

SCHEDULE 1: RESOURCE CONSENT CONDITIONS

WELLINGTON CITY COUNCIL

General

1. With the exception of amendments required to comply with other conditions of this consent and any conditions of related resource consents granted by the Porirua City Council and Wellington Regional Council, the proposed development must be carried out in accordance with the information and plans provided with Application Service Request number 176538.

For the purpose of the following conditions any reference to 'residential building' means a residential building in accordance with the definition in the District Plan, and applies to any such building(s) which is/are existing, have been granted a land use consent, or had a notified resource consent application in process, at the time of notification of this application on the 17th April 2008.

Lapse Date

2. In accordance with section 125(1) of the Resource Management Act 1991, this consent shall lapse if not given effect to within seven (7) years of the date of commencement.

Landscape/Visual

3. No more than twenty-nine (29) wind turbine generators ("turbines") are permitted to be installed by way of this consent.
 - a) The revised site layouts shall be taken to exclude turbines G04 and F11, and all related infrastructure and access tracks.
 - b) The approved site layout includes turbines E01, E04, E05, E06, E07, E08; F03, F04, F05, F06, F07, F08, F09, F10, F13, F14, F15; G01, G02, G03; H01, H02; J01, J02; K01, K02, K03, L01, L02 and all related infrastructure and access tracks.
4. Each turbine shall be a Siemens 2.3-82 VS and must be:
 - a) A pitch regulated upwind three bladed rotor type, with a tubular steel tower, as indicatively shown on Page 2 of Appendix B - Construction Effects and Management Report to the AEE submitted with the application.
 - b) Located no more than 100 metres from the site shown for the respective turbine on the plan marked "*Sheet 1 – Overall Site Development Plan – Site Layout*" of the AEE and the grid location shown in Table 3 of the AEE.
 - c) No higher than 111 metres measured from the base of the tower to the vertically extended blade tip.
 - d) Finished with a low reflectivity (not exceeding 30%) light grey paint finish (RAL7035 or similar) on all external parts, including turbine towers, nacelles and turbine blades of a type approved by the Compliance Monitoring Officer so as to minimise blade glint.
 - e) Maintained and upgraded to the satisfaction of the Compliance Monitoring Officer so as to ensure that it does not materially alter its visual or noise characteristics existing at the time of installation.

5. The substation and the operations and maintenance facility must be located, designed and painted so as to minimise its visibility from beyond the site and must be screened where practical from any view and any location within the legal roads of Makara Road, Ohariu Valley Road and Takarau Gorge Road in a manner approved by the Compliance Monitoring Officer. The general location of the substation area is identified in the application and is shown on the drawing labelled "*Sheet 1 – Overall Site Development*".
6. A plan showing the location of the concrete batching plant must be submitted to and approved by the Compliance Monitoring Officer prior to construction of the plant. The concrete batching plant must not be visible from any residential building and must be located at least 100 metres from any intermittent and perennial stream. The concrete batching plant must be a temporary installation for the construction period only and must be removed within six (6) months of completion of construction of the wind farm and no later than three (3) years after installation of the concrete batching plant.
7. The transformer building associated with each wind turbine must be painted Excel Colorbond "Bushland" or similar to match the surrounding landscape and located so that it is hidden from the view of nearby residential buildings. In order to achieve this earth bunding may be required.
8. The wind monitoring masts must be located within a 150m radius of the locations shown on the drawing labelled "*Sheet 1 – Overall Site Development*" of the AEE.
9. The HVDC Electrode Earth Transmission Line must be realigned to be within the 85m wide realignment corridor detailed in Appendix B - Construction Effects and Management Report of the AEE and shown on drawing "*Overall Site Development Plan – Sheet 1 of 2*" within Appendix A of the Construction Effects and Management Report.
10. Details of any internal overhead cabling must be submitted to and approved by the Compliance Monitoring Officer prior to the commencement of the works. Any overhead cabling in a visible location may not be approved and underground cabling would be required instead.

Noise

Construction Noise

11. 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;
 - e) Land reinstatement;
 - f) Widening of Ohariu Valley Road and Boom Rock Road; and
 - g) Construction of the new track through Spicer Forest

must be measured, assessed and controlled using New Zealand Standard NZS6803:1999 *Acoustics - Construction Noise*. The noise limits shall be those set out in Table 2 of NZS6803 for works of "*long term*" duration.

Note: Condition 70 places further constraints on condition 11(f) and (g) above.

12. A **Construction Noise Management Plan** must be prepared and implemented prior to commencement of construction. This shall be generally in accordance with Section 8 and the relevant annexes of New Zealand Standard NZS6803:1999 *Acoustics - Construction Noise* which detail the types of construction and procedures that will be carried out to ensure compliance with the Standard. The noise management plan shall be prepared by appropriately qualified and experienced persons, prior to relevant construction stages commencing, and shall be approved by the Compliance Monitoring Officer, prior to construction commencing. Representative construction noise measurements shall be undertaken as part of the noise management plan within one month of the start of each construction stage. A report of these readings shall be provided to the Compliance Monitoring Officer.
13. A **Decommissioning Noise Management Plan** must be prepared and implemented prior to decommissioning of the wind farm. This shall be generally in accordance with Section 8 and the relevant annexes of New Zealand Standard NZS6803:1999 *Acoustics - Construction Noise* which detail the types of procedures that will be carried out to ensure compliance with the Standard. The decommissioning noise management plan shall be prepared by appropriately qualified and experienced persons, prior to relevant construction stages commencing, and shall be approved by the Compliance Monitoring Officer, prior to any decommissioning works commencing.
14. All aspects of concrete manufacture must not exceed the following noise limits:
 06.00am to 10.00pm 55dBA L₁₀
 at or within the boundary of any site other than the site from which the noise is generated;
 and:
 6.00am to 7.00am 35dBA L₁₀.
 6.00am to 7.00am 60dBA L_{max}
 7.00am to 8.00pm 45dBA L₁₀
 8.00pm to 10.00pm 35dBA L₁₀
 8.00pm to 10.00pm 60dBA L_{max}
 at or within the notional boundary of a residential building other than on the site from which the noise is generated:
 The noise must be measured in accordance with NZS6801:1991: Measurement of Sound and assessed in accordance with NZS6802:1991: Assessment of Environmental Sound.
 Note: For these conditions the notional boundary is defined as a line 20 metres from any side of a residential building, or the legal boundary where this is closer to the residential building.
15. Concrete must not be manufactured outside of the hours of 6.00am to 10.00pm on any day.

Operational Noise (Non-turbine Related)

16. Noise from all other activities on the site (other than wind turbine generator operation and construction activities) must not exceed the following limits at or within the notional boundary of any residential building (excluding any residential building on the Wind Farm site):
 7.00am to 8.00pm 45dBA L₁₀

8.00pm to 7.00am 35dBA L₁₀

8.00pm to 7.00am 60dBA L_{max}

The noise shall be measured in accordance with NZS6801:1991: Measurement of Sound and assessed in accordance with NZS6802:1991: Assessment of Environmental Sound.

Operational Noise (Turbines)

17. Wind turbine sound levels, when measured at the notional boundary of residential buildings must not exceed the appropriate regression curve of the A-weighted background sound level (L₉₅) by more than 5dBA L₉₅, or a level of 40dBA L₉₅ whichever is the greater, and

When the background sound conditions are at or below 25dBA L₉₅ determined from the appropriate background regression curve, without the interference of the wind farm, and when the mean wind speed at a representative location for the residential building is less than 3.5m/s measured at a height of 10m AGL, then noise from the wind farm must not exceed 35dBA L₉₅ at the residential building.

The background sound level must be determined without any influence from the West Wind wind farm.

18. Prior to installation of any wind turbine generator the Consent holder must furnish:

- a) An acoustic emissions report to the satisfaction of the Compliance Monitoring Officer for the selected types of wind turbine generators. The report shall be in accordance with IEC61400-11, Wind Turbine Generator Systems Part 11, Acoustic noise measurement techniques and shall include the measurement uncertainties, the A-weighted sound power levels, spectra, and tonality at integer wind speeds from 6 to 10 m/s and up to 95% of rated power for each type of individual wind turbine to be installed and for each mode of operation that is predicted to be required in (b) below;

(Note: There is no need to consider a mix of operational modes providing it is shown that the turbine is able to meet the noise limits set out in condition 17 at the mode of operation that represents the turbine's maximum power output and maximum sound power at each wind speed).

- b) A noise prediction report from a suitably qualified and experienced acoustical consultant that demonstrates to the satisfaction of the Compliance Monitoring Officer, that the sound levels from the wind farm will not exceed those levels set out in condition 17 above (Operational Noise - Turbines). Modes of operation and the type of turbine must be specified.

Pre-Instalment Measurements

19. The wind farm sound levels must be measured, assessed and controlled using NZS6808:1998 *Acoustics - The Assessment and Measurement of Sound from Wind Turbine Generators* within the notional boundary of any residential building, except for lots where written approval has been obtained, but with the following requirements to be met. Where these following requirements differ from NZS6808:1998 then these requirements shall prevail:

- a) The 10 minute background sound levels (L_{95,10min}) shall be measured within the notional boundary of residential buildings. Such

measurements shall be carried out before the commencement of any construction work related to the wind farm that could produce noise sufficient to affect L_{95} background sound measurements and results provided to the Compliance Monitoring Officer.

- b) Representative measurement locations shall be selected for all residential buildings within the predicted 35dBA L_{eq} noise contour and at an additional 7-9 locations (including those sites determined under condition 26 and 29) that are representative of residential buildings and residential building sites that qualify in terms of condition 17. These sites must be as agreed with the Compliance Monitoring Officer. As a guide representative background sound monitoring should take place within 200 metres of a residential building of interest and within a notional boundary of the representative residential building. Upon inspection the background sound level at a place of interest should be reasonably similar to the monitoring location. Depending on topography and the location of ambient sound generators such as streams and vegetation in the area this distance of 200 metres may need to be less. The representative locations shall be selected on the principle that if turbine noise was excessive, then the largest difference between the predicted post-installation noise level and the background sound level would be obtained.
- c) The 10 minute average wind speed and wind direction at the wind farm shall be based on the hub height of the wind turbines and wind speed measurements shall be made at the same time as the 10 minute background $L_{95,10min}$ measurements at residential buildings (and called data pairs). Local wind speed and direction measurements shall also be made in the vicinity of the sound level monitoring (without interfering with that monitoring) at the time of these measurements and this data shall be recorded.
- d) Background sound level $L_{95,10min}$ shall be correlated with wind speed and wind direction and time of day.
- e) Sufficient data must be collected to assess the following:
 - Operation wind speeds of the wind turbines from the cut-in wind speed (nominally 3 m.s^{-1}) up to the rated power wind speed (nominally 15 m.s^{-1});
 - The prevailing wind directions - N ($300 - 015^\circ$) and S ($120 - 210^\circ$)
 - Time of day – Night-time (10pm to 5am) and Daytime (5am – 6pm) and Evening (6pm – 10pm).
- f) Sufficient data must be gathered such that accurate best fit regression curves can be obtained.
- g) Care must be taken to eliminate periods of contamination of the noise data by other noise sources, i.e. seasonal cicadas, crickets, frogs, rainfall periods, etc.

Post Installation Testing

20. Post installation compliance testing of the wind farm must commence as soon as practical, as agreed by the Compliance Monitoring Officer, once turbines are installed and commissioned, and as construction noise allows. If possible the testing must be carried out at the same locations as the background sound

monitoring or, if that position is not available, then at a nearby location where the background sound monitoring is still representative.

21. The same parameters as in condition 19(e) required for the background noise monitoring must also be measured for the post-installation compliance testing. The cut-in operation times of the wind turbine generators shall also be recorded and this shall be indicated on the results.
22. The best fit regression curves must be provided in accordance with condition 19(e).
23. The appropriate regression curve of the $L_{95,10min}$ of the wind turbine generator sound levels corrected for any special audible characteristics is not to exceed the noise limits specified in condition 17.
24. If required by the Council and as compliance testing takes place at each site the applicant must provide the raw results of noise and wind monitoring to the Council in a form that will allow the Council to undertake its own analysis and assessment of the results should it choose to do so. Audio recordings must be made and provided to the Council, on the Council's request, in the instance of noise complaints being received.
25. The Consent holder must provide reports to the Compliance Monitoring Officer as soon as practical following testing at each location but no longer than 21 days after the completion of each test.
26. The Council may reasonably direct testing to take place at any location.
27. If the Council wishes to undertake separate compliance testing of part or of all of the wind farm operation then the Consent holder must share with the Council any confidential and/or commercially sensitive wind data ('wind data') to allow the Council to analyse their noise monitoring in accordance with the requirements of these conditions and the wind data will be treated in confidence and not disclosed to any third party without the Consent holder's prior approval.
28. Nothing in these conditions shall prevent compliance monitoring of wind farm noise from being undertaken at any wind speed and direction or time of day.
29. Thereafter compliance testing must be carried out at locations following any reasonable request by the Council, this may be as a result of what the Council considers to be substantiated complaints regarding increased levels of noise from the wind farm or any change in the character of the noise emanating from the wind turbine generators.

Continuous Monitoring

30. Continuous sound level monitoring must be undertaken at a minimum of 2 and a maximum of 3 measurement locations which are representative of residential buildings. This may be undertaken using a single monitoring device and local meteorological station to be dedicated to monitoring at a number of receiver locations at Mill Creek. These measurement locations are to be agreed with the Compliance Monitoring Officer and the Consent holder. Measurements must be made in accordance with the requirements contained within condition 19 and conditions 21 - 23, (Pre and Post-Installation Testing) for these agreed locations. Measurements shall be undertaken for a minimum period of 2 years and are subject to review in accordance with condition 106 (review condition).

All Measurements

31. Sound monitoring must conform to the following measurement standards:

- a) The complete measurement and analysis method system shall conform to the requirements of NZS6808:1998 *Acoustics - The Assessment and Measurement of Sound from Wind Turbine Generators* and the Standards referred to by NZS6808; and
 - b) Microphones shall be fitted with a wind shield such that the noise generated by wind on the wind shield is, to the extent practicable, at least 10dBA below the noise being measured.
 - c) All sound monitoring shall be carried out by suitably qualified and experienced persons.
 - d) The operator shall provide all necessary data required to carry out the compliance testing, including:
 - wind speed and direction at hub height during periods of compliance testing;
 - the times at which individual wind turbines are operating above the cut-in wind speed.
32. The operator of the wind turbines must pay all costs associated with compliance testing.
33. Only wind turbines that can be de-rated to reduce noise levels must be installed at the wind farm.

Assessment of Special Audible Characteristics

34. When wind farm sound within the notional boundary of a residential building has a special audible characteristic i.e. impulsiveness, tonality and/or an audible modulation, condition 17 shall be so modified that the measured sound level of the source shall have a maximum 5dB penalty applied by adjustment of the measured sound level by the arithmetic addition of the penalty. The penalty for all special audible characteristics shall be no more than 5dB.
35. For the purpose of condition 34, sound with a special audible characteristic includes clearly audible tones. A test for the presence of tonality shall be made by comparing the levels of neighbouring one-third octave bands in the sound spectrum. An adjustment of +5dB for tonality shall be applied if the level (L_{eq}) in any one third octave band exceeds the arithmetic mean of the L_{eq} levels in the two adjacent bands by more than the values given in Table 1.

Table 1 – One-third Octave Band Level Differences

One-third Octave Band	Level difference
25-125Hz	12dB
160-400Hz	8dB
500-10,000Hz	5dB

Where this analysis does not result in a tonal component being defined although the sound is in fact tonal, a narrow band analysis shall be undertaken in order to determine if a sound is tonal using Joint Nordic Method Version 2 with the penalties in that document applied.

If the measured peak to trough levels exceed 5dBA on regularly varying basis or if the spectral characteristics, third octave band levels, exhibit a peak to trough that exceeds 6dB on regularly varying basis in respect of the blade pass frequency, then frequency modulation shall be assumed to exist.

Reporting of Analysed Results

36. The Consent holder shall provide all sound level results to the Compliance Monitoring Officer as soon as practical but at least within 21 days of the monitoring being completed.
37. Where compliance is not achieved, the Consent holder must operate the wind turbine generators at reduced noise output until remedies are identified and implemented. If sound emissions cannot be reduced such that they comply, then the Consent holder must cease to operate the non-compliant wind turbine generators during the appropriate operational parameters as set out in condition 19(e) until modifications are made to reduce the noise. Further operation of the non-compliant wind turbine generators must only be for sound measurement checks as specifically agreed with the Compliance Monitoring Officer to demonstrate compliance.

Noise Management Plan

38. Prior to the commissioning of the wind farm the Consent holder must prepare and implement a Noise Management Plan to manage the potential effects of noise. The Noise Management Plan must be prepared by a person suitably qualified and experienced in noise assessment and control, and must address all of the matters set out in preceding conditions as relevant. That person must act in liaison with the Consent holder.
39. The Noise Management Plan must include, but not be limited to, the following:
 - a) Assessment of periods of low background sound conditions with respect to condition 17 to ensure that derived regression curves are appropriate.
 - b) An assessment of the contribution to the overall sound levels from individual wind turbine generators.
 - c) An assessment of how individual wind turbine generators can be de-rated to comply with condition 17.
 - d) The implementation of an automatic control mechanism to de-rate or stop the wind turbine generators to ensure compliance with condition 17,
 - e) Continued assessment of the control measures to judge the success and to update where more information provides for improvements.
40. The information collected as part of the implementation of the Noise Management Plan must be provided to the Compliance and Monitoring Officer.

Water Supply

41. If any roof-top water supply is affected by dust caused by any activities undertaken pursuant to this consent during the exercise of this consent, the Consent holder at its cost must ensure that a sufficient supply of water, consistent in quality, is provided to the affected property owner until either the original supply is restored or a suitable replacement is established.

Earthworks

42. The relevant Environmental Management Plan relating to visual amenity, dust, stability and the road network must be submitted to and approved by the Compliance Monitoring Officer, and modified as directed by the Compliance Monitoring Officer on site to address any deficiencies in its operation.
43. The location, design, implementation and operation of all earthworks must be undertaken in general accordance with the following documents, unless any modifications are required to comply with any of the conditions of this consent:

- a) the consent application lodged with the Wellington City Council on 12 March 2008 (including relevant s92 material and evidence presented at the Hearing); and
 - b) any additional plans or information to be prepared and submitted to the Wellington City Council for approval in accordance with various conditions of this consent.
44. Details of the location and design of any fill sites must be submitted to and approved by the Compliance Monitoring Officer prior to the commencement of work.
45. Details of the location and dimension of any borrow sites must be submitted to and approved by the Compliance Monitoring Officer prior to the commencement of work.

Pre-construction administration requirements

46. The Consent holder must provide written notification of the works commencing on each **Environmental Management Plan (EMP)** area to the Compliance Monitoring Officer at least five working days prior to works commencing in each area.
47. The Consent holder must provide a copy of this consent and all documents referred to in this consent to any operator or contractor undertaking works authorised by this consent, prior to the works commencing.
48. The Consent holder must prepare, submit and implement a site-wide EMP for the administration of all construction works authorised by this consent to the Compliance and Monitoring Officer. The EMP must be submitted to the Compliance and Monitoring Officer for approval at least 20 working days prior to works commencing. A suitably qualified ecologist and environmental management specialist shall assist in the preparation of the EMP.
- a) The EMP must include the following administrative elements, but not limited to:
 - roles and responsibilities, including appointment of a representative to be the primary contact person in regard to matters relating to this consent;
 - arrangement and conduct of a pre-construction site meeting between all relevant parties, including all contractors and relevant local authorities, prior to any works commencing on the site to discuss implementation of erosion and sediment control measures;
 - sequencing of works over the whole site;
 - monitoring, record-keeping and maintenance requirements.
 - b) The EMP must include, but not be limited to:
 - a detailed design and construction methodology for all works;
 - notification of any operator or contractor appointed to carry out the works authorised by this consent, including the contractor's company, address, named representative and their contact details;
 - a detailed schedule of construction activities including the expected commencement date and duration of works in each location within the area;

- a staging of works to demonstrate that the area of disturbance will be kept to a minimum;
 - evidence that a suitably qualified engineer has been appointed to carry out the overall design, supervision and certification of earthworks (including cut/fill batter stability and construction of all erosion and sediment controls); and
 - identification of measures to ensure that there is no tracking of mud or earth onto the surrounding road network.
- c) In respect of **re-vegetation and rehabilitation** activities, the EMP shall include, but not be limited to:
- principles and procedures for rehabilitation of exposed areas, including rehabilitation methods and vegetation mixes;
 - identification of soil resource to be used for rehabilitation;
 - identification of the vegetation types to be used on a plan or schedule;
 - a programme for revegetation and maintenance activities for a period up to the expiry date of this consent (maintenance activities may include the exclusion of pest browsers and stock and the removal of weeds, and additional fencing may be required for the exclusion of stock); and
 - identification of treatments of exposed rock cuttings that are to be used.

