approval provided

The WSP assessment of houses 26 and 28 have been undertaken as a desktop exercise. It is unknown if the assessing landscape architect has visited either property. The WSP memo identifies that the analysis relied on photographs supplied by the Applicant and line of sight diagrams prepared using elevation data from Google Earth[2]. The referenced light of sight diagrams is not included in the memo. Without surveyor verification of the accuracy of this approach, I am concerned about its validity. It is unknown why the, potentially more accurate, LINZ 8m DEM dataset was not adopted for this analysis.

[2] A review of the accuracy of Google Earth elevation data by Fox and Associates (Foxsurvey.co.nz) found that the original DEM data was captured by a space shuttle mission in 2000. The data has errors in the actual heights captured (16m was the target accuracy), the coarseness of the data (30-90m spacing) and the fact that missing portions of data were interpolated. There have been updates to the data to increase the accuracy, but there's scant information about the areas where the increased accuracy is available, and where future updates will be provided.

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Irons Property (Title SA1051/182)

The effects of the proposal on the Irons property (Title SA1051/182) are not identified or rated.

In this instance, the scale and resolution of the viewshed mapping too course to determine if the dwelling associated with this property is likely to be affected by the proposal. Due to its proximity, The potential exists for the effects on this property to be similar to those likely to occur at dwellings 22, 28 and 26 (for which notification is recommended).

The precautionary approach suggests that the effects on this property will be *minor* or *more than minor*.

Taharoa Village

The effects of the proposal on Taharoa Village are not identified or rated, however, a review of the extended viewshed mapping indicates that the village is located within a "hole" in the ZTV, meaning that the turbines are unlikely to be visible.

While the scale and resolution of the mapping is relatively course, when considered within the context of the distance from the site, potential viewer sensitivity and the likelihood of the landscape contributing to the existing landscape and amenity value of the village, effect levels are likely to be below the threshold for notification.

Public Roads

The effect of the increase in height is identified as being *low* for public roads. Again when considered within the context of potential viewer sensitivity and the likelihood of the extent to which landscape and views of the site contribute to existing amenity from the perspective of a transitory viewer, in my opinion, the effect levels are unlikely to be *more than minor*.

The *Low* effect ratings is below the *more than minor* threshold required in support of public notification.

Galbraith Property

I have read the email from Mr D. Galbraith dated 6 September 2021, in which he identifies that he will be able to see the turbines from his property at 223/225 Coutts Road and that he considers that the presence of the turbines will … *have a significant impact on our psychological experience due to the impact of the surrounding landscape.*

I have reviewed the potential increase in visibility of the proposed 172.5m high turbines against the visibility of the existing consented (121.5m high turbines) using an 8m Digital Elevation Model (DEM).

Up to all 11 of the 121.5m high turbines, permitted by the existing consent would be visible from different parts of the property. From some locations, no turbines would be visible.

Disregarding the positive effects associated with the removal of the southern 11 southern turbines, the model indicates that only the blades of one turbine will be visible from the dwelling, with the nacelle potentially visible from the workshop to the south of the house.

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While the turbines will be larger than those currently consented, there will be no ability to compare their relative sizes. The effect of their presence on the landscape (landscape effects) and existing visual amenity (visual effects) will likely be similar to the consented activity. What this means is that while the turbines will appear larger and have greater visual prominence, the relative difference in overall effect on landscape and visual amenity is likely to be *less than minor*.

Notification Recommendations

Due to the uncertainties around the assessment methodologies adopted and the effect ratings provided (as discussed above), I consider it prudent to err on the side of caution and recommend that the notification thresholds identified in the *New Zealand Institute of Landscape Architects Te Tangi a te Manu – Aotearoa New Zealand Landscape Assessment Guidelines, April 2021* be adopted rather than the thresholds identified in WSP Memorandum 2.

As such I consider that the effects on the following persons and/or properties are likely to be *minor* or *more than minor* and therefore recommend that they are notified of the proposed application*:*

RECOMMENDED FOR NOTIFICATION			
Title	**WSP Reference**	**Landowner**	**Status**
134566	House #22	Grey & Leslie Martin	No written approval provided
SA30D/453	House #26	Te Waitere View Limited	No written approval provided
SA42C/698	House #28	Te Waitere View Limited	No written approval provided
Title SA1051/182	Not assessed	Irons	No written approval provided

A revised notification recommendation map is appended to this report.

Please contact me if you have any questions.

Regards

Dave Mansergh
DipP&RM(Dist), BLA(Hons), MLA, Registered NZILA
Director

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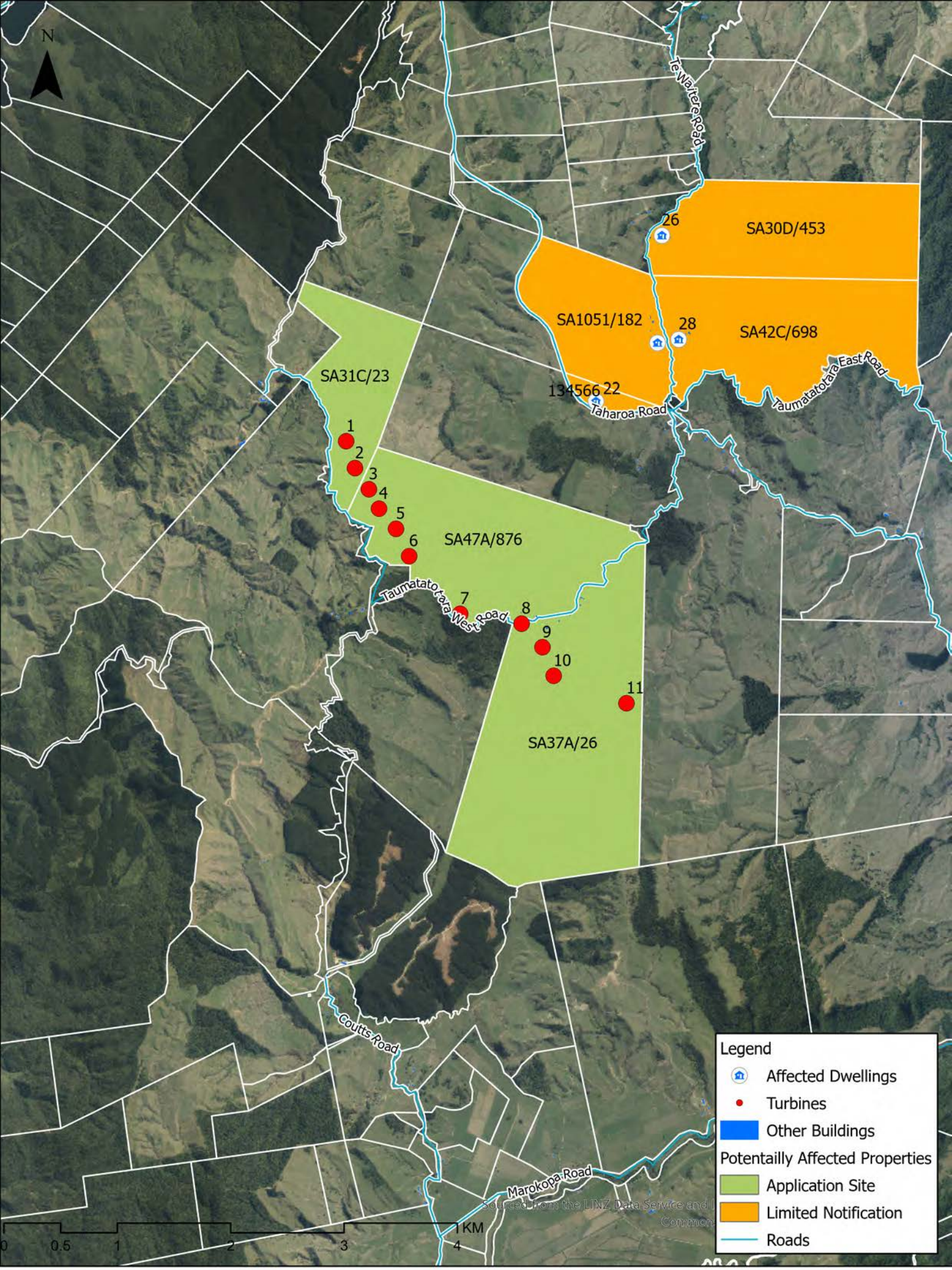