The following rehabilitation principles should be expressly adopted:

- Minimisation of sidling cuts wherever practicable, and locating road and turbine platforms on or as close to ridgelines as practicable.
- To identify and give particular attention to high cuts that will be visible from residential buildings and public open space including from at sea.
- For the engineer, ecologist and landscape architect to work together to design the final shape of, and re-vegetation proposals for, earthworks and rock cuts as part of the detailed design process.
- To educate each excavator operator, so that s/he understands the rehabilitation objectives and is able to be flexible in response to the rock that is uncovered. *Note: Informing and gaining the active support of the machine operator will often lead to superior results where they take a pride in the finished result.*
- To shape the finished cuts to emulate natural rock features and avoid the creation of uniform linear features. This may include rolling back the top, ripping sections to create shaped corners, creating gully like features and scree-like slopes, benching etc.
- To shape the finished cuts to provide areas of fractured rock that will provide microhabitats for native grasses, ferns and shrubs. *Note: This can be achieved by ripping the face, shaping the face to create hollows and guts and so on.*

- To shape the finished cuts to allow the deposition of soil in key areas so that tall shrubs can rapidly establish helping to break up the face. This can include benching, and bunding the toe of the cut when turbine erection has been completed.
 - To vegetate cuts with plants equivalent to the slopes above and below the cut.
- d) The EMP must demonstrate that full consideration has been given to:
- minimising the extent and effects of earthworks, including but not limited to, the following techniques;
 - minimising the extent and effects of earthworks, including but not limited to, the following techniques;
 - Following ridgelines where practicable;
 - Locating cuts so that they are hidden from views from residential and coastal locations outside the site as far as practicable;
 - Battered to represent natural slopes; and
 - Benching, contouring and otherwise softening rock cuts where practicable and appropriate.
- e) The EMP must include contingency measures for the containment of spills. The contingency plan must:
- identify designated bulk fuel storage, contaminant storage facilities and re-fuelling locations;
 - require that these locations are bunded, and that machinery is parked long-term only in these designated areas;
 - require that all mobile fuel tankers carry spill kits and that spill kits are stored at bulk storage tank locations at all times;
 - detail the contents of the spill kits, including absorbent pads, booms, pillow and socks and appropriate pegs/rope to hold the absorbent material in place;
 - record the names of operators trained in spill response and remediation;
 - detail an internal and external notification procedure in the event of a spill; and
 - identify measures to be undertaken to remediate a contaminant spill.
49. Works must not commence on site until the following documents have been approved by the Compliance Monitoring Officer:
- a) a site-wide Environmental Management Plan (in accordance with condition 48 of this consent); and
 - b) a Site-Wide Accidental Discovery Protocol (in accordance with condition 84 of this consent).

General Construction Conditions

50. The Consent holder may request amendments to the EMP by submitting the amendments in writing to the Compliance Monitoring Officer for approval, prior to any changes taking effect.

51. The Consent holder must ensure that the discharge of dust created by earthworks, transportation and construction activities is suitably controlled to minimise dust hazard or nuisance. This shall be managed through:
- a) The preparation of a Dust Management Plan which describes how the discharge of dust created by earthworks, transportation and construction activities will be controlled to avoid contamination of domestic water supplies and generally to minimise dust hazard or nuisance. The Dust Management Plan must be submitted to the Compliance Monitoring Officer for approval at least 20 working days prior to works commencing on the Spicer Forest access track.
 - b) Sealing of site to public road network transition zones to control any potential material tracked from site to the public road network. That is the initial section of the site access road from Boom Rock Road and the southern end of Spicer Forest access track (from the intersection of Ohariu Valley Road North) is to be sealed for a minimum length of 100m.
52. The Consent holder must ensure that:
- a) all fill slopes are keyed into the surrounding land, as far as practicable;
 - b) all fill material is placed and compacted so as to minimise instability of the fill material;
 - c) fill material is restricted to natural rock and soil; and
 - d) final disposal site slope profiles are contoured to merge in with the existing slope, as far as practicable.
53. The Consent holder must provide the Compliance Monitoring Officer with an updated schedule of construction activities at monthly intervals during the works.
54. The works authorised by this consent remain the responsibility of the Consent holder and must be maintained to the satisfaction of the Compliance Monitoring Officer.
55. The Consent holder must ensure that:
- a) all contaminant storage or re-fuelling areas are bunded or contained in such a manner so as to prevent the discharge of contaminants;
 - b) all machinery is regularly maintained in such a manner so as to minimise the potential for leakage of contaminants;
 - c) no machinery is cleaned, stored or refuelled within 50 metres of any ephemeral or permanent watercourse; and
 - d) all contaminants (e.g. fuel, hydraulic oils, lubricants etc) are removed at the end of the construction period except for those required for ongoing maintenance of the wind farm and operational activities.
56. The plant species used shall be consistent with the species in the immediate vicinity of the exposed area, replacing "like with like". The re-vegetation and rehabilitation of exposed areas shall be in accordance with the requirements of the relevant EMP developed in accordance with condition 48(c) of this consent. The Consent holder shall ensure that the plants and seeds for any indigenous revegetation work carried out in regard to the proposed development shall be eco-sourced, and where practicable, this shall be from within the wind farm site.

Avifauna Monitoring

57. The Consent holder must record and report any evidence of bird strikes to the Compliance Monitoring Officer. Should a bird species that is nationally critical,

nationally endangered, nationally vulnerable or in serious decline as listed in *New Zealand Threat Classification System 2007, Threatened Species Occasional Publication No: 23, Biodiversity Recovery Unit, Department of Conservation compiled by R. Hitchmough* be found injured or dead at the site, the Department of Conservation is to be notified immediately and the bird provided to the Department of Conservation or its nominated agent for autopsy or rehabilitation.

Traffic Management

58. The Consent holder must submit detailed plans and information showing the final route from the port to Porirua City to be approved by the Compliance Monitoring Officer prior to the commencement of the turbine component transportation. This must include:
 - a) Tracking/swept paths for the types of construction vehicles to be used along the selected route and intersections; and
 - b) Details of any road widening, signage, visibility etc required to ensure minimal impact on other traffic, public safety and private access.
59. The Consent holder must not relocate and/or modify any traffic control devices such as traffic signal assets, signs, traffic islands, road markings, streetlight poles and trolley poles without prior approval from the Compliance Monitoring Officer for these changes.
60. The Consent holder must engage an independent consultant approved by the Compliance Monitoring Officer to carry, out at their own cost, a survey of the condition of Ohariu Valley Road and Boom Rock Road, and recommend an appropriate standard of road maintenance to be achieved throughout the construction period. This must be approved by the Compliance Monitoring Officer prior to the commencement of any works.
61. The Consent holder must maintain Ohariu Valley Road and Boom Rock Road to the standards agreed under condition 60 during the construction period of the wind farm project.
62. The proposed upgrade of Ohariu Valley Road and Boom Rock Road and additional construction details are to be further developed by the Consent holder. The Consent holder must provide detailed construction plans at a scale of 1:250 with additional 1:50 cross sections for all sections of the new and upgraded road. These plans must be submitted to and approved by the Compliance Monitoring Officer prior to the commencement of any works to the roads.
63. Prior to commencement of any site preparation (including any earthworks) or construction works on-site, the Consent holder must at its own cost undertake the roading improvement works proposed for Ohariu Valley Road, Boom Rock Road and Spicer Forest.
64. The use of the upgraded/refurbished roads by heavy construction vehicles for wind farm construction/site preparation traffic must not commence until the Compliance Monitoring Officer has approved in writing that the road meets the Council requirements.
65. All trucks using the route through Spicer Forest, Ohariu Valley Road and Boom Rock Road must be required to give way to other vehicles and pass at designated locations. A plan showing these locations and their forward sightlines must be submitted to and approved by the Compliance Monitoring Officer prior to construction works commencing. If satisfactory forward

sightlines can not be provided additional signage and road marking must be installed to ensure safe usage.

66. The Consent holder must show the forward visibility at all bends along the route and provide adequate forward sight distances to ensure that opposing vehicles (excluding over weight and over dimension vehicles) will be able to pass safely and not in conflict. Where forward visibility distances can not be meet additional traffic safety signs must be installed.
67. Where the Ohariu Valley Road and Boom Rock Road cross section of 6.5m sealed width is not able to be achieved, details of the narrower cross section must be submitted to and approved by the Compliance and Monitoring Officer.
68. The tracking/swept paths for the types of construction vehicles to be used along the selected route must be submitted and approved by the Compliance and Monitoring Officer. These should show any changes (road widening, signage, visibility etc) necessary to ensure minimal impact on other traffic, public safety and private access.
69. All traffic associated with the construction of the wind farm must use the Spicer Forest access track. This includes workers travelling to and from the site.
70. All construction vehicles must only use Ohariu Valley Road (via Spicer Forest), and Boom Rock Road between the following hours:
Monday to Friday: 7am to 7pm
Saturdays, Sundays and Public Holidays: No construction vehicles
71. The Consent holder must take all reasonable steps to reduce the number of trips required.
(Note this may include:
 - *Sourcing aggregate from on-site sources.*
 - *Using truck and trailer units as opposed to truck only units.*
 - *Encouraging car-pooling facilities for workers.)*
72. The Consent holder shall manage construction traffic so that no delays are caused to non-construction traffic of more than 2 minutes duration.
Note: Delay is defined as the duration a vehicle is stationary.
73. Trucks accessing or departing the site must not use engine braking along the length of Spicer Forest, Ohariu Valley Road and Boom Rock Road.
74. The Consent holder must install barricades to the satisfaction of the Compliance Monitoring Officer at each end of the Spicer Forest access track to ensure that there is no direct public vehicle access between Broken Hill Road and Ohariu Valley Road over the access track during and after its construction.
75. The Consent holder must reinstate affected fencelines and driveways and leave property frontages within Ohariu Valley Road and Boom Rock Road in a tidy condition to the satisfaction of the Compliance Monitoring Officer upon completion of the works. This condition does not oblige the Consent holder to undertake any works on private property where landowner consent has not been provided.
76. Traffic management techniques must be used to ensure safe movement of heavy construction vehicles at all passing areas and widening areas shown in locations where the 6.5 metre sealed road width cannot be achieved for the duration of construction.

77. The Consent holder must clean up promptly any construction materials or components deposited on these roads. The haul route must be swept as required in accordance with the Construction Traffic Management Plan.
78. The Consent holder must maintain a log of all vehicles travelling through each site security office on a daily basis, and make this available to the Compliance Monitoring Officer on request.
79. A **Construction Traffic Management Plan** must be prepared by the Consent holder and approved by the Compliance Monitoring Officer before works relating to the transportation of construction equipment and material to the site begins, this will include plans for any pre-upgrading survey and design works affecting the road, any road works required to upgrade or modify the road in any way including changes to, or provision of, signage and or road markings, maintenance of the road during the life of the project. The purpose of the plan will be to set out in detail matters relating to the extent and timing of construction traffic activity to achieve the safe and efficient operation of the roading network, and traffic management provisions to be put in place during this time to achieve a safe and efficient road network. The plan shall be updated as required by the Compliance Monitoring Officer to maintain safety and efficiency of the roading network, and such amendments may take into account matters raised by the public, the community liaison group and other stakeholders during the construction process. The plan shall specifically include but not be limited to the following:
- a) An assurance that all contractors and sub-contractors comply with the Construction Traffic Management Plan including methods of monitoring and ensuring compliance.
 - b) Methods of how the Consent holder will ensure that all contractors and sub-contractors access the site from the north using the route along Spicer Forest and Ohariu Valley Road. This should include ways of dealing with contractors and sub-contractors who do not comply with this requirement.
 - c) Specify locations where all trucks using the Ohariu Valley Road and Boom Rock Road will be required to pull over to allow other vehicles to pass.
 - d) Details of how the route through the city would be managed. This should include consideration of the following:
 - Methodologies for removing street furniture and signage along the proposed route;
 - The proposed lane occupancy of the transporters and pilot vehicles;
 - Hours of operation;
 - Consultation process relating to specific affected stakeholders;
 - Contractor methodology for monitoring of transportation, impact on overtaking and impacts on the pavement surfaces.
 - e) Details of the content and location of any additional safety warning signage required by condition (forward sightline distances).
 - f) Details of security measures (e.g. signage, fencing) that will be put in place to ensure the safety of recreation users of Spicer Forest, Te Ara Roa and Colonial Knob and how the separation of the construction access road from recreational users will occur.

- g) Methodology of monitoring delay times at the critical points. This could be achieved through placement of cameras, tube counts etc.
- h) Details of the traffic management measures (signs, road markings and safety measures) that are required to ensure the safety of road users.
- i) Details of how the Consent holder will minimise delays to meet condition 72; this could include additional passing bays, allotted travel times, consideration of peak travel times, limitations on the number of trucks on the road at any one time etc.
- j) Identify and address any potential conflicts between construction traffic and existing local users which include vehicles, horses, cyclists and pedestrian. The identification of conflicts should be done in consultation with the Community Liaison Group. The methods of addressing the potential conflicts could include speed limit restriction, limitations on number of trucks on the road at any one time, allotted travel times etc.
- k) Details of measures for protecting the health and safety of construction workers using the Spicer Forest access route (including passing areas for vehicles using this route, signage, road marking and guard rails where required).
- l) Details of the traffic management techniques required by condition 76 such as traffic signals, manual control or benching corners.
- m) Methods of keeping the road clean including how and when this will occur.
- n) A communication system must be used to ensure trucks do not meet each other on Ohariu Valley Road and Boom Rock Road, or within Spicer Forest.
- o) A schedule detailing the movements of over-weight / over-dimension truck movements which also records that the relevant approvals have been obtained where applicable for the specific or multiple loads.
- p) A protocol for truck drivers travelling to and from the wind farm site, so as to ensure optimum safety and convenience for other road users. This should include procedures to ensure priority of travel is given to traffic not associated with the wind farm, where practicable.
- q) Procedures to ensure vehicles travelling to and from the site do not disrupt the Ohariu Valley residents (for example, stopping outside residential buildings is not permitted).
- r) The Consent holder is to cover the full cost of all road and traffic related mitigation measures.
- s) Details of how the Consent holder will provide traffic related information to the community. This should cover the following issues:
 - Provide the Community Liaison Group (refer to condition 94 for the roles and functions of the Community Liaison Group) with the proposed hours for moving overweight/over dimension loads between Spicer Forest and the Mill Creek site;
 - Proposed programme for road widening and expected delays;
 - Consideration of times for farm operations to take place (e.g. stock movement);

- Regularly provide up to date information on proposed restrictions to the Community Liaison Group;
- A system to collect and deal with residents concerns and issues (including an 0800 number).

Hazardous Substances

80. The secondary containment must be adequate to contain at least 110% of the tank's capacity.
81. Prior to filling the tank with diesel, it must be inspected by an ERMA approved test certifier and a Stationary Container Test Certificate must be issued. A copy of the certificate must be provided to the Compliance Monitoring Officer.
82. Signage to indicate the presence of hazardous substances, and appropriate emergency signage must be installed.
83. The ground beneath the fuel tank and refuelling area must be covered with an impervious material.

Cultural Heritage and Archaeology

84. The Consent holder must comply with the **Accidental Discovery Protocol** included in Appendix J of the resource consent application. This must be in place for any earthmoving or ground modification that occurs during the construction and operation of the wind farm.
85. The Consent holder must have an archaeologist on site during surface clearing work along the F and G ridges in the vicinity of the recorded cultivations. The archaeologist must be given the opportunity to examine any archaeological deposits disturbed by the development work, and to make recommendations for further detailed examination of these deposits, if located, and where appropriate.
86. The Consent holder must have an archaeologist on call during construction work on all other parts of the project area, in the lesser likelihood of intact archaeological material being uncovered in these areas.
87. Any artefacts and material uncovered and recorded during site clearing work must be lodged with an appropriate repository. The Consent holder must pay for the cost of any conservation required for artefacts or material.
88. The Consent holder will need apply to the Historic Places Trust for an authority under Section 12 of the Historic Places Act 1993 to modify, damage or destroy archaeological sites at the Mill Creek site, Wellington, being possible gardening sites along the F and G ridges.
89. Any public interpretive displays prepared in relation to the Project Mill Creek site must note the existence of the Māori cultivation sites within the area, such as Kumuhore. The content of any interpretive material on Māori cultivation sites must be prepared in consultation with mana whenua associations, in particular the Wellington Tenths Trust, Te Runanga o Toa Rangatira Incorporated and agreed representatives of Ngati Tama.
90. A Memorandum of Understanding must be developed between the Consent holder, the land owners, the mana whenua associations, in particular the Wellington Tenths Trust, Te Runanga o Toa Rangatira Incorporated and agreed representatives of Ngati Tama as an effective means of addressing issues as the development progresses.

De-commissioning

91. At the end of the operational life of the wind farm, or of any individual turbine or turbines which are not renewed, replaced, or used for generation purposes for a continuous period of 2 years, every inoperative turbine and all other inoperative above ground structures must be removed, and turbine footings covered in topsoil and re-vegetated.

Lighting

92. Lights shall only be installed on the turbines when required to meet Civil Aviation Authority requirements. The light intensity and flash requirements will be determined by the CAA. The lights will be directed upwards, shielded downwards, and installed on top of the nacelles.
93. The Consent holder must limit lighting as far as reasonably practicable to protect the night sky from unnecessary light pollution.

Community Liaison Group

94. The Consent holder must facilitate the creation of a Community Liaison Group, at its own cost and to the satisfaction of the Compliance and Monitoring Officer, with the following organisations or interested parties being invited to nominate a representative or representatives from:
- a) Independent Chair (convenor)
 - b) Makara/Ohariu Community Board (1 representative)
 - c) Ohariu Valley Residents (2 representatives)
 - d) Wellington City Council (1 representative)
 - e) Wellington Regional Council (1 representative)

One representative nominated by the Consent holder will also be a member of this group.

95. The function of the Community Liaison Group shall be to provide communication between the community, the Consent holder, Wellington City Council and Wellington Regional Council on issues arising from the construction of Project Mill Creek (including the construction of the Spicer Forest access track and the widening of Ohariu Valley Road).
96. The first meeting of the Community Liaison Group must occur within three months of the date of commencement of this consent.
97. The specific roles of the Community Liaison Group must be determined by the group and must be to the satisfaction of the Compliance Monitoring Officer. A document stating its terms of reference must be produced within three months of the first meeting.

Note: The role of the Community Liaison Group is to facilitate communication between various parties and it does not have a regulatory function.

98. The Community Liaison Group must provide a monthly newsletter, at the cost of the Consent holder, to the community highlighting issues relating to Project Mill Creek.

Communications Interference

99. The Consent holder must remedy any television interference that is a direct result of the installation and operation of the wind turbines as soon as

practicable after interference occurs. The remedy will be restoration of reception for free to air channels at the Consent holder's cost to the level of reception quality in existence at each point of interference prior to wind farm construction.

Air Traffic Control

100. The Consent holder must provide confirmation that the location of each turbine has been approved by Airways Corporation of New Zealand Limited prior to the installation of the turbine.

Radio Links

101. The Consent holder must remedy any interference in relation to the Marlborough Marine Radio Association and the Royal New Zealand Coastguard Federation fixed radio links that is a direct result of the installation and operation of the wind turbines as soon as practicable after interference occurs.

Complaints Procedure

102. The Consent holder must establish and publicise an 0800 number so that members of the Makara and Ohariu Valley communities have a specified and known point of contact to raise related issues that may arise during construction and operation of the wind farm including, but not limited to, noise and traffic related issues. A permanent record of all calls received alleging adverse effects from, or related to, the exercise of this consent made must be kept.

The record must include:

- a) the name and address (as far as practicable) of the complainant;
- b) identification of the nature of the matter complained about;
- c) date and time of the complaint and of the alleged event;
- d) weather conditions at the time of the complaint (as far as practicable);
- e) the outcome of the Consent holders investigation into the complaint; and
- f) measures taken to ensure that such a complaint does not occur again.

This record must be maintained at the work site and must be made available to the Compliance Monitoring Officer upon request. The Consent holder must notify the Compliance Monitoring Officer in writing of any such complaint within a 5 working days of the complaint being brought to the attention of the Consent holder.

103. The Consent holder must nominate an appropriately experienced staff member to be responsible for:
- a) Liaison with residents;
 - b) Overseeing the assessment procedure;
 - c) Receiving and dealing with complaints;
 - d) Ensuring the implementation and updating of the above automatic control measuring system on an ongoing basis.

Monitoring

104. Prior to construction of the wind farm commencing and subsequently prior to any part of the work as determined by the Compliance Monitoring Officer, the Consent holder must give at least three months notice before work starts. This advice shall be given to the Wellington City Council's Specialist Advice and Compliance Unit by either telephone (801 4017) or facsimile (801 3165), and must include the address of the property and the service request number.

105. The Consent holder must pay to the Wellington City Council the actual and reasonable costs associated with the monitoring of conditions, or review of consent conditions, or supervision of the resource consent as set in accordance with section 36 of the Resource Management Act 1991. These costs* may include site visits, correspondence and other activities, the actual costs of materials or services, including the costs of consultants or other reports or investigations which may have to be obtained.

Note: Refer to the current schedule of Resource Management Fees for guidance on the current administration charge and hourly rate chargeable for Council officers.

Review Condition

106. The Compliance Monitoring Officer may review any or all conditions of this consent by giving notice of its intention to do so pursuant to section 128 of the Resource Management Act 1991, for the purposes specified below, annually from the date of commencement of this consent until five years after the completion:

- a) To review the landscape and visual conditions at anytime.
- b) To review the adequacy and implementation of any recommendations of the Construction Traffic Management Plan and Environmental Management Plan, at any time.
- c) To review the noise requirements for the following reasons: -
 - At any time subsequent to the commencement of Project West Wind should the noise emissions differ significantly from those predicted by Hayes Mackenzie Partnership for that project;
 - To deal with any adverse effects on the environment resulting from wind farm sound, including sound with any special audible characteristics, which may arise from the operation of the wind turbines;
 - Review the low background sound criteria in Condition 17;
 - To review the adequacy of any recommendations of the Noise Management Plan;
 - Continuous monitoring requirements; or
 - To address any issues arising out of complaints.
- d) To deal with any issues arising from complaints, anytime.
- e) To deal with any adverse effects on the environment, which may arise from the exercise of this consent, and which it is appropriate to deal with at a later stage.

Note: Following review more appropriate conditions may be set if deemed necessary.

Advice Notes:

1. Where appropriate, the Council may agree to reduce the required monitoring charges where the Consent holder will carry out appropriate monitoring and reporting back to the Council.
2. This resource consent is not a consent to build. Such a consent must be obtained under the Building Act 2004 prior to commencement of construction.

3. It is the responsibility of the Consent holder to identify and at all times operate within site boundaries.
4. For the purposes of conditions imposed under this consent, the ACOUSTIC DEFINITIONS AND TERMINOLOGY are to be applied, as shown in the table overleaf.

Background Sound Level	L ₉₅ , in decibels, is the level equalled or exceeded for 95% of the time and is the component of sound that subjectively is perceived as continuously present. N.B. L ₉₅ is used in the 1991 versions of NZS6801 and NZS6802 to describe background sound level whereas L ₉₀ is used in the 1999 versions of these Standards. There is normally an insignificant difference between the two measured values.
dBA	The term used to describe the A-weighted sound level in decibels. By A-weighting the measured sound level a representative reading is provided that correlates to human hearing.
Impulsive Sound	Is transient sound having a high peak level of very short duration, typically less than 50 milliseconds.
Intrusive Sound	As a guide to establishing limits of acceptability, and within limitations (described in NZS6802:1991) L ₁₀ should not exceed the background sound level by 10dB or more.
L ₁₀	Is that sound level which is equalled or exceeded for 10% of the time, in decibels.
L _{eq}	Time average level which is the continuous steady level that is equivalent to the time varying level, in decibels.
L _{max}	The maximum sound level in the period of interest, in decibels.
Notional Boundary	The notional boundary is defined as a line 20 metres from any side of a residential building, or the legal boundary where this is closer to the residential building.
Special Audible Characteristics	Noise that has tonality or impulsiveness such that it is likely to arouse adverse community response at lower levels than noise without such characteristics. When a noise has special audible characteristics the relevant performance standard L ₁₀ descriptor may be reduced arithmetically by 5dB for comparison with the measured L ₁₀ descriptor of the noise. N.B. Tonality is already accounted for in the tables in the NZS6803:1999 <i>Acoustics - Construction Noise</i> and no further penalty made for construction noise that has special audible characteristics when assessed using that Standard.

SCHEDULE 2

RESOURCE CONSENT CONDITIONS

PORIRUA CITY COUNCIL

General

1. With the exception of amendments required to comply with other conditions of this consent and any conditions of related resource consents granted by the Wellington City Council and Wellington Regional Council, the proposed development shall proceed in general accordance with the information and plans provided with Application and held on Council File RC 5202.

Lapse Date

2. In accordance with section 125(1) of the Resource Management Act 1991, this consent shall lapse if not given effect to within seven (7) years of the date of commencement.

Traffic Management

3. The Consent holder must take all reasonable steps to reduce the number of trips required

(Note this may include:

- *Sourcing aggregate from on-site sources.*
- *Using truck and trailer units as opposed to truck only units.*
- *Encouraging car-pooling facilities for workers.)*

4. Prior to commencement of any construction works on-site, the Consent holder must at its own cost undertake the roading improvement works for Spicer Landfill. The proposed road upgrade and additional construction details are to be further developed by the Consent holder and supplied to the Porirua City Council ("the Council") for approval. The Consent holder must provide detailed construction plans for all sections of the new and upgraded road. The detailed construction plans should be to a scale of 1:250 with additional 1:50 cross sections. The Consent holder must also show the forward visibility at all bends along the route and provide the adequate forward sight distances to ensure that opposing vehicles (excluding over weight and over dimension vehicles) will be able to pass safely and not in conflict.
5. Prior to the construction of the wind farm, the Consent holder shall obtain an overweight permit from the Council for any overweight loads travelling through Porirua City. The Consent holder must abide by the requirements of any such permit issued.
6. Prior to the construction of the wind farm, the Consent holder shall obtain an Over-Dimension Load Permit from Land Transport New Zealand, for any Over-Dimension loads travelling through Porirua City. The Consent holder shall provide the Council with a copy of this Permit.
7. A **Construction Traffic Management Plan** shall be prepared by the Consent holder and approved by the General Manager Environment and Regulatory Services before any transportation of construction equipment and material to the Spicer Landfill and before any construction works commence at Spicer Landfill or within Spicer Forest. The purpose of the plan will be to set out in detail matters relating to the extent and timing of construction traffic activity to achieve the safe and efficient operation of the roading network, and traffic management

provisions to be put in place during this time to achieve a safe and efficient road network. The plan shall be updated as required by the General Manager Environment and Regulatory Services to maintain safety and efficiency of the roading network, and such amendments may take into account matters raised by the public, and other stakeholders during the construction process. The plan shall specifically include but not be limited to the following:

- a) Trucks accessing or departing the site shall not use engine braking along the length of Broken Hill Road, Raiha Street and Kenepuru Drive.
- b) Further details of the route of the over-dimension and / or overweight loads through Porirua City. This information must include the following: -
 - Details of the agreed route and any other requirements of the overweight permit which must have first been obtained from Porirua City Council pursuant to Condition 6 above.
 - Swept paths for the over-dimension vehicles;
 - Each over-dimension load must have a pilot vehicle and trailing vehicle travelling in convoy. The pilot vehicle will have a flashing beacon but no siren;
 - Details of the movement and replacement of street furniture;
 - Details of any signs that need to be displaced and provision for their replacement at the end of every night;
 - Arrangements for other traffic while the over-dimension movements are being undertaken;
 - The hours during which such movements to and from the access track will occur.
- c) Details of security measures (e.g. signage, fencing) that will be put in place to ensure the safety of recreation users of Spicer Forest, Te Ara Roa and Colonial Knob and maintain separation of the construction access road from recreational users.
- d) Details of measures for protecting the health and safety of construction workers using the Spicer Forest and Spicer Landfill access route, and landfill staff and customers, including details of passing areas for vehicles using this route; and details of signage, road marking and guard rails where required, and security arrangements.
- e) A schedule detailing the movements of over-weight / over-dimension truck movements must be provided to the Resource Consent Monitoring and Enforcement Team one month before these movements are due to occur.
- f) An agreed protocol for truck drivers travelling to and from the wind farm site, so as to ensure optimum safety and convenience for other road users. Procedures must be used to ensure priority of travel is given to traffic not associated with the wind farm, where practicable.
- g) Procedures must be used to ensure vehicles travelling to and from the site at night time do not disrupt any residents along the Porirua route (for example, stopping outside dwellings is not to be permitted).
- h) The Traffic Management Plan shall also cover any wind farm- related traffic movements which might occur during the Further Access Period as defined in and provided for in the Access Agreement with Porirua City Council dated 22 June 2007, or any signed variations thereto.

8. The Consent holder shall abide by the requirements of the approved Traffic Management plan.
9. The Consent holder must ensure all of its contractors and subcontractors comply with the Traffic Management Plan.
10. The Consent holder shall maintain a log of all vehicles travelling through each site security office on a daily basis, and make this available to the Resource Consent Monitoring and Enforcement Team on request.
11. The Consent holder shall implement a consultation plan in consultation with the community liaison group to cover the following issues:
 - a) Provide the community liaison group with the proposed hours for moving overweight/over dimension loads through Porirua City Council;
 - b) Proposed programme for expected delays;
 - c) Regularly provide up to date information on proposed restrictions to the community liaison group;
 - d) A system to collect and deal with residents concerns and issues (including an 0800 number).
12. The Consent holder shall establish and publicise an 0800 number so that road users and the public have a specified and known point of contact to raise any traffic related issues that may arise during construction. A log book of all calls received shall be kept, and in each month in which calls are received details of those calls shall be forwarded to Resource Consent Monitoring and Enforcement Team at the end of that month.
13. Prior to commencement of construction the Consent holder shall provide detailed construction plans for all sections of the new and upgraded access track, and any traffic management measures (signs, road markings, security and safety measures) required to ensure the safety of track users, landfill employees and customers, and road users.
14. Prior to construction commencing the Consent holder shall engage an independent consultant approved by the General Manager Environment and Regulatory Services to carry out at the Consent holder's cost and to the satisfaction of the General Manager Environment and Regulatory Services a survey of the condition of the existing internal landfill access road between Broken Hill Road and the start of the proposed new access track, Broken Hill Road, Raiha Street, Kenepuru Drive and Mungavin Bridge.
15. The Consent holder shall maintain the following roads during the construction period to the standards approved by the General Manager Environment and Regulatory Services and restore them to a condition not less than they had at the commencement of construction works upon completion of construction:
 - The existing internal landfill access road between Broken Hill Road and the start of the proposed new access track;
 - Broken Hill Road;
 - Raiha Street;
 - Kenepuru Drive and
 - Mungavin Bridge.
16. Upon completion of each overweight or over-dimensioned transportation, (or upon completion of all transportations, as the case may be), the Consent holder shall reinstate any street furniture to the location that it was in prior to

the transportation, in accordance with the requirements of the Traffic Management Plan.

17. The Consent holder shall clean up promptly any construction materials or components deposited on these roads. The haul route must be swept as required in accordance with the Construction Traffic Management Plan.
18. The Consent holder shall establish and/or arrange for the use of suitable facilities at the end of Broken Hill Road where transports will be required to wait until dawn or until they receive clearance to continue over to Ohariu Valley. Such facilities shall include ablution facilities and comply with the Council's requirements including obtaining any necessary building consents and resource consents if required.
19. The Council may review the traffic related conditions set out above, by giving notice of its intention to do so under Section 128 of the Resource Management Act 1991, at any time during construction of the wind farm, for the following purposes:
 - a) To deal with any adverse effects on the environment resulting from traffic related to the Wind Farm, either directly or indirectly.
 - b) To review the adequacy and implementation of any recommendations of the Construction Traffic Management Plan.

Following review more appropriate conditions may be set if deemed necessary.

Earthworks and Sediment Control

20. Prior to the commencement of any works on the site the Consent holder shall provide evidence to the Resource Consent Monitoring and Enforcement Team that a suitably qualified chartered engineer has been appointed to carry out the design, supervision and certification of earthworks.
21. For earth fills, specific design and construction requirements will be required to suit the proposed development. All fills are to be designed by, and constructed under the supervision of, a suitably qualified chartered engineer. Plans are to be supplied to the satisfaction of the General Manager, Environment and Regulatory Services, showing the location of all compaction tests, together with a certificate prepared by an inspecting suitably qualified Chartered Professional Engineer stating the suitability of the earthworks for the proposed development.
22. Upon completion of the earthworks (or, if deemed necessary by PCC, during the earthworks period) the Consent holder shall provide to the satisfaction of the General Manager, Environment and Regulatory Services, a report from a chartered engineer with geotechnical experience addressing the stability of the constructed cut batters. This report shall give specific reference to sections 205.3 and 205.3.4 of the Porirua City Council's Code of Urban Subdivision, 1983.
23. The Consent holder shall ensure that land disturbed by earthworks, trenching or building activities is regularly wetted so that dust nuisance is maintained within the site at all times.
24. The Consent holder shall ensure that all areas exposed by earthworks, trenching or building activities are re-grassed/hydro-seeded at the earliest possible opportunity following excavation or at the latest within 1 month after completion of the earthworks.
25. The Consent holder shall ensure that, where earth worked materials are carried onto the surrounding road network, the road(s) is cleaned and / or repaired back

to its original condition each evening during the earthworks period. In doing this, the Consent holder shall ensure that no materials are washed or swept into any storm water drains or natural drainage systems.

Access Track

26. Prior to commencement of works, the Consent holder shall submit for engineering approval, plans and design calculations for the proposed development. The design shall be to the satisfaction of the General Manager, Environment & Regulatory Services. These plans shall show full engineering details, including technical details, of the proposed:
- a) Earthworks, showing areas of fill and cut, depths of fill and cut and cut batters;
 - b) Any subsoil drainage system;
 - c) For stormwater disposal other than to a public main; (Long-term):
 - Any design submitted shall demonstrate that storm-water runoff is disposed in an effective and responsible way, and avoids creating any adverse effects to the environment such as erosion or scouring or a nuisance to surrounding properties or areas.
 - Where it is proposed to discharge stormwater to the surrounding countryside, stormwater pipes shall be extended down to the bottom of gullies. These stormwater pipes shall end in flow dissipation/our prevention measures, such as using a suitably designed stilling basin with downstream lip and rip-rap embedded in concrete immediately downstream.
 - The Consent holder shall submit to Council a design including construction drawings and detailing the proposed storm-water services (including calculations and allowances for storm-water runoff and over land flow paths) within or servicing the proposed development.
27. The Consent holder shall ensure that there is no direct public vehicle access between Broken Hill Road and Ohariu Valley Road over the proposed access track during and after its construction.
28. The plans required by condition 26 above shall be accompanied by a copy of Schedule 1A NZS 4404:2004, Design Certificate - Land Development/ Subdivision Work, signed by a suitably qualified design professional carrying professional indemnity insurance - the minimum of which shall be commensurate with the current amounts recommended by IPENZ, ACENZ, TNZ, INGENIUM for design professionals involved in land development/ subdivision work.

Upon completion of earthworks, the Consent holder shall submit a copy of Schedule 1C NZS 4404:2004, Certificate of Person Responsible for Inspection and Review of Construction, Upon Completion of Land Development/ Subdivision Work, signed by a suitably qualified professional carrying professional indemnity insurance - the minimum of which shall be commensurate with the current amounts recommended by IPENZ, ACENZ, TNZ, INGENIUM for As Built drawings (see below).

As Built Drawings:

29. As Built drawings shall be submitted for approval to the satisfaction of the General Manager Environment and Regulatory Services in accordance with Schedule 1D NZS 4404:2004 Criteria for As Built Drawings.

SCHEDULE 3 RESOURCE CONSENT CONDITIONS

WELLINGTON REGIONAL COUNCIL

Schedule 1

Land use consent [26777] to undertake the following works within the stream beds of unnamed tributaries of the Ohariu Stream in association with Ohariu Valley Road upgrades:

- Replace, extend and upsize existing culvert structures;
- Extend existing culvert structures;
- Place inlet/outlet works;
- Place rock ramps for fish passage; and
- Place an edge protection structure.

Including any associated temporary diversion of flow and disturbance of the beds of those streams.

General conditions

1. The location, design, implementation and operation of the works shall be in general accordance with the:
 - a) consent application and its associated plans and documents, lodged with the Wellington Regional Council on 12 March 2008; and
 - b) further information and amendments received by the Wellington Regional Council on 17 April 2008, 15 July 2008, 16 July 2008 and 18 July 2008; and
 - c) information that is approved by the Wellington Regional Council in accordance with the conditions of this consent.

Note 1: Any change from the location, design concepts and parameters implemented and/or operation may require a change in consent conditions pursuant to Section 127 of the Resource Management Act 1991.

Note 2: Where there may be contradiction or inconsistencies between the application and further information provided by the applicant, the most recent information applies. In addition, where there may be inconsistencies between information provided by the applicant and conditions of the consent, the conditions apply.

2. The consent holder shall advise the Manager, Environmental Regulation, Wellington Regional Council, in writing at least 48 hours prior to the works commencing in each location.
3. The consent holder shall provide a copy of this consent, including any relevant site plans and attachments, to the contractor undertaking the works authorised by this consent, prior to the works commencing.
4. If kōiwi (skeletal remains), wahi tapu, taonga (treasures), or other artefact material is discovered in any area, all works in the vicinity are to cease immediately. The consent holder shall notify the Manager, Environmental Regulation, Wellington Regional Council; the Wellington Tenth Trust; Te Runanga o Toa Rangatira Inc.; an approved representative of Ngati Tama; the Historic Places Trust; and if necessary, the New Zealand Police. Works in the

vicinity shall not re-commence until a site inspection has been undertaken by the representatives of these parties, appropriate tikanga (protocols) have occurred, and the artefacts have either been recovered or the appropriate approval to continue is given.

5. If any fish are stranded due to the works, the consent holder shall ensure that these are placed back in the active flowing part of the channel as soon as practicable.
6. All works affecting the streams, including tidy up on completion of the works, shall be completed to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council.

Pre-work conditions

7. Prior to undertaking any works authorised by this consent, the consent holder shall engage an appropriately qualified ecologist to determine which tributaries of the Ohariu Stream, where works authorised under this consent are to be carried out, would benefit from fish passage being provided.
8. Prior to undertaking works, the applicant shall submit a report from an appropriately qualified ecologist to the Manager, Environmental Regulation, Wellington Regional Council, detailing the results of the inspection required under Condition 7 of this consent. The report shall detail the following:
 - identification of which culverts require fish passage works (using existing OHVRD culvert road pegs); and
 - for each tributary, identify whether fish passage will be provided through a replacement culvert or via a rock ramp.

Design conditions

9. All works authorised under this consent must provide fish passage, for the tributaries identified under Condition 7 of this consent, on completion and in accordance with Condition 8 of this consent.
10. Inlet and/or outlet erosion protection works must be provided for all existing perched culvert inlets and/or outlets that require extension.
11. All replaced culverts must be able to accommodate a 1 in 10 year flood event.
12. All replaced culverts must be placed at the same gradient as the existing stream bed and be sufficiently embedded to avoid erosion and scour of the stream bed and banks.

If it is determined or found that erosion and scour of the stream bed and/or banks either has or will occur, even with sufficient embedment, appropriate inlet and/or outlet protection works must be added.
13. All other structures authorised under this consent (i.e. fish passes, edge protection structures, inlet/outlet protection structures) must be sufficiently embedded so as to avoid erosion and scour of the stream bed and/or banks.
14. Within one month of constructing each structure authorised under this consent, the consent holder shall provide to the Manager, Environmental Regulation, Wellington Regional Council, a certificate signed by an appropriately qualified and experienced engineer to certify that the structure has been constructed in accordance with the conditions of this consent.
15. The consent holder shall provide design details of any of the structures authorised under this consent to the Manager, Environmental Regulation, Wellington Regional Council, on request.