Potentially Affected Properties - For Notification

Taumatatotara Windfarm | 1:40,000 at A4 | September 2021 | Map No-1 | R1

mansergh graham
LANDSCAPE ARCHITECTS

Attachment 5

Marshall Day Acoustics memo

CONSULTANT ADVICE

Project:	Taumatatotara Wind Farm	**Document No.:**	Ca 003		
To:	Bloxam Burnett & Olliver	**Date:**	15 September 2021		
Attention:	Chris Dawson	**Cross Reference:**			
Delivery:	email	**Project No.:**	20191042		
From:	Siiri Wilkening	**No. Pages:**	5	**Attachments:**	No
Subject:	Peer Review - Noise				

Chris,

You engaged us to undertake a review of the Altissimo noise assessment, and the noise conditions proposed for the proposed Taumatatotara Wind Farm. We have reviewed the following documentation:

(a) Original Assessment of Environmental Effects Volumes 1 and 2, dated December 2005

(b) 2011 conditions of consent (variation)

(c) Letter "Taumatatotara Wind Farm – Noise effects of change in turbine", by Altissimo Consulting, dated 25 June 2020

(d) Application to change conditions of consent, by Ventus Energy (NZ) Ltd, dated 5 July 2020

(e) Letter "Taumatatotara Wind Farm – Noise effects of change in turbine", by Altissimo Consulting, dated 10 November 2020

(f) Letter "Taumatatotara Wind Farm – Noise questions from Waitomo District Council", by Altissimo Consulting, dated 7 April 2021

(g) Bundle of documentation from Vestas, including written approval forms and an updated Section 92 information letter, received on 27 August 2021 via email from Chris Dawson

In the review process, we issued a Section 92 request, dated 6 August 2020, and a further Section 92 request following the initial response, dated 18 December 2020.

We are now satisfied that the proposed wind farm can comply with the relevant noise limits, and that the effects would be insignificant, and generally inaudible, at most of the closest dwellings from which written approval has not been obtained.

Layout and receiver locations

The wind farm is proposed to consist of 11 turbines, with a maximum tip height of 161.7 m above ground level and a hub height of 95 m above ground level. The location of the proposed turbines is clearly identified in Table 3 and Appendix A of document (f) (refer above).

The closest receivers surrounding the turbines have been clearly identified in Appendix A of document (f) above. The closest dwelling at which effects must be assessed is more than 2 km from the closest wind turbine. We have only assessed dwellings on sites not associated with, or included in, the wind farm, given that dwellings associated with the wind farm would have given written approval to its establishment and operation. In addition, we have not assessed the dwellings of the Stokes family (835 Taharoa Road) and the Smith family (189 and 313 Te Waitere Road) as these have given written approval to the windfarm.

We are now satisfied that all turbines and receivers are clearly identified to enable a review of the Altissimo assessment.

Predicted noise levels

The assessment by Altissimo includes predictions of three noise level scenarios:

- 11 turbines with a hub height of 95m and a sound power level of 103.9 dB L_{AW} (we understand this to be the currently proposed turbine Vestas V136)
- 11 turbines with a hub height of 95m and a sound power level of 107.2 dB L_{AW} (the consented sound power level and proposed new layout)
- 22 turbines with a hub height of 65m and a sound power level of 107.2 dB L_{AW} (the consented sound power level and originally consented layout/height)

Given that the 22-turbine scenario is no longer proposed, we do not discuss it further.

For the 11-turbine scenarios, with different sound power levels, all predicted receiver levels are below 35 dB $L_{A90(10\ min)}$. Such noise levels are within the most stringent noise limit of NZS6808 (40 dB $L_{A90(10\ min)}$ or background + 5 dB, whichever is the higher).

We note that the Altissimo letter suggests that the IoA Good Practice Guide only be used as a sensitivity check rather than the primary prediction method. We disagree with this approach. The Good Practice Guide is the current best practice approach to wind farm noise assessments and should be applied. We have amended consent condition 9 (shown below) to reflect this.

Ambient sound level surveys

In accordance with NZS6808, where a predicted noise level is 35 dB $L_{A90(10\ min)}$ or above, background sound level measurements should be undertaken to determine the applicable noise limit. The conditions require noise level surveys at all dwellings where the predicted wind farm sound level is higher than 30 dB $L_{A90(10\ min)}$.

Currently, only one location (Martin) shows a predicted wind farm noise level above 30 dB L_{A90}, of 32 dB L_{A90}. Therefore, ambient measurements are required to be undertaken at this location prior to the construction of the wind farm.

The Martin dwelling is predicted to receive the highest noise level of all receivers that are no on the windfarm site or have given written approval to the project. When comparing the predicted noise levels for the consented (22 turbine) windfarm and the sought (11 turbine) windfarm, the predicted noise levels are the same (with a -0.1 decibel change predicted). That means that the effects from the windfarm will be less than minor at this receiver.

For all other receivers, the noise levels are predicted to reduce between 2 and 19 decibels, compared with the consented windfarm, and the effects will therefore range from negligible to significant positive.

Conditions

Altissimo, in their letter (document (e) above) recommends updated conditions. With some slight amendments (in ~~strikethrough~~ and underline, with our comments in *[…]*) we agree with the recommended conditions as set out below.

"Noise

Operational Noise

7. The consent holder shall ensure that sound from sources on the site other than those within the scope of conditions 8 and 12 does not exceed the following noise limits:

7.00am to 7.00pm	45 dB $L_{Aeq(15min)}$
7.00pm to 7.00pm	35 dB $L_{Aeq(15min)}$
	60 dB L_{AFmax}

8. The consent holder shall ensure that, at the specified assessment positions, at any wind speed, wind farm sound levels do not exceed 40 dB $L_{A90(10\ min)}$

   Wind farm sound shall be measured and assessed in accordance with NZS 6808:2010.