Contamination prevention conditions

16. The consent holder shall ensure that:
- all contaminant storage or re-fuelling areas are bunded or contained in such a manner as to prevent the discharge of contaminants;
 - all machinery is thoroughly cleaned of vegetation and contaminants prior to entering the site;
 - all machinery is regularly maintained in such a manner so as to minimise the potential for leakage of contaminants; and
 - no machinery is refuelled within 50 metres of any intermittent or permanent watercourse.
17. The consent holder shall take all practicable steps to minimise sedimentation and disturbance of the streams during the construction and implementation of the works, including:
- completing all works in the minimum time practicable;
 - minimising the area of disturbance at all times;
 - avoiding placement of excavated material in the wetted channels;
 - separating construction activities from the wetted channels i.e. by temporarily diverting the flow around the area of works or bunding the works area;
 - minimising time spent by machinery in the wetted channels, including the number of vehicle crossings;
 - immediately removing any excess material from the bed and banks of the streams on completion of the works.
18. The consent holder shall ensure that appropriate erosion and sediment control measures are installed prior to, and during, all construction works.
19. The consent holder shall ensure that all exposed areas are stabilised against erosion by re-vegetating the area within 20 working days of completing the works in each location, or as soon as practicable.

Note: For the purposes of this condition “stabilised” in relation to any site or area means inherently resistant to erosion or rendered resistant, such as by using indurated rock or by the application of basecourse, colluvium, grassing, mulch, or another method to the reasonable satisfaction of the Manager, Environmental Regulation, Wellington Regional Council and as specified in Wellington Regional Council’s Erosion and Sediment Control Guidelines for the Wellington Region, September 2002. Where seeding or grassing is used on a surface that is not otherwise resistant to erosion, the surface is considered stabilised once, on reasonable visual inspection by the Manager, Environmental Regulation, Wellington Regional Council, an 80% vegetative cover has been established.

Maintenance condition

20. The works shall remain the responsibility of the consent holder and be maintained so that:
- a) any erosion, scour or instability of the stream bed or banks that is attributable to the works carried out as part of this consent is remedied by the consent holder;

- b) fish passage is not impeded on completion of works;
- c) the structures remain substantially free of debris; and
- d) the structural integrity of the structures remains sound.

Note: Maintenance of lawful structures is generally permitted under Rule 22 of the Regional Freshwater Plan for the Wellington Region. Any additional works (including structures, reshaping or disturbance to the bed of the watercourse) following completion of the construction and maintenance works as provided for in the approved plans, may require further resource consents.

Duration of consent

- 21. In accordance with section 123(c) of the Resource Management Act 1991, this consent shall expire thirty five (35) years from the date of commencement.

Lapse of consent

- 22. In accordance with section 125(1) of the Resource Management Act 1991, this consent shall lapse if not given effect to within seven (7) years of the date of commencement.

Schedule 2

Land use consent [26848] to undertake the following works within the stream bed of an unnamed tributary of the Ohariu Stream in association with Boom Rock Road upgrades:

- Reclaim sections of stream bed;
- Extend existing culvert structures;
- Place inlet/outlet structures;
- Place rock ramps for fish passage; and
- Place rock protection works.

Including any associated temporary diversion of flow, and disturbance of, and deposition on, the beds of those streams.

Pre-works and general conditions

1. The consent holder shall prepare and submit a **Design and Construction Plan** for all structures and stream works authorised by this consent to the Manager, Environmental Regulation, Wellington Regional Council, for approval at least 20 working days prior to the works commencing.

Unless otherwise authorised by the Manager, Environmental Regulation, Wellington Regional Council, works may not commence until the Design and Construction Plan has been approved.

The **Design** detail and plans shall include, but not be limited to, the following:

- cross sectional and aerial drawings showing the locations (paths) and profiles of the realigned channels;
- details of the rock protection works including dimensions, size of the rock rip-rap and the depth to which it will be embedded to;
- details of how the realigned channels will be stabilised on completion;
- details of any culvert inlet/outlet structures e.g. pre-cast wing walls or aprons and the depth that these will be embedded to below the stream beds;
- design details of the rock ramp(s) for fish passage; and
- any other measures or details as appropriate to ensure compliance with all conditions of this consent.

The **Construction** detail and methodology shall include, but not be limited to, the following:

- the sequence of works, step by step, and a timeline for undertaking the works;
- details of the temporary diversions (including through use of a water pump with a fish screen) to enable works to be undertaken outside of the actively flowing channel, including methods to bund upstream and downstream of the works areas;
- how the banded works areas will be dewatered to prevent sediment-laden water that pools in these areas from entering any surface waterbodies; and

- details of any other erosion and sediment control measures that will be employed on site to undertake the works.

Any amendments to the **Design and Construction Plan** must be approved and be to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council.

The consent must be exercised in general accordance with the approved plan and any subsequent approved amendments.

General conditions

2. The location, design, implementation and operation of the works shall be in general accordance with the:
 - a) consent application and its associated plans and documents, lodged with the Wellington Regional Council on 12 March 2008; and
 - b) further information and amendments received by the Wellington Regional Council on 17 April 2008, 15 July 2008, 16 July 2008 and 18 July 2008; and
 - c) the information that is approved by the Wellington Regional Council in accordance with Condition 1 of this consent.

Note 1: Any change from the location, design concepts and parameters implemented and/or operation may require a change in consent conditions pursuant to Section 127 of the Resource Management Act 1991.

Note 2: Where there may be contradiction or inconsistencies between the application and further information provided by the applicant, the most recent information applies. In addition, where there may be inconsistencies between information provided by the applicant and conditions of the consent, the conditions apply.

3. The consent holder shall advise the Manager, Environmental Regulation, Wellington Regional Council, in writing at least 48 hours prior to the works commencing in each location.
4. The consent holder shall provide a copy of this consent, including any relevant site plans and attachments, to the contractor undertaking the works authorised by this consent, prior to the works commencing.
5. If kōiwi (skeletal remains), wahi tapu, taonga (treasures), or other artefact material is discovered in any area, all works in the vicinity are to cease immediately. The consent holder shall notify the Manager, Environmental Regulation, Wellington Regional Council; the Wellington Tenth Trust; Te Runanga o Toa Rangatira Inc.; an approved representative of Ngati Tama; the Historic Places Trust; and if necessary, the New Zealand Police. Works in the vicinity shall not re-commence until a site inspection has been undertaken by the representatives of these parties, appropriate tikanga (protocols) have occurred, and the artefacts have either been recovered or the appropriate approval to continue is given.
6. All works affecting the streams, including tidy up on completion of the works, shall be completed to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council.

Contamination prevention conditions

7. The consent holder shall ensure that:

- all contaminant storage or re-fuelling areas are bunded or contained in such a manner as to prevent the discharge of contaminants;
 - all machinery is thoroughly cleaned of vegetation and contaminants prior to entering the site;
 - all machinery is regularly maintained in such a manner so as to minimise the potential for leakage of contaminants; and
 - no machinery is refuelled within 50 metres of any intermittent or permanent watercourse.
8. The consent holder shall take all practicable steps to minimise sedimentation and disturbance of the stream during the construction and implementation of the works, including:
- completing all works in the minimum time practicable;
 - minimising the area of disturbance at all times;
 - avoiding placement of excavated material in the wetted channels;
 - separating construction activities from the wetted channels by temporarily diverting the flow around the entire areas of works (including the areas of the culvert extensions and rock protection works);
 - minimising time spent by machinery in the wetted channels, including the number of vehicle crossings; and
 - immediately removing any excess material from the bed and banks of the streams on completion of the works.
9. The consent holder shall ensure that appropriate erosion and sediment control measures are installed prior to, and during, all construction works.
10. Sediment-laden water which pools within the bunded areas of works shall be dewatered by pumping it to land (where it is unable to enter surface water) or by other such method approved under Condition 1 of this consent.
11. All fill material placed in the stream beds shall be restricted to natural material, such as clay, soil and rock, shall accord with the Ministry for Environment “cleanfill” definition as detailed in ‘*A guide to the management of Cleanfills, 2002*’ and all such fill material shall be placed and compacted so as to minimise its erosion and instability.
12. The consent holder shall ensure that all exposed areas are stabilised against erosion by re-vegetating the area within 20 working days of completing the works in each location, or as soon as practicable.

Fish passage and habitat

13. If any fish are stranded due to the works, the consent holder shall ensure that these are placed back in the active flowing part of the channel as soon as practicable.
14. The consent holder shall ensure that fish passage is provided on completion of the construction works.
15. A graded mix of rock rip-rap shall be used to fill voids within rock protection works located in the stream bed at the time of construction.
16. The profiles of the realigned channels shall incorporate meandering bends where possible.

17. Existing vegetation shall only be cleared where it is necessary to implement and construct the works.

Erosion and scour

18. All structures and works authorised under this consent shall be constructed as to avoid erosion and scour of the stream beds and/or banks.

Flooding

19. All structures and works authorised under this consent shall be constructed so to avoid exasperation of flood flows.

Maintenance condition

20. The works shall remain the responsibility of the consent holder and be maintained so that:
- a) any erosion, scour or instability of the stream bed or banks that is attributable to the works carried out as part of this consent is remedied by the consent holder;
 - b) fish passage is not impeded on completion of works;
 - c) the structures remain substantially free of debris; and
 - d) the structural integrity of the structures remains sound.

Note: Maintenance of lawful structures is generally permitted under Rule 22 of the Regional Freshwater Plan for the Wellington Region. Any additional works (including structures, reshaping or disturbance to the bed of the watercourse) following completion of the construction and maintenance works as provided for in the approved plans, may require further resource consents.

Duration of consent

23. In accordance with section 123(c) of the Resource Management Act 1991, this consent shall expire thirty five (35) years from the date of commencement.

Lapse of consent

24. In accordance with section 125(1) of the Resource Management Act 1991, this consent shall lapse if not given effect to within seven (7) years of the date of commencement.

Schedule 3

Water permit [26780] to permanently divert the full flow of the following:

- **Ohariu Stream;**
- **Mill Creek; and**
- **unnamed tributaries of the Ohariu Stream, Mill Creek and Hawkins Stream**

through pipes, rock protection structures and realigned channels in association with the construction of new roads and the upgrade of existing roads.

General conditions

1. The location, design, implementation and operation of the works shall be in general accordance with the:
 - a) consent application and its associated plans and documents, lodged with the Wellington Regional Council on 12 March 2008; and
 - b) further information and amendments received by the Wellington Regional Council on 17 April 2008, 15 July 2008, 16 July 2008 and 18 July 2008.

Note 1: Any change from the location, design concepts and parameters implemented and/or operation may require a change in consent conditions pursuant to Section 127 of the Resource Management Act 1991.

Note 2: Where there may be contradiction or inconsistencies between the application and further information provided by the applicant, the most recent information applies. In addition, where there may be inconsistencies between information provided by the applicant and conditions of the consent, the conditions apply.

2. The consent holder shall provide a copy of this consent, including any relevant site plans and attachments, to the contractor undertaking the works authorised by this consent, prior to the works commencing.
3. The works shall remain the responsibility of the permit holder and shall be maintained to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council. This shall include the repair of any erosion of the bed and/or banks of the stream that is attributable to the works.

Duration of consent

4. In accordance with section 123(d) of the Resource Management Act 1991, this consent shall expire thirty five (35) years from the date of commencement.

Lapse of consent

5. In accordance with section 125(1) of the Resource Management Act 1991, this consent shall lapse if not given effect to within seven (7) years of the date of commencement.

Schedule 4

Discharge permit [26847] to discharge sediment-laden water to land where it may enter water and to water in association with the operation of a mobile aggregate crushing plant.

General conditions

1. The location, design and operation of the plant shall be in general accordance with:
 - a) the consent application and its associated plans and documents, lodged with the Wellington Regional Council on 12 March 2008; and
 - b) further information and amendments received by the Wellington Regional Council on 17 April 2008; and

Note 1: Any change from the location, design concepts and parameters implemented and/or operation may require a change in consent conditions pursuant to Section 127 of the Resource Management Act 1991.

Note 2: Where there may be contradiction or inconsistencies between the application and further information provided by the applicant, the most recent information applies. In addition, where there may be inconsistencies between information provided by the applicant and conditions of the consent, the conditions apply.

2. The consent holder shall advise the Manager, Environmental Regulation, Wellington Regional Council, in writing at least 48 hours prior the operation of the aggregate crushing plant commencing.
3. If kōiwi (skeletal remains), wahi tapu, taonga (treasures), or other artefact material is discovered in any area, all works in the vicinity are to cease immediately. The consent holder shall notify the Manager, Environmental Regulation, Wellington Regional Council; the Wellington Tenth Trust; Te Runanga o Toa Rangatira Inc.; an approved representative of Ngati Tama; the Historic Places Trust; and if necessary, the New Zealand Police. Works in the vicinity shall not re-commence until a site inspection has been undertaken by the representatives of these parties, appropriate tikanga (protocols) have occurred, and the artefacts have either been recovered or the appropriate approval to continue is given.
4. Notwithstanding the requirements of the other conditions of this permit, the consent holder shall at all times take all practicable steps for preventing erosion and/or minimise the suspended solids content of any discharge that enters water.
5. All erosion and sediment control measures shall be well maintained so that they operate efficiently and to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council.
6. During the exercise of this permit, all practicable steps shall be taken to minimise any discharge to any watercourse that may result in any of the following effects after reasonable mixing:
 - The production of any conspicuous oil or grease films, scums or foams or floatable or suspended material;
 - Any conspicuous change in colour or visual clarity;
 - Any emission of objectionable odour;

- The rendering of fresh water unsuitable for consumption by humans and farm animals;
- Any significant adverse effect on aquatic life;
- A change of more than 3° Celsius in the natural temperature of the water.

Duration of consent

7. In accordance with section 123(d) of the Resource Management Act 1991, this consent shall expire seven (7) years from the date of commencement.

Lapse of consent

8. In accordance with section 125(1) of the Resource Management Act 1991, this consent shall lapse if not given effect to within seven (7) years of the date of commencement.

Schedule 5

Discharge permit [26781] to discharge contaminants to air in association with the pneumatic conveying of bulk materials from the operation of a concrete batching plant.

Pre-works conditions

1. The permit holder shall prepare and submit details regarding the chosen contractor, and the detailed design, location and implementation of the concrete batching plant to the Manager, Environmental Regulation, Wellington Regional Council, at least 20 working days prior to the commencement of construction of the plant.

Note: The location of the concrete batching plant shall not be within 100 metres of any intermittent or permanent watercourse.

2. The permit holder shall prepare and submit for approval a **Batching Plant Management Plan (BPMP)** to the Manager, Environmental Regulation, Wellington Regional Council, at least 20 working days prior to the commencement of construction of the plant.

Discharge to air from the batching plant shall not commence until this plan is approved.

The **Management Plan** shall include, but not be limited to, the following:

- a) an operation and maintenance manual detailing regular monitoring to be undertaken, including visual checks and maintenance of all plant machinery and equipment to prevent accidental discharges;
- b) a contingency plan for spills and/or discharges to the environment from the plant; and
- c) mitigation measures to be implemented during the operation of the plant, including the installation of a water sprinkler system to minimise dust emissions, the installation of a level control alarm in the cement storage silo, speed restrictions within the plant boundary, and general yard management.

Any amendments to the **BPMP** must be approved and be to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council.

The consent must be exercised in general accordance with the approved plan and any subsequent approved amendments.

3. The consent holder shall advise the Manager, Environmental Regulation, Wellington Regional Council, in writing at least 48 hours prior to the operation of the concrete batching plant commencing.

Operational conditions

4. The location, design and operation of the plant shall be in general accordance with:
 - a) the consent application and its associated plans and documents, lodged with the Wellington Regional Council on 12 March 2008; and
 - b) further information and amendments received by the Wellington Regional Council on 17 April 2008; and
 - c) the information that is provided to and/or approved by the Wellington Regional Council in accordance with Conditions 1 and 2 of this permit.

Note 1: Any change from the location, design concepts and parameters implemented and/or operation may require a change in consent conditions pursuant to Section 127 of the Resource Management Act 1991.

Note 2: Where there may be contradiction or inconsistencies between the application and further information provided by the applicant, the most recent information applies. In addition, where there may be inconsistencies between information provided by the applicant and conditions of the consent, the conditions apply.

5. There shall be no discharges to air resulting from the exercise of this permit that are noxious, dangerous, offensive or objectionable at or beyond a 20 metre wide buffer zone around the physical boundary of the plant.

Maintenance and keeping of records

6. Regular maintenance of the plant, including weekly visual inspections of the equipment prior to use, shall be carried out by a trained operator. Records of maintenance and visual inspections shall be kept and made available to the Wellington Regional Council on request.
7. The consent holder shall keep a record of any incident that results, or could result, in adverse effects on the environment at or beyond a 20 metre wide buffer zone around the physical boundary of the plant. The incident record shall be made available to the Wellington Regional Council on request.

The consent holder shall notify the Manager, Environmental Regulation, Wellington Regional Council, of any incident within 24 hours, or the next working day. The consent holder shall forward an incident report to the Manager, Environmental Regulation, Wellington Regional Council, within 7 working days of the incident occurring. The report shall describe reasons for the incident, measures undertaken to mitigate the incident and measures undertaken to prevent recurrence.

8. The consent holder shall keep a record of any complaints received. The complaints record shall contain the following where practicable:
 - The name and address of the complainant (if supplied);
 - Identification of the nature of the complaint;
 - Date and time of the complaint and alleged event;
 - Weather conditions at the time of the alleged event; and
 - Any mitigation measures adopted.

The complaints record shall be made available to the Wellington Regional Council on request.

The consent holder shall notify the Manager, Environmental Regulation, Wellington Regional Council, in writing of any complaints received relating to the exercise of this permit within 24 hours of being received by the permit holder, or the next working day.

Review conditions

9. The Wellington Regional Council may review any or all conditions hereof by giving notice of its intention to do so pursuant to Section 128 of the Resource Management Act 1991, within six months of the first, third and fifth anniversaries of the granting of this discharge permit for either of the following purposes:

- a) To deal with any adverse effects on the environment which may arise from the exercise of this permit, and which are appropriate to deal with at that time; and
- b) To review the adequacy of the operating and maintenance procedures and the monitoring requirements for this permit, so as to incorporate any modification to the operation and maintenance procedures or monitoring that may be necessary to deal with any adverse effects on the environment arising from the management or operation of the processes undertaken by the permit holder.

Duration of consent

- 10. In accordance with section 123(d) of the Resource Management Act 1991, this consent shall expire seven (7) years from the date of commencement.

Lapse of consent

- 11. In accordance with section 125(1) of the Resource Management Act 1991, this consent shall lapse if not given effect to within seven (7) years of the date of commencement.

Schedule 6

Land use consent [27383] to place pipe and rock protection structures in the beds of the Ohariu Stream and Mill Creek including any associated temporary diversion of flow and disturbance to the beds of those streams.

Environmental Enhancement Plan

1. The consent holder shall register a covenant in favour of Wellington Regional Council for the purpose of enhancing the ecological values of the Makara Stream and Estuary, by undertaking riparian planting. The covenant shall relate to 5.79 hectares of land contained within Certificate of Title WN7D/340 (Lot 1 DP 30935).

Note - As a part of enhancing this land the consent holder intends to consult with stakeholders who are interested in improving the ecological values along the Makara Stream and Estuary.

Mitigation planting shall be carried out in general accordance with Greater Wellington's . *Mind the Stream – A guide to looking after urban and rural streams in the Wellington Region 2004.*

The consent holder shall provide the following information to the Manager, Environmental Regulation, Wellington Regional Council, once consultation with stakeholders has been completed:

- The location and extent of where riparian planting will be undertaken on Certificate of Title WN7D/340(Lot 1 DP 30935);
- The species proposed to be planted and the density of planting. These species shall be suitable for the environment, including the soil type and surrounding land use;
- The method(s) that will be used to protect the planting;
- Details of how the site will be maintained and how often, including the ongoing replacement of plants that do not survive, details of any irrigation and fertilization that will be provided, and eradication of invasive weeds from the planting site(s) to ensure adequate growth; and
- A timeline for registering the covenant and completing the planting.

Pre-works and general conditions

2. The consent holder shall prepare and submit a **Diversion Design and Construction Plan** for all structures and stream works authorised by this consent to the Manager, Environmental Regulation, Wellington Regional Council, for approval at least 20 working days prior to the works commencing. Works cannot commence until the Plan is approved.

The **Design** details shall include, but not be limited to, the following:

- a) (for Mill Creek only) an aerial plan showing the location of the culvert, rock protection works and temporary diversion works in relation to the rocky outcrop, in accordance with Condition 20 of this consent;
- b) details of the flow capacity that the culverts can accommodate and data to support this;

- c) the location of the secondary overflow paths for events greater than what the culvert can accommodate and how these will be stabilised if they are located over any exposed earthwork surfaces;
- d) measures to ensure fish passage will be provided including details of:
 - the stony substrate that will be placed throughout the culvert structures;
 - the baffle structures that will ensure that the stony substrate is retained within the culverts; and
 - the depth to which the culverts will be embedded below the streambeds.
- e) details of the rock protection structures including dimensions, size of the rock rip-rap and the depth to which it will be embedded to;
- f) details of any culvert inlet/outlet structures e.g. pre-cast wing walls or aprons and the depth that these will be embedded to below the stream beds; and
- g) any other measures or details as appropriate to ensure compliance with all conditions of this consent.