The Assessment Positions shall be outside at the noise sensitive locations shown on Site Plan 1.1c attached.

9. Prior to commencing any development of the wind farm, background sound level measurements shall be undertaken at any Assessment Position within the 30 dB L_{A90} contour. Measurements shall be ~~measured~~ undertaken in accordance with Section 7.4 of NZS 6808:2010.

   If no Assessment Positions have predicted sound levels above 30 dB L_{A90}, measurements shall be performed at two locations agreed with Council.

   A report of measured sound levels shall be prepared in accordance with Section 8.2 of NZS 6808:2010 and submitted to the Manager, Policy and Planning, Waitomo District Council.

10. Prior to commencing any development on the wind farm, a prediction report shall be submitted to the Manager Policy and Planning, Waitomo District Council in accordance with Section 8.4.2 of NZS 6808:2010.

    The prediction ~~should~~ shall be based on the highest sound power level of the turbine to be installed, and include results for both NZS 6808:2010 and IoA GPG method.

11. The wind turbines shall not have a sound power level of greater than 107.2 dB L_{WA}.

    A certificate confirming the sound power level shall be included in the prediction report required by Condition 10.

Construction Noise

12. – 15. *[No changes recommended]*

Noise Monitoring

16. Within six months of commencement of operation, wind farm sound levels shall be measured at all Assessment Positions where predicted sound levels were greater than 30 dB L_{A90}.

    If no Assessment Positions have predicted sound levels above 30 dB L_{A90}, measurements shall be performed at two locations agreed with Council.

    A compliance assessment report shall be submitted to the Manager Policy and Planning, Waitomo District Council in accordance with Section 8.4.1 of NZS 6808:2010.

    If no Assessment Positions have predicted sound levels above 30 dB L_{A90}, measurements shall be performed at same locations measured in Condition 9. If access is denied, alternate ~~at~~ locations are to be agreed with Council.

    A compliance assessment report shall be submitted to the Manager Policy and Planning, Waitomo District Council in accordance with Section 8.4.1 of NZS 6808:2010.

17. The consent holder shall pay all costs associated with noise compliance measurements, monitoring and reporting."

Potential residents' concerns

We have reviewed an email from Mr Galbraith at 223/225 Coutts Road. The distance between the closest turbine location (location 10) and the site boundary (not the dwelling location) is more than 3 km in a straight line (i.e. not allowing for terrain screening). At that distance, the windfarm would generally not be audible. We would therefore not consider Mr Galbraith as being an affected party in relation to noise effect.

He comments on the potential effects of infrasound. The internet and popular press have contributed to speculations that health effects can occur near wind farms even when audible noise is well controlled or when noise is inaudible.

The literature concerning these areas has been reviewed in detail by the Standards New Zealand NZS 6808 revision committee, to the conclusion that neither infrasound nor vibration from wind farms can give rise to health effects, and that no additional steps are required in a noise assessment to ensure that health and amenity are protected.

The following sections provide some information about these topics to assist with these discussions, should this be needed.

Infrasound and Low Frequency Sound

Infrasound, which is sometimes confused with vibration, is transmitted through the air at very low frequencies (below 20 Hz). Low frequency sound lies within the audible frequency band (above 20 Hz) but below a threshold which varies depending on application, but usually around 200 Hz.

There is a limited amount of reputable information available defining the health effects of infrasound, from any source. It has been suggested that vibroacoustic disease is a phenomenon which occurs following long-term (10 years) exposure to high levels of low frequency noise (80 dB+).

Experiences some 30 years ago in Europe, from fledgling wind turbine technology, suggest there may have been low frequency noise problems due to a variety of mechanisms. The development of wind turbine technology is such that reputable suppliers guarantee that the operation of their equipment will not generate subjectively significant levels of low frequency noise. These manufacturers have also carried out extensive research into whether their equipment does in fact generate infrasound, and if so, to what degree. The research to date has concluded that modern well engineered wind turbines do not generate infrasound in sufficient quantities to be of concern to health or amenity.

It is important to note that infrasound is naturally occurring, and is produced continually by wind interaction with topography, and intermittently from other natural sources.

Vibration

A paper by Peter Styles (Styles, 2005) reviewed a number of studies which demonstrated that vibrations from wind turbines can be transmitted through the ground and detected by extremely sensitive equipment at distances of several kilometres from a wind farm. However, the levels of vibration that were detected are extremely low, in fact several orders of magnitude less than the threshold of human sensitivity.

The context of the Styles study was to determine whether vibration from wind farms would interfere with seismic equipment designed to detect weapons detonation from a distance of thousands of kilometres. This equipment was purposefully located in an area with very low ambient vibration levels. In most populated areas this detection equipment would be infeasible due to traffic activity and other day to day common vibration sources.

There is no evidence that wind turbines cause ground vibration of an amplitude to be humanly detectible.

Secondary vibration can be produced by loud noise sources, in which high levels of audible sound cause components of a dwelling to vibrate. For this to occur, the audible sound levels would need to be significantly higher than those allowed by NZS6808.

Literature references

There are a multitude of well researched and peer reviewed papers available in literature. A small selection is set out below:

https://www.nhmrc.gov.au/health-advice/environmental-health/wind-farms

https://www.nhmrc.gov.au/about-us/publications/nhmrc-statement-evidence-wind-farms-and-human-health

https://www.researchgate.net/profile/Geoff-Leventhall/publication/316216659_Health_effects_from_wind_turbine_low_frequency_noise_infrasound_Do_wind_turbines_make_people_sick_That_is_the_issue/links/5920ac6faca27295a8a1d13d/Health-effects-from-wind-turbine-low-frequency-noise-infrasound-Do-wind-turbines-make-people-sick-That-is-the-issue.pdf

Attachment 6

BBO traffic memo

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Memo

To	Chris Dawson, Bloxam Burnett & Olliver
From	Lindsay Boltman
Date	13 September 2021
Job No.	123391.103
Job name	Taumatatotara Windfarm
Subject	Overview of the Transportation Information provided by the Applicant

1. Introduction

This memorandum outlines the review undertaken for the proposed windfarm project with respect to the information provided by the applicant. The report looks at whether the available information is sufficient to conduct an assessment of the transport route and address the challenges of over dimension and / or over-weight loads.

To date, Bloxam Burnett & Olliver Limited (BBO) has consistently raised concerns with respect to the route and a number of constraints that are effectively underestimated. My initial review dated 29 April 2021 indicated that there are certain aspects of the windfarm route that requires further clarification.

2. Background

BBO conducted a high-level review of Taumatatotara Windfarm project in August 2020, requesting further information as the data provided by the applicant was from 2006 and was outdated. The overview of the assessment was that the applicant needed to provide a detailed assessment / mitigating measures that addressed all aspects along the entire route and alternative route.

3. Further Information

Traffic Engineering Solutions Limited (TES) provided BBO with updated information regarding the following.

- Duration of the project;
- Trips per day;
- CAS data;
- Traffic volumes along the route; and
- Sight distance from the access.

A full route assessment (journey run and tracking path) between New Plymouth and the subject site (251 Taumatatotara West Road, Te Anga), as shown in Figure 1 below was not conducted as TES stated that that level of detail cannot realistically be provided at this early stage of the project. The level of detail was to be addressed as part of the Construction Traffic Management Plan (CTMP) which will form part of the consent conditions.

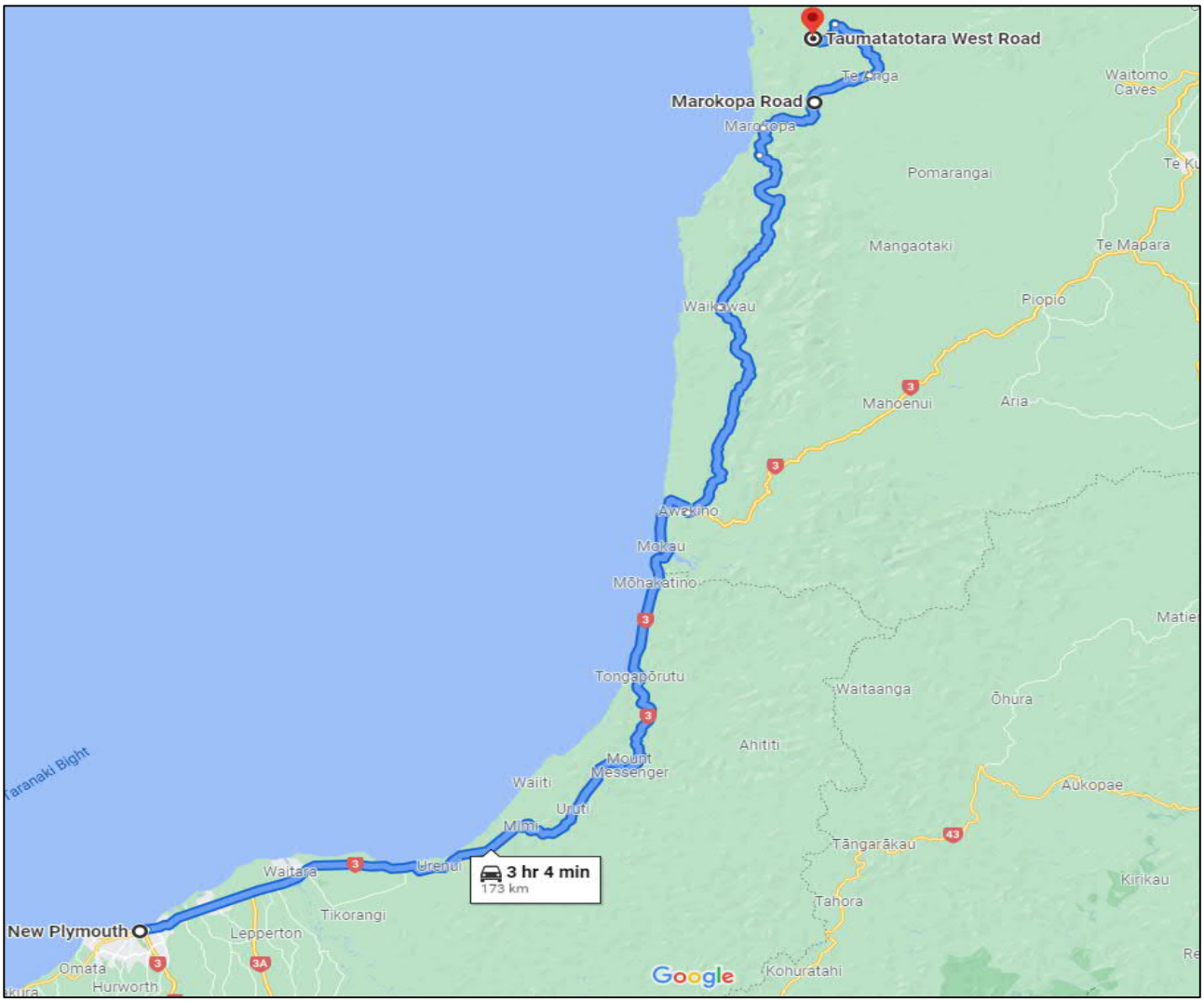

Figure 1: General Locality

Random spot checks along the route indicated that there are quite a number of constrained areas such as tight corners / bends, narrow roads / bridges and road furniture obstruction (poles and cables). There are a few locations along Marokopa Road that require some form of physical work to be undertaken during the transportation of the windmill components.

The location in Figure 2 and Figure 3 shows that Marokopa Road is a one-lane (approximately 3.1 m wide), two-way directional road. The oversized vehicle that the applicant is proposing to use is 3.4 m wide (outside tyre to tyre) and would require some physical works (removal of guardrails) and possible bridge widening (Figure 3) to be undertaken so that the vehicle can travel along this section of road.

Figure 2: Marokopa Road


Figure 3: Marokopa Road Bridge

Figure 4 below shows that the oversized vehicle cannot make a right-turn without the windmill components striking the pole. In this instance, the applicant will need to consult the cabling company to assess the implication of temporarily removing the cables / electric pole to allow safe passage.