The **Construction** methodology shall include, but not be limited to, the following:

- a) the sequence of works, step by step, and a timeline for undertaking the works;
- b) details of the temporary diversion works including:
 - its location, width and grade to which the diversion works will be constructed;
 - the method(s) that will be used to stabilise the diversion works ; and
 - how the areas of works will be bunded off both upstream and downstream.
- c) how the bunded works areas will be dewatered to prevent sediment-laden water that pools in these areas from entering any surface waterbodies; and
- d) details of any other erosion and sediment control measures that will be employed on site to undertake the works.

Any amendments to the **Diversion Design and Construction Plan** shall be approved and be to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council.

The consent must be exercised in general accordance with the approved plan and any subsequent amendments.

3. The location, design, implementation and operation of the works shall be in general accordance with the:
 - a) consent application and its associated plans and documents, lodged with the Wellington Regional Council on 12 March 2008; and
 - b) further information and amendments received by the Wellington Regional Council on 17 April 2008, 15 July 2008, 16 July 2008 and 18 July 2008; and

- c) the information that is approved by the Wellington Regional Council in accordance with Condition 2 of this consent.

Note 1: Any change from the location, design concepts and parameters implemented and/or operation may require a change in consent conditions pursuant to Section 127 of the Resource Management Act 1991.

Note 2: Where there may be contradiction or inconsistencies between the application and further information provided by the applicant, the most recent information applies. In addition, where there may be inconsistencies between information provided by the applicant and conditions of the consent, the conditions apply.

The consent holder shall advise the Manager, Environmental Regulation, Wellington Regional Council, in writing at least 48 hours prior to the works commencing in each location.

4. The consent holder shall provide a copy of this consent, including any relevant site plans and attachments, to the contractor undertaking the works authorised by this consent, prior to the works commencing.
5. If kōiwi (skeletal remains), wahi tapu, taonga (treasures), or other artefact material is discovered in any area, all works in the vicinity are to cease immediately. The consent holder shall notify the Manager, Environmental Regulation, Wellington Regional Council; the Wellington Tenth Trust; Te Runanga o Toa Rangatira Inc.; an approved representative of Ngati Tama; the Historic Places Trust; and if necessary, the New Zealand Police. Works in the vicinity shall not re-commence until a site inspection has been undertaken by the representatives of these parties, appropriate tikanga (protocols) have occurred, and the artefacts have either been recovered or the appropriate approval to continue is given.
6. All works affecting the streams, including tidy up on completion of the works, shall be completed to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council.

Contamination prevention conditions

7. The consent holder shall ensure that:
 - a) all contaminant storage or re-fuelling areas are bunded or contained in such a manner as to prevent the discharge of contaminants;
 - b) all machinery is thoroughly cleaned of vegetation and contaminants prior to entering the site;
 - c) all machinery is regularly maintained in such a manner so as to minimise the potential for leakage of contaminants; and
 - d) no machinery is cleaned, stored or refuelled within 50 metres of any intermittent or permanent watercourse.
8. The consent holder shall take all practicable steps to minimise sedimentation and disturbance of the streams during the construction and implementation of the works, including:
 - a) completing all works in the minimum time practicable;
 - b) minimising the area of disturbance at all times;
 - c) avoiding placement of excavated material in the wetted channels;

- d) separating construction activities from the wetted channels by temporarily diverting the flow around the entire areas of works (including the areas of the culverts and rock protection works);
 - e) minimising time spent by machinery in the wetted channels, including the number of vehicle crossings;
 - f) immediately removing any excess material from the bed and banks of the streams on completion of the works.
9. The stream diversion works shall be stabilised by lining it with geotextile fabric, or other such method as approved under Condition 2 of this consent, prior to diverting stream flows through.
 10. The consent holder shall ensure that appropriate erosion and sediment control measures are installed prior to, and during, all construction works.
 11. Sediment-laden water which pools within the bunded areas of works shall be dewatered by pumping it to land (where it is unable to enter surface water) or by other such method approved under Condition 2 of this consent.
 12. The consent holder shall ensure that all exposed areas are stabilised against erosion by re-vegetating the area within 20 working days of completing the works in each location, or as soon as practicable.

Fish passage

13. The temporary diversion works shall be constructed at an appropriate width and grade to provide fish passage.
14. The consent holder shall ensure that fish passage is maintained during, and on completion of, the construction works.
15. If any fish are stranded due to the works, the consent holder shall ensure that these are placed back in clear, actively flowing part of the channel as soon as practicable.
16. A graded mix of rock rip-rap shall be used to fill voids within rock protection works located in the stream beds at the time of construction.

Inspection and reporting requirements for fish passage

17. The consent holder shall engage an appropriately qualified ecologist to undertake the following:
 - a) an inspection of the culverts one year after instalment; and
 - b) an inspection of the culverts four years after instalment; and
 - c) Notwithstanding the above, if fish passage is found to be restricted during the inspection, inspections shall be continued to be undertaken annually until the ecologist is satisfied that fish passage is continually being provided for.

The inspections shall be undertaken between 1 February and 30 March, if practicable, to ensure that fish passage is continually being provided for throughout the culvert structures.

The defined period above is preferred as most native fish species should be present during this time and, therefore, an accurate representation of the fish species and the effects of the structure on these will be able to be determined.

If low flow conditions during this time inhibit surveys being able to be undertaken, surveys must be undertaken as close to the defined period as possible.

The inspection shall include the following:

- a) a survey of freshwater fish in an appropriate area immediately upstream of the culverts; and
 - b) a survey of freshwater fish in an appropriate area downstream of the culverts (for comparison with the upstream survey); and
 - c) a visual inspection to check the following:
 - that gravel bed substrate is being retained within the culvert pipes;
 - whether there are any signs of erosion or scour of the stream bed or banks around the structures;
 - the condition of the structure including the baffles and rock protection works;
 - stream flow velocities are not increased in any areas within the culvert structures or upstream/downstream of the culvert structures that could be adverse to fish passage e.g. baffles and rock protection are adequate and in good condition; and
 - whether there is debris that could block the passage of fish or increase velocities.
18. The consent holder shall submit a report from a qualified ecologist to the Manager, Environmental Regulation, Wellington Regional Council, within one month of undertaking the inspection required under Condition 17 of this consent. The report shall detail the following:
- a) the results of the fish surveys, the methods used to survey the fish, the location of the surveys and the dates that they were undertaken;
 - b) the results of the visual inspections, for each of the points that are listed under Condition 17 of this consent;
 - c) an assessment of effects on fish passage using the fish surveys and results of the visual inspections; and
 - d) measures/works that will be implemented to address any actual or potential effects on fish passage as a result of the inspections and when these will be implemented by.

Stream works time period restrictions

19. No in-stream works shall be undertaken between 1 August and 30 November (inclusive) or between 1 March and 30 June (inclusive) to avoid upstream and upstream fish migration times, except for in the following circumstances:
- a) The written approval of the Manager, Environmental Regulation, Wellington Regional Council is obtained; and
 - b) the in-stream works are limited to 2 days out of each 7 day period and total to no more than 8 days in any 30 day period.

Note: This condition excludes works as permitted by Rule 22 of the Regional Freshwater Plan for the Wellington Region.

Mill Creek culvert, rock protection and temporary diversion work restrictions

20. No works, structures or part of any structures (i.e. culvert or rock protection or diversion works) shall be placed within, or extend into, the area of the rocky outcrop within Mill Creek, which begins at approximate map reference NZMS

260:R27; 2656796.5998203. All structures authorised by this consent shall be located upstream of this point.

No temporary diversion work which is constructed in accordance with Condition 2 of this consent shall extend into the rocky outcrop area defined above.

Erosion and scour

21. All structures authorised under this consent shall be constructed so as to avoid erosion and scour of the stream beds and/or banks.

Flooding

22. All structures authorised under this consent shall be constructed so to avoid any increase in flood flows.

Maintenance condition

23. The works shall remain the responsibility of the consent holder and be maintained so that:
- a) any erosion, scour or instability of the stream bed or banks that is attributable to the works carried out as part of this consent is remedied by the consent holder;
 - b) fish passage is not impeded on completion of works;
 - c) the structures remain substantially free of debris; and
 - d) the structural integrity of the structures remains sound.

Note: Maintenance of lawful structures is generally permitted under Rule 22 of the Regional Freshwater Plan for the Wellington Region. Any additional works (including structures, reshaping or disturbance to the bed of the watercourse) following completion of the construction and maintenance works as provided for in the approved plans, may require further resource consents.

Duration of consent

24. In accordance with section 123(c) of the Resource Management Act 1991, this consent shall expire thirty five (35) years from the date of commencement.

Lapse of consent

25. In accordance with section 125(1) of the Resource Management Act 1991, this consent shall lapse if not given effect to within seven (7) years of the date of commencement.

Schedule 7

Land use consent [27384] to:

- pipe and reclaim sections of intermittent and ephemeral stream beds in association with the construction of new access roads within the Core Site and Spicer Forest; and
- undertake remedial works in association with two existing perched culverts

including any associated temporary diversion of flow, and disturbance of, and deposition on, the beds of those streams.

Environmental Enhancement Plan

1. The consent holder shall register a covenant in favour of Wellington Regional Council for the purpose of enhancing the ecological values of the Makara Stream and Estuary, by undertaking riparian planting. The covenant shall relate to 5.79 hectares of land contained within Certificate of Title WN7D/340 (Lot 1 DP 30935).

Note - As a part of enhancing this land the consent holder intends to consult with stakeholders who are interested in improving the ecological values along the Makara Stream and Estuary.

Mitigation planting shall be carried out in general accordance with Greater Wellington's *Mind the Stream – A guide to looking after urban and rural streams in the Wellington Region 2004*.

The consent holder shall provide the following information to the Manager, Environmental Regulation, Wellington Regional Council, once consultation with stakeholders has been completed:

- The location and extent of where riparian planting will be undertaken on Certificate of Title WN7D/340(Lot 1 DP 30935);
- The species proposed to be planted and the density of planting. These species shall be suitable for the environment, including the soil type and surrounding land use;
- The method(s) that will be used to protect the planting;
- Details of how the site will be maintained and how often, including the ongoing replacement of plants that do not survive, details of any irrigation and fertilization that will be provided, and eradication of invasive weeds from the planting site(s) to ensure adequate growth; and
- A timeline for registering the covenant and completing the planting.

General conditions

2. The location, design, implementation and operation of the works shall be in general accordance with the:
 - a) consent application and its associated plans and documents, lodged with the Wellington Regional Council on 12 March 2008; and

- b) further information and amendments received by the Wellington Regional Council on 17 April 2008, 15 July 2008, 16 July 2008, 18 July 2008 and 23 July 2008.

Note 1: Any change from the location, design concepts and parameters implemented and/or operation may require a change in consent conditions pursuant to Section 127 of the Resource Management Act 1991.

Note 2: Where there may be contradiction or inconsistencies between the application and further information provided by the applicant, the most recent information applies. In addition, where there may be inconsistencies between information provided by the applicant and conditions of the consent, the conditions apply.

3. Culvert F1 must be placed in the location identified within Figure 16 of the further information and amendments received by Wellington Regional Council on 23 July 2008.
4. The consent holder shall advise the Manager, Environmental Regulation, Wellington Regional Council, in writing at least 48 hours prior to the works commencing in each location.
5. The consent holder shall provide a copy of this consent, including any relevant site plans and attachments, to the contractor undertaking the works authorised by this consent, prior to the works commencing.
6. If kōiwi (skeletal remains), wahi tapu, taonga (treasures), or other artefact material is discovered in any area, all works in the vicinity are to cease immediately. The consent holder shall notify the Manager, Environmental Regulation, Wellington Regional Council; the Wellington Tenth Trust; Te Runanga o Toa Rangatira Inc.; an approved representative of Ngati Tama; the Historic Places Trust; and if necessary, the New Zealand Police. Works in the vicinity shall not re-commence until a site inspection has been undertaken by the representatives of these parties, appropriate tikanga (protocols) have occurred, and the artefacts have either been recovered or the appropriate approval to continue is given.
7. If any fish are stranded due to the works, the consent holder shall ensure that these are placed back in the active flowing part of the channel as soon as practicable.
8. All works affecting the streams, including tidy up on completion of the works, shall be completed to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council.

Design conditions

9. Culverts A3, A4, C2, C5a and F1 must be able to accommodate a 1 in 100 year return flood event and be sufficiently embedded, to avoid erosion and scour of the stream beds and banks, and provide fish passage, in accordance with Conditions 11 and 12 of this consent.
10. Culverts SF4 and SF5 (Spicer Forest) and Culverts A2, C1, C3-C5, D1-D2, E1-E3, H1-H2 and L1 (Core Site) must be able to accommodate a minimum of a 1 in 10 year return flood event, and be sufficiently embedded to avoid erosion and scour of the stream beds and banks, and provide fish passage, in accordance with Conditions 11 and 12 of this consent.
11. All culverts authorised under this consent shall be sufficiently embedded to avoid erosion and scour of the stream bed and banks.

If it is determined or found that erosion and scour of the stream bed and/or banks either has or will occur, even with sufficient embedment, appropriate inlet and/or outlet protection works must be added.

12. All culverts authorised under this consent must be able to provide fish passage.
13. All culverts authorised under this consent shall be placed at the same gradient as the existing stream bed, where practicable.
If the slope angles are too high, then the use of grade controls and/or drop structures shall be implemented.
14. Culverts SF4 and SF5 (Spicer Forest) and Culverts A2, C1, C3-C5, D1-D2, E1-E3, H1-H2 and L1 (Core Site) must have the provision of a secondary overflow path.
15. Culverts SF4 and SF5 (Spicer Forest) must have debris arrestors or grills fitted at the culvert inlets to prevent debris from entering and blocking the culverts.
16. Within one month of constructing each culvert structure authorised under this consent, the consent holder shall provide to the Manager, Environmental Regulation, Wellington Regional Council, a certificate signed by an appropriately qualified and experienced engineer to certify that the culvert structure has been constructed in accordance with the conditions of this consent.
17. The consent holder shall provide design details of any of the structures authorised under this consent to the Manager, Environmental Regulation, Wellington Regional Council, on request.

Remediation conditions

18. Within three months of the completion of Culvert F1 the consent holder shall remediate two existing perched culverts within an unnamed tributary of the Hawkins Stream (the tributary where Culvert F1 is to be placed) at approximate map references NZMS 260: R27;2654776.5997585 and NZMS 260: R27; 2654929.5997905 to enable fish passage throughout the culvert structures. This may include, but not be limited to, undertaking the following works:
 - a) installing fish ramps; and/or
 - b) removing and re-embedding the existing culvert or a new culvert structure to an appropriate grade and depth below the stream bed.
19. Within one month of completing the remedial works for each culvert structure identified under Condition 18 of this consent, the consent holder shall provide to the Manager, Environmental Regulation, Wellington Regional Council, a certificate signed by an appropriately qualified ecologist to certify that the culvert structures provides for fish passage.

Contamination prevention conditions

20. The consent holder shall ensure that:
 - a) all contaminant storage or re-fuelling areas are bunded or contained in such a manner as to prevent the discharge of contaminants;
 - b) all machinery is thoroughly cleaned of vegetation and contaminants prior to entering the site;
 - c) all machinery is regularly maintained in such a manner so as to minimise the potential for leakage of contaminants; and
 - d) no machinery is cleaned, stored or refuelled within 50 metres of any intermittent or permanent watercourse.

21. The consent holder shall take all practicable steps to minimise sedimentation and disturbance of the streams during the construction and implementation of the works, including:
- a) completing all works in the minimum time practicable;
 - b) minimising the area of disturbance at all times;
 - c) avoiding placement of excavated material in the wetted channels;
 - d) separating construction activities from the wetted channels i.e. by temporarily diverting the flow around the area of works and/or bunding the works area;
 - e) minimising time spent by machinery in the wetted channels, including the number of vehicle crossings;
 - f) immediately removing any excess material from the bed and banks of the streams on completion of the works.
22. The consent holder shall ensure that appropriate erosion and sediment control measures are installed prior to, and during, all construction works.
23. Any sediment-laden water which pools within the areas of works shall be dewatered by pumping it to land (where it is unable to enter surface water) or by other such method to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council.
24. All fill material placed in the stream beds shall be restricted to natural material, such as clay, soil and rock, shall accord with the Ministry for Environment "cleanfill" definition as detailed in 'A *guide to the management of Cleanfills, 2002*' and all such fill material shall be placed and compacted so as to minimise its erosion and instability.
25. The consent holder shall ensure that all exposed areas are stabilised against erosion by re-vegetating the area within 20 working days of completing the works in each location, or as soon as practicable.

Maintenance condition

26. The works shall remain the responsibility of the consent holder and be maintained so that:
- g) any erosion, scour or instability of the stream bed or banks that is attributable to the works carried out as part of this consent is remedied by the consent holder;
 - h) fish passage is not impeded on completion of works;
 - i) the structures remain substantially free of debris; and
 - j) the structural integrity of the structures remains sound.

Note: Maintenance of lawful structures is generally permitted under Rule 22 of the Regional Freshwater Plan for the Wellington Region. Any additional works (including structures, reshaping or disturbance to the bed of the watercourse) following completion of the construction and maintenance works as provided for in the approved plans, may require further resource consents.

Duration of consent

27. In accordance with section 123(d) of the Resource Management Act 1991, this consent shall expire thirty five (35) years from the date of commencement.

Lapse of consent

28. In accordance with section 125(1) of the Resource Management Act 1991, this consent shall lapse if not given effect to within seven (7) years of the date of commencement.

Schedule 8

Discharge permit [27385] to discharge sediment-laden water to land where it may enter water and directly to water in association with the following activities:

- roading and tracking;
- soil disturbance on erosion prone land;
- bulk earthworks; and
- construction of fill disposal sites.

Land use consent [27386] to disturb soil in association with constructing tracks with an upslope batter greater than 2 metres extending for a length greater than 200 metres.

Land use consent [27387] to undertake soil disturbance on erosion prone land in association with aggregate sourcing, and the construction of turbine platforms, laydown areas and building platforms.

Environmental Enhancement Plan

1. The consent holder shall register a covenant in favour of Wellington Regional Council for the purpose of enhancing the ecological values of the Makara Stream and Estuary, by undertaking riparian planting. The covenant shall relate to 5.79 hectares of land contained within Certificate of Title WN7D/340 (Lot 1 DP 30935).

Note - As a part of enhancing this land the consent holder intends to consult with stakeholders who are interested in improving the ecological values along the Makara Stream and Estuary.

Mitigation planting shall be carried out in general accordance with Greater Wellington's *Mind the Stream – A guide to looking after urban and rural streams in the Wellington Region 2004*.

The consent holder shall provide the following information to, the Manager, Environmental Regulation, Wellington Regional Council, once consultation with stakeholders has been completed:

- The location and extent of where riparian planting will be undertaken on Certificate of Title WN7D/340(Lot 1 DP 30935);
- The species proposed to be planted and the density of planting. These species shall be suitable for the environment, including the soil type and surrounding land use;
- The method(s) that will be used to protect the planting;
- Details of how the site will be maintained and how often, including the ongoing replacement of plants that do not survive, details of any irrigation and fertilization that will be provided, and eradication of invasive weeds from the planting site(s) to ensure adequate growth; and
- A timeline for registering the covenant and completing the planting.

General conditions

2. The location, design, implementation and operation of all earthworks and associated discharges of sediment-laden stormwater to land and water shall be

undertaken in general accordance with the following documents, unless any modifications are required to comply with any of the conditions of this consent:

- a) the consent application lodged with the Wellington Regional Council on 12 March 2008;
- b) further information and amendments received by the Wellington Regional Council on 17 April 2008, 15 July 2008, 16 July 2008, 18 July 2008 and 23 July 2008; and
- c) Wellington Regional Council's *Erosion and Sediment Control Guidelines for the Wellington Region* dated September 2002.

Note: Where there may be contradiction or inconsistencies between practices described in the Erosion and Sediment Control Guidelines for the Wellington Region and conditions of this consent, the conditions shall apply.

- d) any additional plans or information to be prepared and submitted and approved by the Wellington Regional Council in accordance with various conditions of this consent.

Note 1: Any change from the location, design concepts and parameters implemented and/or operation may require a change in consent conditions pursuant to Section 127 of the Resource Management Act 1991.