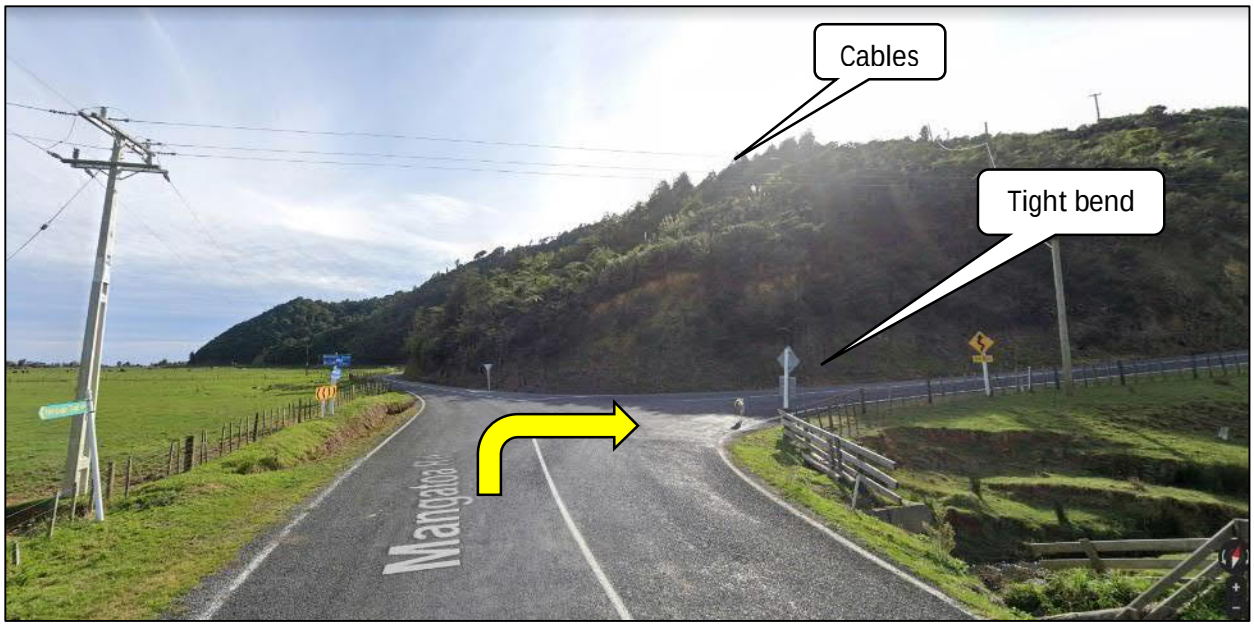

Figure 4: Mangatoa Road / Soundry Road Intesection

The alternative route via Awakino Tunnel shows that the location of Te Anga Road in Figure 5 is one-lane, two-way directional road. The size and width of the oversized vehicle would require the bridge to be upgraded to an extent that the bridge can support the oversized loads.

Figure 5: Te Anga Road

A bridge feasibility study was conducted along Te Anga Road and Taharoa Road which specified the loading configuration. Any BLR greater than 200% represents a 'Do Not Cross' restriction.

Table No. 1

Bridge Feasibility Study						
Road Name	No.	RP	Bridge Type	BLR	Clear Width	Recommendation
Te Anga Rd	1	16578	Box Culvert	150%	7.4	No Supervision Required
Te Anga Rd	2	19501	Concrete	192%	3.77	Engineering Supervision Required
Te Anga Rd	3	19935	Concrete	197%	4.24	Engineering Supervision Required
Te Anga Rd	4	24940	Stock Underpass	113%	100	No Supervision Required
Te Anga Rd	5	26931	Concrete	224%	4.24	DNC
Te Anga Rd	6	27430	Concrete	276%	3.1	DNC
Te Anga Rd	7	31476	Concrete Deck Steel Beams	251%	7.3	DNC
Taharoa Rd	8	4741	Concrete	179%	3.68	Engineering Supervision Required
Taharoa Rd	9	7805	Twin Concrete Pipes	80%	100	No Supervision Required

The assessment shows that Bridges 5 to 7 have a BLR greater than 200% representing a 'Do Not Cross' restriction while bridges 4 and 5 are just marginal at 192% and 197% respectively.

Without doing any assessment it is expected to reduce the platform trailer axle loads to a weight where bridges 6, 7 and 8 are less or near a BLR of 200% would result in a substantial reduction in the payload weight making the proposal not feasible.

The alternative options are:

1. Strengthening the under-strength structures to take the maximum proposed loads (mobile crane loads to be assessed as well)– this has advantages of future proofing the route for maintenance and/or component replacement at the wind farm and also would permit larger equipment to be transported into the Taharoa Ironsand project which also have overweight loads rejected from time to time on the same bridges.

2. Look at alternate routes – not really a viable option as the only option is coming up the coast roads of Manganui / Mangatoa / Marokopa Roads – each with their own limiting bridge structures and tight geometrics.

3. Investigate temporary spanning of the bridges in question. Tranzcarr have a number of portable bridge spanning units which may be suitable to span the shorter span bridges. The three-span bridge 7 might be an issue.

4. Full bridge replacement with modern fully load compliant structures.

Based on the bridge assessment it is clear that the applicant should consult with an engineer that is experienced in heavy haulage to further fully investigate the route and identify not only limiting bridge structures but to also look at all the geometric constraints along the route particularly beyond the Waitomo Village to the site.

4. Status of Activity

We were not able to fully assess the transportation effects as the applicant has only provided a desktop study of what their intentions are. The applicant's response was to address the details of the traffic effects and mitigation measures as part of the Construction Traffic Management Plan (CTMP) which would form part of the conditions of consent.

A full route assessment will need to be assessed at a later stage based on the following:

- An assessment of the vehicle swept path at the site access. The access design is to accommodate the turning path of an over-dimension vehicle coming to site and a truck and trailer vehicle simultaneously exiting.
- No earthworks shall commence until the vehicle crossing has been constructed in accordance with the proposed detailed design and signed off by Council.
- An assessment of the vehicle swept path should be provided for the isolated areas along the entire route. Furthermore, a test run with a semi-trailer truck should be undertaken along the entire route (New Plymouth Port to subject site) and a recording of this should be provided as evidence.
- If the above assessment finds corner widening is required, no earthworks shall commence until the proposed detailed design is signed off by Council.
- If the above assessment finds bridge railings or other roadside assets are likely to be damaged by transport, the applicant and Waitomo DC to negotiate on proposed bridge railing upgrade or other suitable approach.
- The applicant shall submit overweight permit requests to Waitomo DC for the vehicles and routes expected to be used. If permits cannot be granted due to weight restrictions of bridges on either the proposed or alternative route, the applicant and Waitomo DC to negotiate on proposed bridge upgrade or strengthening work.
- Prior to construction, the applicant shall prepare and submit detailed design drawings of the vehicle crossing to Council for approval. The proposed heavy vehicle crossing shall be designed and constructed to meet the requirements specified in the Waikato Regional Infrastructure Technical Specifications.

Yours sincerely
Bloxam Burnett & Olliver

Lindsay Boltman
Traffic &Transportation Engineer
D: +64 7 834 8517
lboltman@bbo.co.nz

K:\123391 Waitomo District Plan\103 Taumatatotara wind farm_July 2019\Reporting\Traffic & roading\s92 Responses_Traffic Matters.docx

Attachment 7

Boffa Miskell Ecology memo

Boffa Miskell

Memorandum

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Attention:	Chris Dawson, Consultant Planner
Company:	Waitomo District Council
Date:	11 September 2021
From:	Dr Leigh Bull
Message Ref:	Taumatatotara wind farm ecology – S95 affected parties
Project No:	BM19855

Purpose

1. The purpose of this memorandum is to assist with the identification of affected parties where the ecological effects of the proposed increased turbine height are likely to be minor or more than minor (to determine affected parties for limited notification).

Residual concerns around methodology adopted and effects assessment

2. The ecological assessments[1,2,3] on which original resource consents (2006) and subsequent variation (2011) were granted did not undertake any extensive or targeted field investigations. Rather, they identified Threatened or At Risk species that may occur on the site based on the habitat available or their known presence in the wider landscape. Those species included long-tailed bats, NZ falcon, Australasian bittern and spotless crake. The lack of targeted surveys meant that their presence, abundance, distribution and patterns of movements across the wind farm site was completely unknown.

3. A further ecological assessment[4] was submitted with the current application to reduce the number of turbines on the wind farm by 50%, but increase the overall RSA[5] by 20%. Despite no field surveys being undertaken to inform this assessment, it concluded that "the potential adverse ecological effects of increasing the maximum turbine tip height from 110m to 172.5m and increasing the rotor diameter from 100m to 155m are likely to be negligible at most. While bird and bat fatalities are unlikely to change with increased blade tip height and rotor diameter, the 50% reduction in turbine numbers is highly likely to reduce fatalities, which would be a positive ecological benefit overall."

4. The premise of the resulting Section 92 further information request for ecology[6] was that in order to be able to assess potential ecological effects, it is critical to first have an understanding of what species are present and how they are utilising the sites. As per the AUSWEA (2018) best practice guidelines, ecological assessments for wind farms should include:

[1] Kessels & Associates Ltd (2004). Ecological Assessments of Proposed Wind Farms, Taumatatotara West Rd, Taharoa. Report prepared for Ventus Energy Ltd, dated 17 December 2004.
[2] Kessels & Associates Ltd (2005). Proposed Wind Farm Turbine Sites 18-22: Assessment of Ecological Effects. Report prepared for Ventus Energy Ltd, dated December 2005.
[3] Kessels & Associates Ltd (2011). Ecological effects of the proposed tip height extension Taumatatotara (T4) wind farm. Letter from Gerry Kessels to Glenn Starr (Ventus Energy Ltd) dated 27 November 2011.
[4] Ecology New Zealand (2020). Taumatatotara (T4) wind farm: Ecological assessment of increased turbine height, increased rotor diameter and reduced number of turbines. Report prepared for Ventus, dated 30 June 2020.
[5] Rotor sweep area
[6] Boffa Miskell (2020). Taumatatotara wind farm Ecology Assessment – Further request for information. Memorandum prepared for Waitomo District Council, dated 7 August 2020.

- a desktop review of available information to identify any potential issues that may prevent the project being approved;
- field surveys to map the vegetation and identify flora and fauna species;
- species-specific studies to obtain more information about significant flora and fauna (particularly birds and bats) that may be at risk from the development or to avoid them or develop mitigation strategies
- development of avoidance, mitigation and offset strategies to minimise impacts on species if required; and
- development and implementation of monitoring programs for the construction and operational phases of the wind farm development.

5. The assessment of ecological effects undertaken for the Taumatatotara wind farm did not follow these best practice guidelines, and did not contain the necessary information to be able to accurately determine the effects of the proposal. As such the additional information was requested primarily related to the Threatened and At Risk species previously identified as potentially on site.

6. The applicant provided separate responses to this request for avifauna[7] and bats[8], in which it was concluded that the proposal would not have a measurable effect on bird, and highly likely to reduce bat fatalities. However, it remained unclear how it could be determined that this was the case when again no field investigations had been undertaken to even identify exactly what species were present on the site, let alone how they were using the site.

7. In relation to bats, a key basis for this conclusion was the comparison of existing potential habitat at turbines 12-22 vs 1-11. The report[8] stated "What is immediately obvious from aerial image mapping is that the intact native forestry fragments (which is likely to provide relatively high quality areas of bat habitat) are much larger around the (consented) Turbine 12 – 22 turbine block which is proposed to be surrendered as part of this application (Appendix 1). There is also cliff and rocky outcrops along the western flank of turbines 17 to 22 which may form attractive bat habitat. Comparisons of habitat strongly suggest that current or future bat habitats are more likely adjacent to turbine block 12 to 22."

8. In response to the request to undertake bat surveys on the site, the report[8] stated "Rather than collecting bat monitoring data (which is of limited use in collision risk modelling) as requested in the s92 request, I would favour instead applying a condition of consent requiring the use of bat detection and deterrent technology (e.g., NRG Bat Deterrent System)". In addition, the report recommended that "consent condition that requires that the applicant establish a pest control programme over a minimum area commensurate with the scale of the project (e.g., 200 hectares of native forest habitat) with the primary objective of protecting key bat habitats on-site and possibly adjoining properties with suitable habitat for protection."

9. Based on the information provided by the applicant's ecologists, it was my opinion that there was still insufficient site-specific information on which to determine the ecological effects of the proposed turbine changes on avifauna and bats that may be present on the site. As such, a further request[9] was made to collect the following data:
    a) For bats, the presence or absence of activity at each of the turbine sites; and
    b) For avifauna, presence/absence of species, and their distribution across the site in relation to preferred habitats.

10. In addition to requesting the collection of data, concerns were raised regarding:
    a) the proposed use of technology which hasn't been trialled in New Zealand as a means to mitigate potential bat collisions; and
    b) the basis on which it had been determined that the proposed pest control programme, presumably as an offset measure, was adequate to address any potential effects on bats. Given no data had been

[7] Appendix 4A: Ecology – Avifauna (Dr John Craig)
[8] Appendix 4B: Ecology – Bats (Ecology NZ, memorandum dated 9 December 2020)
[9] Boffa Miskell (2020). Taumatatotara wind farm Ecology Assessment – Further request for information. Memorandum prepared for Waitomo District Council, dated 7 August 2020.

collected regarding bats on the site, and therefore at risk of collision, how was it possible to determine if the scale of the proposed offset is appropriate, or even required?

11. Avifauna and bat field surveys were then conducted by the applicant's ecologist, and the results provided[10]. In regard to birds, point count data was collected but no targeted falcon surveys were conducted. For bats, 17 bat recorders (ABMs) were deployed across the site, two of which malfunctioned. Bat activity was recorded at 12 of the 15 sites. Nevertheless, the reported concluded that "Rather than indicating any further assessment or design work is required, the findings in relation to bats support the package of mitigation (i.e., use of bat deterrent technology at turbine sites), monitoring (of the local bat population), and compensation (i.e., predator control in adjacent bush blocks; Appendix 2) measures put forward by the applicant."

12. On reviewing[11] the results of the field surveys, it is my professional opinion that observations made while undertaking other ecological investigations over a period of two days is both insufficient in survey effort, and lacking in targeted methodology to adequately assess the implications of the proposed wind farm variation on NZ falcon. As such, I recommended several consent conditions to address these concerns.

13. In regard to bats, I remained in disagreement with the Applicant's ecologist regarding the potential level of effects on bats resulting from the proposed variation. Of particular concern was the finding that the highest levels of bat activity were not recorded at the sites previously identified by the applicant's ecologist as most likely containing bats (refer to paragraph 7 above); rather two of the highest levels of bat activity were recorded within the northern part of the wind farm, where it is proposed to increase the RSA by 20%.

14. Furthermore, I disagreed with the continued approach to move directly to an offset / compensation package for any such effects. In addition to not following the effects management hierarchy, insufficient evidence was provided regarding the appropriateness of the "mitigation package" that is being offered; that being the use of bat deterrent technology at turbine sites, monitoring of the local bat population and predator control in adjacent bush blocks for a limited period of time (refer to paragraph 8 above).

15. The applicant then provided an ecological assessment[12] using the data previously collected, the conclusions of which were unchanged from those provided in earlier reports.