Note 2: Where there may be contradiction or inconsistencies between the application and further information provided by the applicant, the most recent information applies. In addition, where there may be inconsistencies between information provided by the applicant and conditions of the consent, the conditions apply.

Baseline Aquatic Monitoring Plan

3. The permit holder shall submit a **Baseline Aquatic Monitoring Plan** ("the **BAMP**") to the Manager, Environmental Regulation, Wellington Regional Council, for approval at least 40 working days prior to the proposed start date of the baseline water quality monitoring programme.

The BAMP shall be prepared and submitted by a suitably qualified, experienced and independent ecologist. The ecologist that the permit holder engages shall be to the approval of the Manager, Environmental Regulation, Wellington Regional Council.

Monitoring shall not commence until the BAMP is approved.

Purpose of the BAMP

The purpose of the BAMP is to establish sites where baseline monitoring will be undertaken to assess the current state of the aquatic environments that will receive discharges from the exercise of this consent. Monitoring of current water quality, macro invertebrates and sediment deposition is required.

The details that need to be submitted within the BAMP are listed below.

Period for implementing BAMP

Once the plan is approved, the permit holder shall implement the requirements of the BAMP in sufficient time to ensure that all the monitoring can occur, and that the report on the findings from the BAMP are provided to the Manager 20 working days prior to bulk earthworks commencing within the Core Project Site (principally, see the requirements of condition 8).

Note: The timeframe for when the BAMP will be implemented should take into account the requirements for conditions 5 and 6 of this permit.

Frequency of the monitoring

The monitoring of macro invertebrates and deposited sediment shall occur at least once every 3 (three) months, except that this frequency shall increase to monthly over the period June to August (inclusive).

Water quality monitoring shall occur at each monitoring site (without a fixed turbidity sampler) when a rainfall event exceeds 20mm over a 24 hour period.

Part A – Overall monitoring locations

Monitoring locations and details – Hawkins Gully Stream and Tributaries

Five (5) fixed telemetric turbidity loggers shall be installed within the Hawkins Gully Stream and its tributaries to measure the water quality in these streams.

These shall be installed in the general vicinity of the following locations drawn from the *Overall Site Development Plan Detail Plan of Hydrological Catchments 1a and 2 (Sheet 67 Rev RO)*:

- a) Southeast of Turbine F04;
- b) Southeast of Turbine F07;
- c) Southwest of Turbine E08, prior to the confluence with Hawkins Stream proper;
- d) The gully between K03 and F14, south of these turbines but prior to the confluence with Hawkins Stream proper; and
- e) Southwest boundary of the site within Hawkins Stream proper, prior to the Core Site boundary.

Note: These sites shall generally be located around 15 metres downstream of where an indicative discharge path enters the watercourse (i.e. at the end point of the mixing zone). Overall, the sites should be representative of the whole Hawkins Gully Catchment

The following specifications of the fixed turbidity monitors shall be provided:

- a) sampling frequency;
- b) how the system operates; and
- c) how the data is logged.

Details shall be provided on a monitoring and maintenance programme for the fixed turbidity loggers including, but not limited to:

- a) identify how monitoring and maintenance will be triggered i.e. routine inspections, problems with the logger becoming apparent through data not being recorded etc; and
- b) Provisions that will be put in place so that continual monitoring will be achieved i.e. spare parts, spare logger etc.

Macro invertebrate and sediment deposition monitoring will also be required at these 5 (five) sites.

Note: Details of what is required is specified later within this condition.

Monitoring locations - Ohariu Stream Catchment

The BAMP shall include a scaled plan which shows where water quality sampling, macro invertebrate surveying and deposition monitoring will occur at sites within the Ohariu Stream catchment.

The locations where sampling will be undertaken, shall include:

- a) A single sampling site, within Ohariu Stream, located 70 metres downstream of where the last indicative discharge path enters the Stream (i.e. at the end point of the mixing zone); and
- b) A single 'control site' within Ohariu Stream upstream of the proposed culvert crossing, clear of any discharges; and
- c) Two sampling sites shall be located within two of the unnamed tributaries of the Ohariu Stream, both below Road B as shown on *Overall Site Development Plan Detail Plan of Hydrological Catchments (Sheet 68 Rev RO)*.

Details of the requirements of the macro invertebrate and sediment deposition monitoring are provided further on in this condition.

Monitoring locations – Mill Creek

The BAMP shall include a scaled plan which shows where water quality sampling, macro invertebrate surveying and deposition monitoring will occur at sites within Mill Creek.

The locations where sampling will be undertaken, shall include:

- a) A single sampling site, within Mill Creek, located 70 metres downstream of where the last indicative discharge path enters the Stream (i.e. at the end point of the mixing zone); and
- b) A single 'control site' within Mill Creek upstream of the proposed culvert crossing, clear of any discharges;

Details of the requirements of the macro invertebrate and sediment deposition monitoring are provided further on in this condition.

Part B - Sampling requirements – water quality, macro invertebrates and deposited sediment

The permit holder shall provide the following details within the BAMP:

Water quality sampling

- a) Details shall be provided to show how the following parameters that will be recorded during sampling:
 - turbidity (NTU);
 - clarity observation; and
 - suspended solids (g/m³).
- b) Details shall be provided on the methodology that will be used to undertake sampling of each of the above parameters.
- c) Details shall be provided to show how water quality sampling (excluding the automatic fixed turbidity samplers with Hawkins Catchment) will be undertaken at each monitoring site when a rainfall event exceeds 20mm over a 24 hour period.

Macro invertebrate sampling

Details shall be provided to show the methodology that will be used to survey macro invertebrates, including but not limited to:

- a) the technique(s) that will be used to carry out samples;
- b) the area that sampling will be undertaken over;
- c) the number of samples that will be taken at each sample site;
- d) analysis methods that will be used to present the data i.e. MCI and QMCI; and
- e) any other assessments that will be undertaken i.e. physical habitat assessments.

Deposited sediment sampling

The methodology that will be used to survey sediment deposition, including but not limited to:

- a) the technique(s) that will be used to carry out sampling i.e. quorer method, Molman particle size assessment method;
- b) the area that sampling will be undertaken over;
- c) the number of samples that will be taken at each sample site;
- d) analysis methods that will be used to present the data;
- e) any other assessments that will be undertaken. This *shall* include photographs of the streambed of each sample site, prior to sampling being undertaken, and of any influences (e.g. landslip, failed sediment control measure) that may have had an effect on the results.

Part C – Other matters

Rain gauge

The permit holder shall provide details of how rainfall is going to be recorded with a continuous data logging capable rain gauge within the Core Project Site.

Details shall be provided to show how these data will be recorded and how they will be made available to the Manager, Environmental Regulation, Wellington Regional Council.

Monitoring Site identification

The permit holder shall provide details of how each of the monitoring sites will be made clearly identifiable onsite (e.g. signage and/or brightly coloured stakes). The permit holder shall provide GPS co-ordinates of all sampling sites.

Amendments and Implementation to the approved Baseline Aquatic Monitoring Plan

4. Any amendments to the BAMP shall be approved to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council.

This consent must be exercised in general accordance with the approved BAMP and any subsequent amendments.

Baseline Aquatic Monitoring Plan Report

5. The consent holder shall provide a Baseline Aquatic Monitoring Plan Report (“**the BAMPR**”) by an appropriately qualified and experienced ecologist which details the findings of the approved BAMP to the Manager, Environmental

Regulation, Wellington Regional Council for approval at least 20 working days prior to bulk earthworks commencing on site.

The BAMPR shall include, but not be limited to, the following:

- a) Water quality sampling results from both the fixed turbidity logger(s) and all other sampling undertaken at each monitoring site;
- b) Macro-invertebrate sampling results from each of the monitoring sites;
- c) Deposited sediment monitoring results from each of the monitoring sites (including photos);
- d) Using the baseline results, recommendations for the following:
 - the level(s) of turbidity and/or suspended solids that will not be exceeded during the exercise of this discharge permit at each monitoring site e.g. Turbidity (NTU) and/or suspended solids (g/m^3) level for each site or a percentage that will not be exceeded for all sites when compared to either upstream monitoring or baseline data;
 - the level(s) of deposition that will not be exceeded at each approved monitoring site and how this will be measured;
 - identification of the sensitive macro invertebrate taxa at each approved monitoring site and how a degradation in the communities will be measured using the identified sensitive taxa i.e. comparing baseline MCI values and providing threshold values which indicate minor, moderate and severe decline.
- e) All data and rationale used to calculate d) above.

Note: A 20 working day timeframe for approving the plan has been allocated to allow for time for: the ecologist engaged by the permit holder and Wellington Regional Council staff to liaise, if required; assessment and feedback to be provided to the permit holder and any subsequent amendments to be made; and the preparation and approval of the plan in condition 6 below.

Construction Aquatic Monitoring Plan

6. The permit holder shall submit a **Construction Aquatic Monitoring Plan** (“the **CAMP**”) to the Manager, Environmental Regulation, Wellington Regional Council, for approval at least 20 working days prior to bulk earthworks commencing on site.

No bulk earthworks or monitoring shall commence until the CAMP is approved

Purpose of the CAMP

The purpose of the CAMP is to monitor the environmental effects of the discharges on aquatic receiving environments during the construction phase of the wind farm. This requirement continues until 12 months after the site is completely stabilised in order to assess any recovery to those environments.

Frequency of the monitoring

The monitoring of macro invertebrates and deposited sediment shall occur at least once every 3 (three) months during the bulk earthworks phase, except that this frequency shall increase to monthly over the period June to August (inclusive).

Water quality monitoring shall occur at each monitoring site (without a fixed turbidity sampler) when a rainfall event exceeds 20mm over a 24 hour period.

Part A – Overall monitoring locations

The monitoring sites shall be the same as the approved BAMP. If changes are required to the monitoring site evidence shall be provided as to why the change is needed and details that the new location is sufficiently similar to that site approved under the BAMP

Part B - Sampling requirements – water quality, macro invertebrates and deposited sediment

The monitoring parameters (water quality, macro invertebrates and sediment deposition) shall be the same as in the approved BAMP.

Part C – Other matters

Specific requirements

The consent holder shall specify in the CAMP the level(s) of turbidity and/or suspended solids that will not be exceeded during the exercise of this discharge permit at each monitoring site or a percentage that will not be exceeded for all sites when compared to either upstream monitoring or baseline data (as identified through the BAMPR process)

The CAMP shall specify the level(s) of deposited sediment that will not be exceeded at each approved monitoring site and how this will be measured;

The CAMP shall identify the sensitive macro invertebrate taxa at each monitoring site and how any degradation will be measured using the identified sensitive taxa i.e. comparing baseline MCI values and providing threshold values which indicate minor, moderate and severe decline.

Construction Aquatic Monitoring Report

7. The consent holder shall provide a quarterly **Construction Aquatic Monitoring Report (“the CAMR”)** to the Manager, Environmental Regulation, Wellington Regional Council from the commencement of bulk earthworks within the Core Site.

The CAMR shall be prepared and submitted by a suitably qualified, experienced and independent ecologist and shall detail the findings of the CAMP.

The ecologist that the consent holder engages to prepare the CAMR shall be to the approval of the Manager, Environmental Regulation, Wellington Regional Council.

The CAMR shall be provided on a quarterly basis to the Manager, Environmental Regulation, Wellington Regional Council;

The **CAMR** shall include, but not be limited to:

- a) The results of the monitoring undertaken under the CAMP;
- b) An analysis of the results and what this indicates in regards to the effects that discharges are having on the aquatic ecosystems in each particular monitoring location and tributaries as a whole;
- c) Recommendations for approval to the Manager, Environmental Regulation, Wellington Regional Council, to remedy or mitigate any significant adverse effects that have occurred or to avoid foreseen significant adverse effects. This may include, but not be limited to:

- Changes in the management or implementation of erosion and sediment control measures;
- Methods to remedy the significant adverse effects; and
- Mitigation measures to offset the significant adverse effects.

Note: for the purposes of this condition “significant adverse effects” are those effects which are determined to be significant in the professional opinion of the engaged ecologist.

The Manager, Environmental Regulation, Wellington Regional Council will consider the recommendations from the Ecologist and any recommendations approved by the Manager, Environmental Regulation, Wellington Regional Council shall be undertaken by the consent holder to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council and within the timeframe specified by the Manager, Environmental Regulation, Wellington Regional Council.

Note: A resource consent may be required to undertake the works recommended within the CAMR.

Ceasing monitoring required under the Construction Aquatic Monitoring Plan

8. Twelve (12) months after a catchment receiving discharge is stabilised (as agreed with the Manager Environmental Regulation) the consent holder may apply to the Manager, Environmental Regulation, Wellington Regional Council, for permission to cease the monitoring required under the CAMP.

Note: For the purposes of this condition “stabilised” in relation to any site or area means inherently resistant to erosion or rendered resistant, such as by using indurated rock or by the application of basecourse, colluvium, grassing, mulch, or another method to the reasonable satisfaction of the Manager, Environmental Regulation, Wellington Regional Council and as specified in Wellington Regional Council’s Erosion and Sediment Control Guidelines for the Wellington Region, September 2002. Where seeding or grassing is used on a surface that is not otherwise resistant to erosion, the surface is considered stabilised once, on reasonable visual inspection by the Manager, Environmental Regulation, Wellington Regional Council, an 80% vegetative cover has been established.

Makara Estuary Baseline and Construction Monitoring Plan

9. The consent holder shall engage an appropriately qualified and experienced estuarine ecologist to prepare and submit a **Makara Estuary Baseline and Construction Monitoring Plan** (“the **MEBCMP**”) to the Manager, Environmental Regulation, Wellington Regional Council, for approval at least 20 working days prior to the proposed start date of the baseline water quality monitoring programme.

The ecologist that the consent holder engages shall be to the approval of the Manager, Environmental Regulation, Wellington Regional Council.

No bulk earthworks or monitoring shall commence until the MEBCMP is approved.

Purpose of the MEBCMP

The purpose of the MEBCMP is to monitor the environmental effects of the discharges on the Makara Estuary receiving environments during the construction phase of the of the wind farm. This requirement continues until 12

months after the site is completely stabilised in order to assess any recovery to those environments.

Commencement of monitoring

The baseline monitoring shall commence at least 6 (six) months prior to bulk earthworks commencing on the Core Site. The MEBCMP must be approved prior to any monitoring commencing.

Details to be included in MEBCMP

The MEBCMP shall include but not be limited to:

- a) A scaled plan(s) that show the following:
 - the proposed location(s) of monitoring;
 - the areas that monitoring will be undertaken over;
- b) Details of the following:
 - the parameters that will be measured. These parameters shall result in, at a minimum:
 - baseline macrofauna abundance and diversity;
 - select key taxa being identified from baseline for longer term study over the remainder of the monitoring period; and
 - sediment deposition rates i.e. from core or metal plate sampling.
 - the technique that will be used to measure the parameters;
 - the frequency and duration of monitoring for baseline monitoring and details of how long it will take to identify the select key taxa;
 - the frequency and duration of monitoring once bulk earthworks commence on site;
 - the frequency and duration of monitoring once the site is stabilised;
 - the overall timeline of monitoring and when this will commence using the above; and
 - what details will be provided in a report, prepared by a qualified estuarine ecologist, which is to be submitted to the Manager, Environmental Regulation, Wellington Regional Council. The report *shall* include, but not be limited to:
 - Results of the monitoring undertaken;
 - Identification of the taxa being surveyed and their relevance/tolerance in association with the health of the estuarine system;
 - Comparisons of monitoring results over time and what this indicates in regards to the health of the estuarine system in each particular monitoring location and as a whole system; and
 - Details of any particular characteristics that were noted during monitoring that may influence the results e.g. activities or incidents occurring in the Makara Catchment.

- c) How often the reports required above will be submitted to the Manager, Environmental Regulation, Wellington Regional Council.

Note: For the purposes of this condition “stabilised” in relation to any site or area means inherently resistant to erosion or rendered resistant, such as by using indurated rock or by the application of basecourse, colluvium, grassing, mulch, or another method to the reasonable satisfaction of the Manager, Environmental Regulation, Wellington Regional Council and as specified in Wellington Regional Council’s Erosion and Sediment Control Guidelines for the Wellington Region, September 2002. Where seeding or grassing is used on a surface that is not otherwise resistant to erosion, the surface is considered stabilised once, on reasonable visual inspection by the Manager, Environmental Regulation, Wellington Regional Council, an 80% vegetative cover has been established.

Amendments and Implementation to the approved Makara Estuary Baseline and Construction Monitoring Plan

10. Any amendments to the **MEBCMP** shall be approved to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council.

The consent must be exercised in general accordance with the approved **MEBCMP** and any subsequent amendments.

Environmental Management Plan

11. The permit holder shall prepare and submit an **Environmental Management Plan (“the EMP”)** for all construction activities related to the project to the Manager, Environmental Regulation, Wellington Regional Council, for approval, at least 20 working days prior moving any machinery onsite to commence bulk earthworks.

No bulk earthworks shall commence until the EMP is approved.

The EMP shall include, but not be limited to:

- a) roles and responsibilities, including appointment of a representative to be the primary contact person in regard to matters relating to this consent;
- b) construction timetable for all works and the sequencing of the works;
- c) identification of who the contractor(s) is for each phase of the works;
- d) identification of experienced person(s) to manage the environmental issues on site and identification of a representative to be the primary contact person in regard to matters relating to this permit;

Bunds/cleaning/refuelling/spills

- a) details of how machinery will be thoroughly cleaned of unwanted vegetation (e.g. weeds), seeds or contaminants prior to coming onto the site;
- b) details of how re-fuelling areas will be bunded or contained in such a manner so as to prevent the discharge of contaminants;
- c) details to ensure that no machinery is cleaned, stored or refuelled within 50 metres of any intermittent or permanent watercourse;
- d) requirements to ensure that all mobile fuel tankers carry spill kits and that spill kits are stored at bulk storage tank locations at all times;

- e) details of a spill prevention and response procedure specifying those trained in spill response, how spills will be contained, remedied and any material used disposed of. Contents of proposed spill kits, including absorbent pads, booms, pillow and socks and appropriate pegs/rope to hold the absorbent material in place should also be included in this procedure.
- f) details of an internal and external notification procedure in the event of a spill (e.g GW Environmental Protection Team for external notification).

Environmental incidents

- a) procedures for notifying WRC of incidents, including who is responsible and the timeframes;
- b) procedures for recording details of incidents and responses to those incidents;

Public complaints

- a) procedures for keeping records of public complaints and any action taken to rectify the cause to the complaint;
- b) Works shall not commence until this EMP has been approved by the Manager, Environmental Regulation, Wellington Regional Council and this permit shall be exercised in accordance with the approved EMP.

Any amendments to the approved EMP shall be to the satisfaction of the Manager, Environmental Regulation

Design specifications for sediment retention ponds

- 12. If sediment retention ponds are determined to be appropriate through the SEMP process (refer to condition 13) they shall be constructed in accordance with the following provisions:
 - a) Sediment ponds where appropriate within Hawkins Catchment shall have a main bay capacity of 450m³ per hectare of exposed earthwork area;
 - b) Sediment ponds where appropriate within Mill Creek and Ohariu catchments shall have a main bay capacity of 300m³ per hectare of exposed earthwork area;
 - c) Sediment ponds where appropriate within the Spicer Forest Catchment shall have a main bay capacity of 300m³ per hectare of exposed earthwork area;
 - d) If the SEMP process determines that a chemical flocculation system is appropriate for any given sediment pond(s), then such sediment retention ponds shall be fitted with rainfall activated flocculation systems in full compliance with section 5.2 of the GWECG, however the low flow outlet pipe shall be fitted to dose the pond after 10 mm of rainfall;
 - e) All ponds shall be constructed with a forebay to a capacity at least equal to 10% of the ponds total design capacity;
 - f) All ponds shall have a stabilised level spreader installed across the full width of the pond;
 - g) All discharges from the sediment retention ponds shall, where practical, are directed to rank grass or other stabilised outlet.

h) All sediment retention ponds shall be designed and constructed in full accordance with section 5.1 of the Greater Wellington Erosion and Sediment Control Guidelines (GWECG) September 2002, subject to the suggested deviations below:

- That concrete may be used to stabilise the batter surfaces of the level spreader between the main bay and fore bay, however a level timber weir of that specified in the guideline must be fitted;
- That the float design may be incorporated into the decant pipe through the use of upturned pipes on PVC elbow joints at either end;
- That waratahs are placed on either side of the decant structure, at either end of the decant structure, not the pipe leading from the riser to the decant;
- That the flexible fitting between the manhole and the riser may be totally flexible non punched nova coil, sealed at every fitting;

Note: For the purposes of clarity all bulk earthworks in the Hawkins Catchment catchment includes Roads E, F, G, H, K, L and their associated turbine platforms, laydown areas and fill disposal sites.