Potentially Affected Parties and Notification Recommendations

16. Our knowledge regarding the conservation status[13] of New Zealand's native bat populations, and the potential impacts[14,15,16,17,18] of wind farm developments on this fauna group, have increased considerably since the granting of the original consents for the Taumatatotara wind farm in 2006.

17. Long-tailed bats are classified as Threatened – Nationally Critical, so the importance of confirming their presence on the Taumatatotara wind farm site should not be under-estimated or diminished. Furthermore, they were recorded on the site in reasonable numbers, with two of the three highest levels of activity recorded at locations where turbines will remain; and the highest level of activity being recorded immediately adjacent to turbine 11 which will also remain.

[10] Ecology New Zealand (2021). Taumatatotara (T4) Wind Farm – Further s92 response - Bats. Memorandum prepared for Ventus, dated 30 10 April 2021.
[11] Boffa Miskell (2021). Taumatatotara wind farm – Review of additional ecological surveys. Memorandum dated 6 May 2021.
[12] Taumatatotara wind farm ecological assessment of the existing 22 turbine consented activity plus the proposed tip height variation in response to s92 requests. Prepared by Dr John Craig and Simon Chapman, dated 10 August 2021.
[13] O'Donnell et al. (2018). Conservation status of New Zealand bats, 2017. *New Zealand Threat Classification Series 21.* Department of Conservation, Wellington.
[14] Baerwald et al. (2008). Barotrauma is a significant cause of bat fatalities at wind turbines. *Current Biology 18:* R695-R696.
[15] Rollins et al. (2012). A forensic investigation into the etiology of bat mortality at a wind farm: Barotrauma or traumatic injury? V*eterinary Pathology 49:* 362-371.
[16] Lawson et al. (2020). An investigation into the potential for wind turbines to cause barotrauma in bats. *PLOS ONE https://doi.org/10.1371/journal.pone.0242485*
[17] Brownlee & Whidden (2011). Additional evidence of barotrauma as a cause of bat mortality at wind farms. *Journal of the Pennsylvania Academy of Science 85*: 147–150
[18] Grodsky et al. (2011). Investigating the causes of death for wind turbine-associated bat fatalities. *Journal of Mammalogy 92:* 917–925.

18. In my opinion, insufficient information has been provided to conclude that the potential adverse effects on bats will be less than minor; rather, I am of the opinion that the effects of the proposal could be minor, that being a noticeable affect but will not cause any significant adverse impacts.

19. Given the conservation status of long-tailed bats, and confirmation of this species on the Taumatatotara wind farm, I recommend that the Department of Conservation (DOC) be notified on this matter, particularly given this species is protected by the Wildlife Act 1953.

K:\123391 Waitomo District Plan\103 Taumatatotara wind farm_July 2019\Reporting\Notification s95 report\BM19855_Ecology_S95_memo_20210911.docx

Attachment 8

Landowner map

Waitomo District Council

Rotopūhoe Road

Taharoa Road

Te Wai-

189
176
83
84
767
884
877
11
835
781
465
251
279

Taumatatotara West Road

297
281
223
158

Coutts Road

75

Marokopa Road

450
411
29

N

Legend

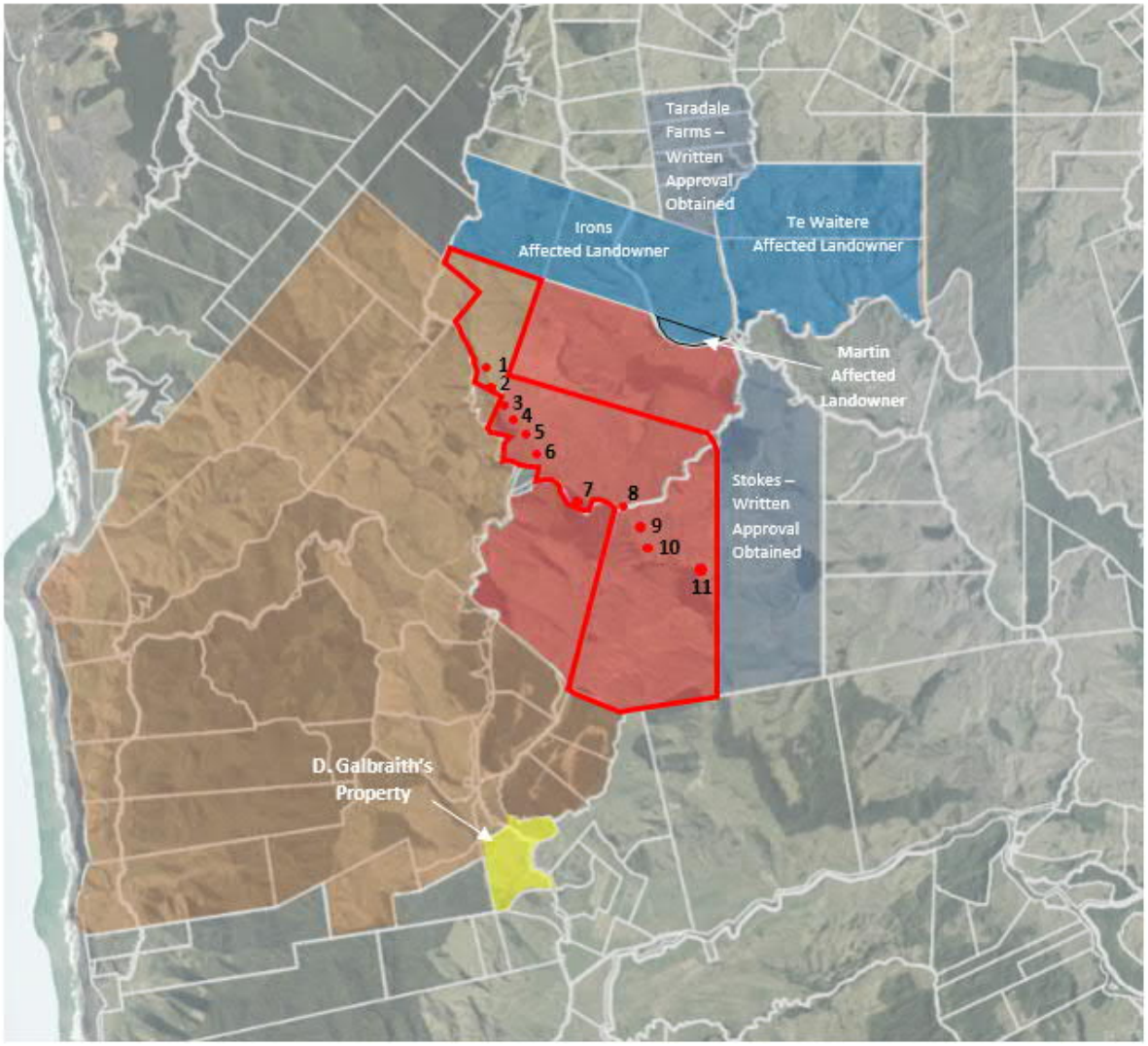
- Parcel Boundaries
- TM Station Limited
- Catherine M Griffin
  Mitchell Harper and Bailey Ingham Trustees Limited
- Larry and Lynette Harper and Bailey Ingham Trustees Limited
- Windfarm Titles
- Turbines

Attachment 9

Affected parties and written approvals map

Taumatatotara Windfarm

Land Ownership and Affected Party Map



Key:

- Land occupied by Windfarm
- Windfarm turbine location
- Written approval obtained
- Affected land owners
- Bailey Ingham Trustees Limited
- D. Galbraith
- TM Station Limited

Attachment 10

D Galbraith email

Chris Dawson

From: David Galbraith <drgalbraith@xtra.co.nz>
Sent: Thursday, 9 September 2021 1:48 PM
To: Chris Dawson
Subject: Galbraith

Thank you Chris

Much appreciated.

Kind regards
David

From: Chris Dawson <cdawson@bbo.co.nz>
Date: Wednesday, 8 September 2021 at 4:56 PM
To: David Galbraith <drgalbraith@xtra.co.nz>
Cc: Robert Davies <robert.davies@nwm.co.nz>, 'Theresa Le Bas' <Theresa.LeBas@tompkinswake.co.nz>, "Alexander.Bell@waitomo.govt.nz" <Alexander.Bell@waitomo.govt.nz>, "Predrag PJ. Draca" <Predrag.Draca@waitomo.govt.nz>
Subject: RE: the ventus application to amend their resource content to build wind turbines close to our home and becoming a notable/affected party

Hi David,

Thank you for your email.

Council are in the process of engaging an Independent Hearing Commissioner to review the s95 notification report (that I will be preparing on behalf of Waitomo District Council) and make a decision on that report.

I will append your email to my s95 report so that it can be addressed as part of the decision process around notification.

Once that notification decision is made by the Hearing Commissioner you will be advised of their decision and the statutory process that will be followed from that point onwards.

Regards,

BLOXAM BURNETT & OLLIVER

Chris Dawson PLANNING PROJECT MANAGER
DipPRM, BSocSci(Hons), PGDipREP, MNZPI, MRMLA
Level 4, 18 London Street, PO Box 9041, Hamilton 3240
R +64 7 838 0144 D +64 7 834 8521 M +64 27 5333 899
E cdawson@bbo.co.nz W www.bbo.co.nz

From: David Galbraith <drgalbraith@xtra.co.nz>
Sent: Monday, 6 September 2021 4:15 PM
To: Chris Dawson <cdawson@bbo.co.nz>
Cc: Robert Davies <robert.davies@nwm.co.nz>
Subject: the ventus application to amend their resource content to build wind turbines close to our home and becoming a notable/affected party
Importance: High

Hi Chris

Thank you again for your time today.

I would like to formally request to be considered an affected party (i.e. and therefore notifiable) to the ventus application on the grounds (1) that we are inside the 10 to 15 km distance from the turbines and the internationally documented health effects from low frequency sound generated from industrial turbines will have an negative impact on my and my families physical health; (2) we will be able to see the turbines from our property on 223/225 Coutts road and consider this will also have a significant impact on our psychological experience due to the impact of the surrounding landscape.

I have ccd my lawyer into my email.

Kind regards

David Galbraith

This email has been scanned for spam and viruses by Proofpoint Essentials. Click here to report this email as spam.

Attachment 11

Ngaati Mahuta letter

ATTENTION: Tipene Wilson [tangata whenua engagement facilitator]

RESPONSE TO PROPOSED WIND FARM- Extra extra large TURBINES,

- TAUMATATOTARA WEST ROAD

HUI: Held 04 May 2021 @ Tahaaroa.

Taumatatotara Proposed Wind Farm Hui Te Kura o Tahaaroa Tahaaroa 04 May 2021	
In attendance:	Ngāti Mahuta: Nga Armstrong, Reanin King, Aherata King, Rachael Mura, Tommy King, Joanne King, Robyn Maikuku Craig Shearer (Planning Consultant), Tipene Wilson (Tāngata Whenua engagement facilitator)
1.	Mihimihi, karakia: Nga Armstrong, Tipene Wilson
2.	Confirmation of Agenda and key outcome(s) from hui: a. Karakia, mihimihi, whakawhanaungatanga, b. Review of photo montages and site visit, c. Next steps: Closing karakia
3.	Summary of application: a. A reduction in the number of consented turbines by 11 turbines from 22 to 11, and b. An increase of 62.5m in maximum height from 110m to 172.5m for those 11 turbines c. Interested in any effects of that change.
4.	Discussion: a. Long term effects of windmills b. Visual effects c. Hunting effects d. Ensuring other environmental effects are suitably avoided or mitigated. e. Cultural effects f. Condition to ensure that any disposal of parts or windmills occurs in an environmentally and culturally appropriate manner. g. Benefit back to whānau (e.g. power to marae)
5.	Tipene and Craig left the hui.

REPRESENTING : - Ngaati Mahuta ki te Tai Hauaauru

Kaaore! Hee hau kino e rite ki te hauaauru...

On behalf of and humbly proud to be representing Ngaati Mahuta ki te Hauaauru. I and those in attendance and those that have been canvassed have considered and acknowledge the information that was presented to us today [1st Hui].

After very careful consideration, and robust discussion of the Pro's and Con's we decided collectively and unanimously to refute and categorically object to any idea that a wind farm within reach of our mana whenua Ngaati Mahuta ki te Tai Hauaauru could be advocated for.

We are disappointed that we [Ngaati Mahuta- NM] was not consulted in the consenting process. We still do not comprehend [although explained] why Kawhia over 50km's away were included in the discussions and initial consent being sourced and assured. Ngaati Mahuta has always been well within the 10km radius of the Ventus' –studies, graphics, diagrams, reports, pictorial montages and all published work scopes designed for this wind farm application.

Our cultural narrative embraces [te oranga tonu oo maatou taiao] derived from our histories, our stories, our sacred places, our interactions with the land, life forms combined with ‘whakapapa – intergenerational’, our ways of being, as a people. We have strived to live with a common understanding of tikanga, kawa, values, heritage and tradition. Spiritual connections to the land and our environment are of paramount importance. These inter-relationships form ‘mauri’ and are non-negotiable, we do not mess with these realms, and one would pay heed too take note.

We cannot support the change of wind turbine size, an extra 62.5 metres in height, nor do we see a reduction in turbine numbers as a mitigating factor to lessening the impact of junk/ scrap metal, zero waste, visual effects and all of what was up for discussion. With hand on heart we are not confidently assured that the environmental and cultural impact, the ecological –dirty footprint, biodiversity of indigenous, the health and wellbeing of lives and environment present and in the future has been addressed adequately.

We decline and will not pursue the suggestion, an ‘opportunity for benefits’ from these wind turbines [e.g free/discounted power to the Marae, providing our cultural and environmental concerns are addressed appropriately].

Naaku noa

Yvonne N Armstrong
Yvonne N Armstrong