Note: For the purposes of clarity all bulk earthworks in the Mill Creek and Ohariu catchments includes Roads A, B, C, D, J and their associated turbine laydown areas and fill disposal sites, substation and service building and site office.

Supplementary Environmental Management Plans

13. The permit holder shall prepare and submit for approval a **Supplementary Environmental Management Plan (“the SEMP”)** for each of the SEMP areas described in the application, or as agreed by the Manager, Environmental Regulation, Wellington Regional Council. A suitably qualified ecologist and environmental management specialist shall assist in the preparation of the SEMP.

The SEMP shall be submitted at least 20 working days prior to bulk earthworks commencing in each plan area.

No bulk earthworks shall commence in any SEMP area until the SEMP for that area is approved, and all such works shall be undertaken in accordance with the approved SEMP.

Sediment retention ponds

If a sediment retention pond(s) is proposed in any SEMP area, the following information shall be included in the relevant SEMP:

- a) Identification of the sediment retention ponds which are proposed to have a chemical flocculation system i.e. areas with high traffic volumes, areas close to a watercourse(s), steep sites or highly weathered sites.
- b) the expected commencement dates for the construction of sediment retention pond(s) in each SEMP area;
- c) details of measures to be used to treat any runoff from the down slope batter of the pond(s) (e.g. super silt fences);

- d) the expected date for the commencement of bulk earthworks in the area following construction of the sediment retention pond and the installation of the flocculation treatment system;
- e) specific location of any sediment retention pond, showing contours at suitable intervals, cut and fill operations and catchment boundaries for the sediment controls;
- f) the location of ponds should take into consideration ease of location for maintenance purposes. All practical steps to be taken to avoid scouring of water directed to all sediment control treatment measures;
- g) design calculations to confirm that where required, sediment retention ponds are designed and sized to meet condition 12 of this permit;
- h) details of how each sediment retention pond will be marked or numbered on site, so they can be clearly identified;
- i) details of how outlets or discharge points will be marked or numbered on site, so they can be clearly identified;
- j) confirmation of the outlets or discharge points from all sediment treatment measures including the discharge path to gullies and streams;
- k) details of measures to ensure that sediment deposition within the ponds can be measured (e.g. markers on the risers and gauge levels within the pond);
- l) identification of any roads that are likely to be subject to high construction traffic movements and details of the specific erosion control measures that will be implemented in these areas;
- m) detailed maintenance and inspection programme for assessing and removing sediment accumulated in the ponds;
- n) detail of where disposed sediment will be placed onsite to ensure that it does not enter water (e.g. in a bunded area)
- o) Details of how the discharge from the outlet of any sediment retention pond will be dispersed over areas of rank grass. Rank grass is defined as grass at least 25 cm high.

Fill disposal sites

- a) Design details of clear water diversions to the implemented and stabilisation methods;
- b) Identification of all fill disposal sites, which must not be within the following areas:
 - Sites with slope gradients equal to or greater than 28 degrees (defined as erosion prone in The Regional Soil Plan for the Wellington Region);
 - Sites that are unstable and/or areas where fill cannot be contained to remain stable;
 - Areas that contain intermittent or permanent watercourses;
 - Areas of native vegetation with high ecological values, or any regenerating wetland areas with high ecological values;
 - Archaeological and iwi sites;
 - The 'No Go' areas shown in *Sheet 81 Rev 1*; and

- Protected natural areas (reserves and covenants).
- c) details of benching and contour drains for fill areas;
- d) details of how the fill will be track rolled or compacted during placement;
- e) a programme for progressive rehabilitation of fill areas, including specific timeframes;
- f) method of stabilisation to be used in winter months on the fill site such as the application of straw mulch and requirement that this measure implemented from 1st June prior to winter months (winter months are defined as June, July and August);

Erosion control measures

- a) Details and specific erosion control methods to be installed progressively (e.g. scour protection to be installed on water tables susceptible to scouring as soon as practical);
- b) Additional measure to implement for mitigating effects prior to any rainfall following prolonged dry periods;
- c) details, areas and methodologies for straw mulching or other appropriate erosion sediment control methods.

Monitoring and maintenance schedules

- a) monitoring and maintenance schedules for all erosion and sediment control measures on a set frequency (at least weekly), or an inspection is undertaken as soon as practical following a rainstorm event that is likely to impair the function or performance of the sediment control and treatment measures and that maintenance of structures be undertaken as soon as safe access is available;
- b) details of how the results of the monitoring will be submitted to the Manager, Environmental Regulation on a two weekly basis.

Any amendments to an approved SEMP shall be to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council.

Flocculation management plan

14. In any SEMP area in which the use of chemical flocculation is proposed, the permit holder shall prepare and submit a **Flocculation Management Plan** (“**the FMP**”) to the Manager, Environmental Regulation, Wellington Regional Council for approval, at least 10 working days prior to any bulk earthworks commencing in an approved SEMP areas.

No flocculation in any SEMP area shall commence until the FMP for that area is approved.

The FMP shall include, but not be limited to:

- a) details of optimum dosage rate calculated from the soils in the ponds catchment including details of the calculation (e.g. bench testing);
- b) procedures for the storage of flocculation chemical(s) onsite;
- c) design details of the flocculation shed bund;
- d) a flocculation chemical spill contingency plan; and
- e) methods and responsibilities for monitoring and maintenance of the system;

- f) details of how the system will be actively managed including a template sheet for recording weekly after each rainfall event the following:
- how much flocculant was used;
 - percentage that header tank is full
 - the water depth in the displacement tank;
 - volume of flocculant added;
 - pond fore bay and main bay clarity
 - pond pH

A suitably qualified and experienced person must be identified and their specific responsibilities confirmed for ensuring the operation, monitoring and maintenance of the chemical flocculation system to ensure that each sediment retention pond is operated as outlined in the FMP.

Bulk earthworks shall not commence in any SEMP until the requirements of the FMP have been implemented. The flocculation of all sediment retention ponds shall be exercised in accordance with the approved FMP.

Any amendments to approved FMP shall be to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council.

Notification of commencement of bulk earthworks

15. The consent holder shall provide written notification of the works commencing in each SEMP areas described the application to the Manager, Environmental Regulation, Wellington Regional Council, at least five working days prior to works commencing in each area.
16. The consent holder shall provide a copy of this consent and all documents referred to in this consent to any operator or contractor undertaking works authorised by this consent, prior to the works commencing.

Sediment control certification and as built plans

17. Prior to bulk earthworks commencing in each SEMP area, the consent holder shall provide the Manager, Environmental Regulation Wellington Regional Council, a certificate and as built plans prepared by an appropriately qualified and experienced engineer to certify that any sediment retention ponds and where fitted, flocculation units have been constructed and installed in accordance with conditions 12 and 14 of this permit.

General discharge conditions

18. The consent holder shall ensure that all sediment-laden discharges from the site are treated by sediment treatment measures as approved in the relevant SEMP, prior to discharge.
19. All erosion and sediment control measures shall remain the responsibility of the consent holder, and be installed, operated and maintained efficiently and in accordance with Wellington Regional Council's Erosion and Sediment Control Guidelines for the Wellington Region (dated September 2002), and any plans approved under the conditions of this permit and to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council.
20. The consent holder shall ensure that:
 - a) all fill material is placed and compacted so as to minimise any erosion and/or instability of the fill material;

- b) fill material is restricted to natural rock and soil;
 - c) final disposal site slope profiles are contoured to merge in with the existing slope, as far as practicable, to minimise erosion and hydrological changes; and
 - d) long-term stockpiles of topsoil and excavated material are suitably stabilised to minimise erosion potential.
21. The works authorised by this consent shall remain the responsibility of the permit holder and shall be maintained to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council.

Reporting and auditing of the erosion and sediment treatment measures

22. The consent holder shall ensure that the site is audited by an appropriately qualified person on a weekly basis during the bulk earthworks phase to ensure that the sediment and erosion control methods are being maintained in accordance with approved SEMP for each area.

The audits of the site shall include the following information:

- a) Date;
 - b) Name of auditor;
 - c) Site condition;
 - d) Sediment Management (identification of areas of potential sediment generation and review of sediment suppression activities);
 - e) Runoff control (check of diversion channels and check silt retention ponds);
 - f) Condition of sediment control measures including bunds, silt fences and sediment retention ponds and flocculation units;
 - g) Maintenance required; and
 - h) General comments.
23. The results of the audit required by condition 22 shall be forwarded to the Manager, Environmental Regulation, Wellington Regional Council every two weeks.

Monitoring of flocculated sediment retention ponds

24. The permit holder shall monitor and record the following parameters for all flocculated sediment retention ponds and flocculant systems.

On a weekly basis:

- a) flocculant level;
- b) percentage that header tank is full;
- c) the water depth in the displacement tank;
- d) volume of flocculant added (after any rainfall events);
- e) pond forebay and main bay clarity.

During rainfall events:

- a) pH (Inflow/Pond/Outflow)
- b) Temperature (°C) (Pond)
- c) Turbidity (NTU) (Inflow/Outflow/Pond)

- d) Dissolved aluminium (g/m³) (Inflow/Outflow/Pond)
- e) Suspended solids (g/m³) (Inflow/Outflow/Pond)

Monitoring shall commence when earthworks commence in the catchment of each of the sediment retention ponds. Monitoring shall cease on any sediment retention pond when its catchment has been completely stabilised. 'Stabilised' shall have the same meaning as described in condition 28.

- 25. All monitoring results shall be recorded and maintained in a log on site and shall be submitted to Wellington Regional Council on request and be available for inspection during normal office hours. Records shall be kept to show where monitoring is not possible due to dry conditions or where no pond inflow or outflow exists.
- 26. Should the monitoring results recorded in accordance with condition 24 indicate that the pH of the pond outflow is at or below 5.5, the dosing of the pond with Polyaluminium Chloride flocculant shall cease immediately. In this event the Manager, Environmental Regulation, Wellington Regional Council shall be notified as soon as practicable, and within 5 (five) working days. The consent holder shall then liaise with the Manager, Environmental Regulation, Wellington Regional Council on an appropriate course of action to take.

Decommissioning and removal of sediment treatment devices

- 27. The consent holder shall submit a plan for the decommissioning of any chemically flocculated sediment pond which states how material removed from the pond will be disposed of.
- 28. The consent holder shall ensure that no sediment retention ponds, chemical flocculation systems or perimeter controls are to be removed or decommissioned unless the removal or decommissioning is to satisfaction of the Manager, Environmental Regulation, Wellington Regional Council, and the entire area is stabilised - unless such removal and decommissioning is in accordance with the requirements of the SEMP.

Note: For the purposes of this condition 'stabilised' means inherently resistant to erosion or rendered resistant, such as by using indurated rock or by the application of basecourse, colluvium, grassing, mulch, or another method to the reasonable satisfaction of the Manager, Environmental Regulation, Wellington Regional Council and as specified in Erosion and Sediment Control Guidelines in the Wellington Region. Where seeding or grassing is used on a surface that is not otherwise resistant to erosion, the surface is considered stabilised once, on reasonable visual inspection by the Manager, Environmental Regulation, Wellington Regional Council, 80% vegetative ground cover has been established.

Re vegetation

- 29. The consent holder shall ensure that all areas exposed by earthworks are re-grassed or re-vegetated within 20 working days or as soon as practicable upon completion of the earthworks in each SEMP area.
- 30. The plant species used shall be consistent with the species in the immediate vicinity of the exposed area, replacing "like with like".

The following rehabilitation principles should be expressly adopted:

- a) Where practical, to shape the finished cuts to allow the deposition of soil in key areas so that tall shrubs can rapidly establish helping to break up the face. This can include benching, and bunding the toe of the cut when turbine erection has been completed.

- b) To vegetate cuts with plants equivalent to the slopes above and below the cut, where practicable.

Water Supply

- 31. The consent holder shall identify the location of any domestic water supply sources (if any) within each of the SEMP areas described in the application prior to the works commencing and confirm the works will not interfere with that water supply.
- 32. If any domestic water supply is interfered with by the consent holder during the exercise of this consent, the consent holder at its cost must ensure that a sufficient supply of water, consistent in quality, is provided to the affected property owner until either the original supply is restored or a suitable replacement is established.

Discovery of Artefacts

- 33. At least 20 working days prior to bulk earthworks commencing the consent holder, in consultation with the Wellington Tenth Trust, Te Runanga o Toa Rangatira Inc, an approved representative of Ngati Tama; and the New Zealand Historic Places Trust, shall prepare an accidental discovery protocol to be implemented in the event of discovery of cultural or archaeological material. This protocol shall be submitted to the Manager, Environmental Regulation, Wellington Regional Council.

The protocol shall include, but not be limited to:

- a) training procedures for all contractors regarding the possible presence of cultural or archaeological sites or material, what these sites or material may look like, and the relevant provisions of the Historic Places Act 1993 if any sites or material is discovered;
- b) parties to be notified in the event of an accidental discovery (these shall include, but not be limited to the Wellington Tenth Trust, Te Runanga o Toa Rangatira Inc, an approved representative of Ngati Tama; the New Zealand Historic Places Trust, the Wellington Regional Council, Wellington City Council and the New Zealand Police, if necessary);
- c) procedures to be undertaken in the event of an accidental discovery (these shall include immediate ceasing of all works in the vicinity); and
- d) procedures to be undertaken before works may recommence in the vicinity (these shall include allowance for appropriate tikanga (protocols), recording of sites and material, recovery, and obtaining approval of the Wellington Tenth Trust, Te Runanga o Toa Rangatira Inc, an approved representative of Ngati Tama; and the New Zealand Historic Places Trust prior to recommencing works).

Review condition

- 34. The Manager, Environmental Regulation, Wellington Regional Council, may review any or all conditions of this consent by giving notice of its intention to do so pursuant to Section 128 of the Resource Management Act 1991, at any time for any of the following purposes;
 - a) To deal with any adverse effects on the environment arising from the exercise of this consent, which are not foreseen given the conditions of consent or which it is appropriate to deal with at a later stage; and/or

- b) To review the adequacy of any erosion control and treatment measures following the analysis of any monitoring results so as to incorporate additional erosion control and treatment measures;
- c) To require further monitoring or other requirements which may become necessary to deal with any adverse effects on the environment arising from the exercise of this consent.
- d) To review the need for remediation or mitigation measures in response to any monitoring results.

Duration of consent

35. In accordance with section 123(d) of the Resource Management Act 1991, this consent shall expire seven (7) years from the date of commencement.

Lapse of consent

36. In accordance with section 125(1) of the Resource Management Act 1991, this consent shall lapse if not given effect to within seven (7) years of the date of commencement.

Schedule 9

Land use consent [27388] to pipe and reclaim sections of ephemeral stream beds in association with the placement of fill disposal sites.

Environmental Enhancement Plan

1. The consent holder shall register a covenant in favour of Wellington Regional Council for the purpose of enhancing the ecological values of the Makara Stream and Estuary, by undertaking riparian planting. The covenant shall relate to 5.79 hectares of land contained within Certificate of Title WN7D/340 (Lot 1 DP 30935).

Note - As a part of enhancing this land the consent holder intends to consult with stakeholders who are interested in improving the ecological values along the Makara Stream and Estuary.

Mitigation planting shall be carried out in general accordance with Greater Wellington's *Mind the Stream – A guide to looking after urban and rural streams in the Wellington Region 2004*.

The consent holder shall provide the following information to the Manager, Environmental Regulation, Wellington Regional Council, once consultation with stakeholders has been completed:

- The location and extent of where riparian planting will be undertaken on Certificate of Title WN7D/340(Lot 1 DP 30935);
- The species proposed to be planted and the density of planting. These species shall be suitable for the environment, including the soil type and surrounding land use;
- The method(s) that will be used to protect the planting;
- Details of how the site will be maintained and how often, including the ongoing replacement of plants that do not survive, details of any irrigation and fertilization that will be provided, and eradication of invasive weeds from the planting site(s) to ensure adequate growth; and
- A timeline for registering the covenant and completing the planting.

General conditions

2. The location, design, implementation and operation of the works shall be in general accordance with the:
 - a) consent application and its associated plans and documents, lodged with the Wellington Regional Council on 12 March 2008; and
 - b) further information and amendments received by the Wellington Regional Council on 17 April 2008, 15 July 2008, 16 July 2008 and 18 July 2008.
 - c) information that is approved by the Wellington Regional Council in accordance with the conditions of this consent.

Note 1: Any change from the location, design concepts and parameters implemented and/or operation may require a change in consent

conditions pursuant to Section 127 of the Resource Management Act 1991.

Note 2: Where there may be contradiction or inconsistencies between the application and further information provided by the applicant, the most recent information applies. In addition, where there may be inconsistencies between information provided by the applicant and conditions of the consent, the conditions apply.

3. The consent holder shall advise the Manager, Environmental Regulation, Wellington Regional Council, in writing at least 48 hours prior to the works commencing in each location.
4. The consent holder shall provide a copy of this consent, including any relevant site plans and attachments, to the contractor undertaking the works authorised by this consent, prior to the works commencing.
5. If kōiwi (skeletal remains), wahi tapu, taonga (treasures), or other artefact material is discovered in any area, all works in the vicinity are to cease immediately. The consent holder shall notify the Manager, Environmental Regulation, Wellington Regional Council; the Wellington Tenth Trust; Te Runanga o Toa Rangatira Inc.; an approved representative of Ngati Tama; the Historic Places Trust; and if necessary, the New Zealand Police. Works in the vicinity shall not re-commence until a site inspection has been undertaken by the representatives of these parties, appropriate tikanga (protocols) have occurred, and the artefacts have either been recovered or the appropriate approval to continue is given.
6. All works affecting the streams, including tidy up on completion of the works, shall be completed to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council.

Fill disposal site selection criteria conditions

7. Fill disposal sites shall not be located in areas with the following characteristics:
 - a) Sites with slope gradients equal to or greater than 28 degrees;
 - b) Sites that are unstable and/or areas where fill cannot be contained to remain stable;
 - c) Areas that contain intermittent or permanent watercourses;
 - d) Areas of native vegetation with high ecological values, or any regenerating wetland areas with high ecological values;
 - e) Archaeological and iwi sites;
 - f) The 'No Go' areas shown in Sheet 81 Rev 1; and
 - g) Areas within a 250 metre radius of turbines F13, F14 and K03.
8. The consent holder shall prepare, submit and implement a **Supplementary Environmental Management Plan ("the SEMP")** for each of the SEMP areas described in the application, or as agreed by the Manager, Environmental Regulation, Wellington Regional Council. The SEMP shall be submitted to the Manager, Environmental Regulation, Wellington Regional Council, for approval at least 20 working days prior to works commencing in each plan area. A suitably qualified ecologist and environmental management specialist shall assist in the preparation of the SEMP.

9. The purpose of the plan is to indicate how the conditions of this consent will be complied within each proposed fill disposal site in each SEMP area. The SEMP shall include, but not be limited to:
- a) The specific location and extent of each proposed fill site;
 - b) The lengths of any piping/subsoil drainage required for each location; and
 - c) Details of the characteristics and ecological values of any watercourse where fill is proposed to be placed.

Note: A site visit will be undertaken as part of the approval process required from the Manager, Environmental Regulation, Wellington Regional Council. The purpose of the site visits are to assess the appropriateness of the proposed fill locations and/or discuss alternative options that may be put forward in a revised SEMP.

No piping and/or reclamation in association with fill disposal sites in any SEMP area shall commence until the SEMP for that area has been approved.

Contamination prevention conditions

10. The consent holder shall ensure that:
- all contaminant storage or re-fuelling areas are bunded or contained in such a manner as to prevent the discharge of contaminants;
 - all machinery is thoroughly cleaned of vegetation and contaminants prior to entering the site;
 - all machinery is regularly maintained in such a manner so as to minimise the potential for leakage of contaminants; and
 - no machinery is cleaned, stored or refuelled within 50 metres of any intermittent or permanent watercourse.
11. The consent holder shall take all practicable steps to minimise sedimentation and disturbance of any watercourses during the construction and implementation of the works, including:
- a) completing all works in the minimum time practicable;
 - b) minimising the area of disturbance at all times;
 - c) avoiding placement of excavated material in the wetted channels;
 - d) separating construction activities from the wetted channels i.e. by temporarily diverting the flow around the area of works and/or bunding the works area;
 - e) minimising time spent by machinery in the wetted channels, including the number of vehicle crossings; and
 - f) immediately removing any excess material from the bed and banks of the streams on completion of the works.
12. The consent holder shall ensure that appropriate erosion and sediment control measures are installed prior to, and during, all construction works.
13. Any sediment-laden water which pools within the areas of works shall be dewatered by pumping it to land (where it is unable to enter surface water) or by other such method to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council.

14. All fill material placed in the stream beds shall be restricted to natural material, such as clay, soil and rock, shall accord with the Ministry for Environment “cleanfill” definition as detailed in ‘*A guide to the management of Cleanfills, 2002*’ and all such fill material shall be placed and compacted so as to minimise its erosion and instability.
15. The works shall remain the responsibility of the consent holder and be maintained so that any erosion, scour or instability of the stream bed or banks that is attributable to the works carried out as part of this consent is remedied by the consent holder.

Duration of consent

16. In accordance with section 123(d) of the Resource Management Act 1991, this consent shall expire thirty five (35) years from the date of commencement.

Lapse of consent

17. In accordance with section 125(1) of the Resource Management Act 1991, this consent shall lapse if not given effect to within seven (7) years of the date of commencement.

APPENDIX 1 – SUMMARY OF SUBMISSIONS MADE AND EVIDENCE HEARD

The Applicant – Andrew Beatson – Legal Counsel

In opening submissions Mr Beatson characterised the positive effects of the proposal as:

Local and Regional Benefits:

- Making use of an abundant natural resource – commitment to sustainability
- Capacity to provide power to the equivalent of 35,000 homes in the region
- Economic benefits i.e. employment and sourcing of local machinery and resources
- Additional revenue for landowners
- Establishment of a sustainable community fund
- Proposal will ensure the rural character will be maintained, rather than subdivided into lifestyle blocks
- Road improvements, which will enhance safety - especially along the northern section of Ohariu Road

National Benefits:

- Proposal will contribute toward meeting NZ's growing demand for electricity
- Proposal is a viable alternative to undesirable methods of energy generation and developments
- Positive effects reflect many of the provisions in the statutory instruments, and wider policy documents, which promote the benefits of renewable energy.

Wind Generation

- Project Mill Creek will have an overall capacity of 71.3MW and will be generating electricity for 90% of the time. The energy produced by Mill Creek will make a substantial contribution towards meeting demand growth
- He also summarised positive effects of wind energy from the *Awhitu* decision (pages 15-17)
 - (i) *Electricity is a vital resource for New Zealand. There can be no sustainable management of natural and physical resources without energy, of which electricity is a major component.*
 - (ii) *New Zealand needs a more diverse electricity generation base, to avoid for example over-reliance on hydro which is susceptible to dry years; in any event new large hydro options are limited.*
 - (iii) *More thermal generation will have adverse effects, including contributing to climate change and depleting fossil fuels.*
 - (iv) *As a matter of national energy policy set in accordance with relevant legislation, New Zealand is pursuing options for renewable energy.*
 - (v) *Wind is a source of renewable energy which is plentiful but which is best able to be utilised only in certain locations.*

Mr Beatson submitted that the evidence showed that:

Electricity Generation

- On a national scale, the project site is particularly suited to wind energy generation.

Erosion and Sediment control

- In relation to assessing the effects of construction at West Wind and success in mitigating unexpected sediment discharge, the existing environment at West Wind included considerable sedimentation in waterways prior to the construction period.
- Sediment entering natural waterways is a natural geological occurrence
- Aquatic ecosystems are well equipped to deal with sedimentation pulses
- To date, there has not been a significant adverse effect on Makara Estuary from the construction of West Wind

Noise and Vibration

- Noise levels emitted from Mill Creek will be acceptable and consistent with the Environment Court decision relating to West Wind
- Meridian proposes to meet the sub-6808 condition, as well as the NZS6808
- In general terms NZS6808 is consistent with the international approach to the assessment and control of noise from wind turbines.
- Low frequency acoustic energy will fall well below recognised perception thresholds for such a noise source (both airborne and ground borne surfaces)
- Construction noise will meet the requirements of NZS6803:1999
- Although traffic noise associated with construction will have an impact on a number of properties, the levels will comply with the relevant standard.
- When considering cumulative effects regarding noise - based on operational noise predictions, the combined noise associated with the operation of both Mill Creek and West Wind will meet the requirements of NZS6808.

Ecological Effects

- Meridian disagrees with the assumption by WRC that it is inevitable that adverse effects will occur in relation to ecology.
- The site is highly degraded in that it is used for pastoral farming. As such, there are no outstanding or rare indigenous plant communities that will be affected. The project foot print avoids small remnants of native forest in and around the area.
- Although small areas of regenerating native shrubland may be affected, these areas are abundant and the species commonly found on the Wellington coast.
- There is no suitable habitat for rare indigenous native fauna.
- The affects on avi-fauna is negligible, as there are no rare or threatened native species at risk by the proposal.
- Four streams flow through the subject site.
- Installation/replacement of culverts may affect the migratory passage of some fish species; however, through appropriate design and construction this can be avoided.

- Earthworks and associated sedimentation have the potential to cause adverse effects on the surrounding environment – esp. the stream catchments and the Makara Estuary. However, best practice management of sediment and contaminants are proposed, and lessons have been learnt from project West Wind. Effects will be able to be appropriately mitigated.
- Evidence by Mr Fuller and Keesing outlines how the effects can be appropriately mitigated and that the character and magnitude of potential ecological effects associated with the wind farm are no more than minor. Additional measures will be put in place in order to mitigate effects.

Traffic and Rooding Effects

- Most traffic generation associated with the proposal will occur during construction (large traffic particularly in the first 2 months of construction).
- Construction traffic will be restricted to certain hours to minimise effects on residents
- Operational traffic over the long term will be minimal and generally confined to routine maintenance as and when required.
- Spicer access road will be a private road and no through access will be permitted, aside from vehicles associated with the construction phase.
- The TIA details a comprehensive list of recommendations, including a traffic management plan.

Construction Effects

- EMPs together with detailed SEMP's will be prepared to manage construction effects. Meridian prefers this form of method of assessment to that proposed by WRC, which recommends the use of "mixing zones". (Furthermore, Mr Beatson argued that EMPs and SEMP's ensure requirements are clearly specified, and mitigation measures can be monitored).
- The project will result in visible cuttings, soil disturbance, and minor vegetation clearance as well as discharges to the environment. Due to the temporary nature of the construction phase and with mitigation measures in place, any potential adverse effects will be acceptable.

Mr Beatson further submitted that the permitted baseline brought the following activities into play:

Smaller Components of the Activity

The permitted baseline could be use as part of the assessment for some of the smaller components of the development such as operations buildings, site offices, security offices, signs, etc.

Visual Outlook Effects - Turbines

It is a Permitted Activity to change the pastoral land use on the Mill Creek site, to another rural land use such as forestry, which would alter views of the site. Compared views of turbines at a distance to closer views of permitted rural accessory buildings and commented that "while the visual effects would not be the same it is important to note that both turbines and rural buildings can impact on private views of pastoral farmland."

Ecological Effects

Forestry and intensive rural land uses such as dairying are Permitted Activities within the Rural Area. These could have similar effects in terms of the potential for loss of

ecological habitat. The width of the culvert crossing was also argued to fit within permitted baseline

And therefore these activities required no further assessment.

Adam Muldoon – National Electricity Scene

Mr Muldoon provided the hearing with an overview of the electricity scene within New Zealand and Meridians role in that wider sector. Mr Muldoon discussed the supply and demand pressures facing the electricity sector and the role renewable energy has to play in that. Mr Muldoon noted that Meridian has significant involvement in wind generation projects nationwide, and stated that experience gained through other wind generation projects would be beneficial to the Mill Creek project. The natural wind resource at the Mill Creek site and proximity to existing infrastructure makes this a practical location for establishing a commercially viable wind farm.

Mr Muldoon also commented on the potential removal of turbines from the proposal. He stated that removal of some turbines may render the project economically unviable, for little gain, such as reduced visual effects. He noted that the deletion of turbines would unbalance the projected cost of infrastructure as a smaller number of turbines would have to meet these costs. He noted that through initial project shaping several turbines had been removed and the remaining turbines were necessary in terms of optimum viability. Mr Muldoon also discussed the method in arriving at the optimum number of turbines in relation to construction costs.

Alan McKinney – Project Overview

Mr McKinney provided an overview of Project Mill Creek, including a discussion on the formation of Windcorp, description of the site and the proposed type of turbine technology to be used. Mr McKinney addressed the proposed order of construction and detailed the proposed site access arrangements including a discussion on the proposed Spicer Forest access route.

It was clarified during Mr McKinney's evidence how many turbines were removed from the original concept (5-7 from SW corner of subject site and ridgeline along Ohariu Road) – due to effects on the costal landscape, and associated visual and noise effects.

Mr McKinney explained how experiences from similar projects have enabled continuous improvements to be made in the design and proposed roll-out of Project Mill Creek. Such improvements include:

- Photo simulations – including the use of the time lapse simulation technology
- Construction, including cut to fill techniques, laying turbine foundations and the selection of fill sites
- Appointment of environmental manager responsible for ensuring compliance with conditions
- Improved sediment control structures – use of the sucker truck (which also aids in the dampening down of dusty roads)
- The use of materials such as straw mulch
- Reduction in sediment discharge from fill areas
- Improving communications between contracting companies and their workers
- Monitoring (e.g. surface water quality)
- Best practice
- Internal roading design (reducing the extent of cut/fill necessary)

Mr McKinney also discussed the process of project design in order to build a technically feasible project while ensuring various stakeholders are appropriately consulted.

Dr David Black – Public Health

Dr Black addressed the issue of potential health effects relating from the Project Mill Creek, in doing so he identified the main areas of concern from submitters and discussed each point of concern in detail. In particular Dr Black

Dr Black accepted that there would be some degree of perceptible sound but concluded that this was an amenity effect rather than a health effect. He did not accept that visual flicker would be significant as the essential causal elements of amplitude, frequency, colour and area of visual field did not exist. With respect to low frequency noise and vibration, Dr Black submitted that there would be no low frequency vibration above levels routinely encountered in everyday life. Dr Black noted that, in the absence of a clearly identifiable source of energy, the corollary condition known as vibro-acoustic disease (“VAD”) could not occur. He stated that the levels of energy received from the turbines were many orders of magnitude below those speculated to cause VAD.

Dr Black accepted that the perceived affects could manifest into anxiety and distress, and cautioned the approach of reliance upon inadequate scientific data and studies. He did, however, endorse the submission from Dr Palmer of Regional Public Health, and noted that the “indirect consequences of asserted misinformation and community division are a significant risk and these need to be dealt with by ongoing community involvement in which RHP has a continuing role”. Dr Black’s overall conclusion on health-related matters was that no significant impact on the community would arise from the proposal.

Paul Botha - Wind assessment & turbines

Mr Botha gave evidence on wind energy, including:

- The background of wind speed and wind energy in a national framework – and in particular the local wind environment in Wellington. Project Mill Creek will have a net capacity factor of 43% which is almost double the global avg.
- Modelling of the wind flow across the subject site – taking particular care to examine the local topography, surface roughness, wind speed data and mapping obstacles on the subject site.
- Wind speed and its correlation to wind energy through the turbines i.e. the wind speed distribution is combined with the wind turbine power and results in energy output.
- The varying factors that culminate in high wind – such as distance from the coast and elevation level at the site.
- The wind turbine technology, including the features of controlling varying modes of operation and particular characteristics of the selected turbine for use in Project Mill Creek (Siemens SWT2.3-82)
- Detail regarding the proposed turbine placement on the subject site in order to optimise energy output and still create an acceptable environment for those who live nearby.
- Background into separation distance of turbines to residential dwellings. The separation distances proposed are not dissimilar to those seen at other wind farms developments around the world.

- The likelihood of shadow flicker and blade glint occurring (even a conservative calculation has the possible effects below the globally accepted level)

Anna Broadhurst – Climate change

Ms Broadhurst discussed the issue of climate change and Meridians proactive response to this global issue. She also discussed in detail the policy framework (both at a national and international level) surrounding climate change and greenhouse gas reduction strategies.

Len Wiles (Civil Engineer) – Project design and construction

Mr Wiles described the process undertaken to ensure the proposed turbine placements were feasible when taking into account the need for access roads etc – through a robust process called micro-siting – some turbines were relocated to avoid watercourses, ecological areas, impractical access etc.

Ensured sound design in order to minimise the volume of cut required, which reduces the potential for slope instability and erosion.

Site topographic and geotechnical considerations were paid particular attention to in formulating the best route alignment for the proposed access roads within the site. Sites in the Wellington region that exhibit similar significant cuts were analysed and taken into account when designing the proposed access routes and slope batter design.

The subject site is within an area of high seismicity – the turbines and substation complex will be located at least 20m from active faults, as recommended by the MFE guidelines.

Alternative access options to the site – including the following:

- Access through a new road at Spicer Forest and along OVR & BRR (preferred)
- Access by sea using Wharehou Bay as a landing point
- Access from West Wind
- Access along Takarau Gorge Road

The proposed Spicer Forest and along OVR & BRR route is preferred, as it requires the least upgrade works and less road user disruption. (Detailed discussion of access route covered in Mr Wiles' evidence).

Excess excavated material will be placed at clearly defined fill sites. The majority of earthworks will be required to create access roads and turbine platforms. Fill sites have been identified near turbine positions and along access roads throughout the site (confirmation of site suitability will be based on strict criteria and undertaken as part of the EMP process)

Discussed consultation with stakeholders and how changes to the proposed development have been made following consultation. Changes include

- relocation of culverts,
- extra level of care when considering erosion and sediment control measures with the Hawkins Gully catchment (proximity to Makara Estuary)
- Widening the northern end of OVR
- Maintaining existing road frontages along the eastern side of OVR – widening the western side (while staying within the road reserve)

The estimated level of earthworks within the core site is 643,000m³ (conservative estimate). This is approximately 33,000m³ per/km, which is not overly significant when

compared with other large scale projects. Earthworks will be managed on a logical section by section basis, with appropriate erosion and sediment controls established prior to site clearance in any section,

Mr Wiles discussed the process of access road formation and turbine platform construction – including details on the level of excavation required, proposed management of associated fill, and rehabilitation of turbine platforms once built.

In less detail, Mr Wiles also discussed the construction methods required for the substation, concrete batching plant and the realignment of the HVDC earth line.

Stormwater runoff will be managed using a variety of techniques including rip-rap energy dissipation devices, re-vegetation measure, maintenance of road surfacing, cut off channels or sump pits at 100-200m intervals, discharge to dry gullies and areas where land has remained in-situ (i.e. no fill etc).

In his evidence, Mr Wiles detailed mitigation strategies and measures that would be necessary due to the large level of proposed earthworks etc. Mr Wiles addressed mitigation measures relating to:

- Slope stability and route alignment
- The use of a robust Environmental Management Plan (EMP)
- Re-vegetation
- Detailed fill site selection
- Concrete batching process and aggregates
- Permanent stormwater and road maintenance
- Stream crossings and realignment
- Hydrological catchment areas that feed directly into the Makara Estuary

In response to matters raised in the Officer's report, Mr Wiles discussed the following:

- Revised access road proposed to turbine F14 in response to ecological concerns raised by Dr Blaschke
- In response to issues raised over the potential ecological impact on the hydrological area around F13 & F14, Mr Wiles clarified that the level of earthworks in this area is on par with those in any other area of the subject site (i.e. 33,000m³ per/km. In addition, no fill sites are proposed for material excavated in the area (therefore the construction footprint is only the turbine platform and the associated access road formation. Approx 50% of the potential construction footprint has been removed from this area in response to concerns relating to sediment generation).
- Disagreed with WRC Officer's that the culvert width only has to be as wide as the maximum width of the vehicle. Also stated that the culvert must be a minimum distance below the road surface to retain structural integrity.
- In light of WRC concerns the following culverts will be sized to accommodate a 1 in 100 year event: - A3, A4, C2, C5a, and F1.
- WRC was not satisfied that Ohariu Stream and Mill Creek culverts were designed to accommodate a 1 in 10 year event, therefore they have been redesigned to accommodate a 1 in 20 year event

Particular points that have been leant during the construction phase at West Wind:

- Understanding the extent of cut heights

- Formulating exceptional fill sites
- Geotechnical considerations – Geotech team did not encounter any surprises that weren't anticipated prior to the construction management plan.
- Indication of the batter slopes required and the degree of angle

In response to issues raised by Mr Barraclough, Mr Wiles clarified that the access options suggested by Mr Barraclough had been assessed, and were found to be inadequate due to additional environmental and construction effects. Mr Wiles also addressed the calculations relating to the anticipated volume of earthworks, and stated that the estimate was conservative (even when taking into account the additional 100,000m³ of basecourse material as raised by Mr Barraclough. Mr Wiles remained confident that the on-site water requirements could be catered for from watercourses within the site.

Ed Breese – Environmental Management

Mr Breese described environmental management techniques at Mill Creek and how these will be modified based on past experiences at the Te Apiti, White Hill, and West Wind projects. A robust EMP is a key element in ensuring best environmental management practices are adhered to by all who work on the site.

Mr Breese outlined the process involved in formulating the EMP, and in particular the SEMP's (using SEMP 5 as an example where modifications were made in response to Council concerns, particularly in relation to the Hawkins Stream tributary realignment of access track to turbine F14, relocation of culverts, use of silt fences and topsoil bunds around turbine platforms etc)

Mr Breese explained how experiences gained working on the West Wind project would be invaluable in the construction of the Mill Creek project. Such experiences show have developed a better understanding of the way large fill areas should be constructed in order to allow progressive rehabilitation of the fill area and reduce the overland flow. Another example is the use of straw mulch on fill areas where there is a delay in revegetation – the straw mulch help reduce the surface run off and aid revegetation.

Key differences between the West Wind site and the Mill Creek that will throw up different challenges are:

- West Wind presents a wide variety of slopes and vegetation cover, as well as a diverse geological base. Mill Creek is much more uniform, which will aid construction methodology and works
- At Mill Creek, the material will be more weathered, which may pose a few problems. However, there will be more topsoil, which will aid revegetation efforts.
- Less traffic impact at Mill Creek, compared to that of West Wind
- The construction period at Mill Creek will be significantly shorter at Mill Creek
- Approx ½ the earthworks will be required at Mill Creek , compared with West Wind

Mr Breese noted that many submitters were concerned that the sediment run off from the Mill Creek site would have a catastrophic effect on the Makara Estuary, Makara Stream, Mill Creek and the Hawkins Stream, following discharge events resulting from works at Project West Wind. He stated that sediment discharges are a natural feature of Makara Stream, and was a natural occurrence prior to the commencement of Project West Wind.

Section 3 of the draft EMP identifies the potential adverse effects on the Makara Estuary and Stream resulting from significant erosion and sediment discharge. To avoid the generation of sediment Mr Breese proposed the following actions:

- Site area must be pegged out by the site supervisor prior to commencement on earthworks to avoid unnecessary soil disturbance
- Staging earthworks to minimise the area of land disturbed at any one time
- Reinstate areas of disturbance as soon as practicable
- Installation of cut-off drains to divert water from disturbed areas
- Installation of flumes to carry water over areas of potential erosion
- Installation of energy dissipation devices in water tables and around outlets from sediment ponds to prevent erosion (rock armour).

For larger areas of disturbance (fill sites, structural fills, water tables and road excavations), the following techniques were proposed

- Sediment ponds (where practical, the size of sediment ponds in the Hawkins Stream catchment will be increased in capacity by 50%.
- Grit traps
- Sediment fences, or filter socks as an alternative method
- Buffer of retired pasture (10-13m wide) – rank grass
- Regular inspection and maintenance of sediment control measures
- Prompt action when measures are not performing to required standards. Additional measures might involve the use of flocculation blocks, enlarging the structures and reducing the load. Regular inspections (weekly and fortnightly) will monitor the situation). An appropriate trigger for the use of flocculation blocks would be two standard deviations from the mean.

Mr Breese rejected claims by the Makara Ohariu Community Board that a number of significant sediment runoff events had discharged into private property and local catchments.

Mr Breese disagreed with Dr Blaschke's assessment that there is a high probability (higher than 50%) that enough sediment to cause significant adverse effects would reach the receiving environment. Mr Breese went on to explain the amendments that had been made to the original proposal to address concerns raised about the receiving environment around Turbines F13 & F14.

Mr Breese clarified points raised by the WRC Officers, including matters relating to appropriate monitoring levels after significant rainfall events and response rates in implementing successful improvements. Mr Breese stated that it is not until the following rainfall event that it becomes clear whether or not measures taken were successful. Mr Breese provided example of an improved system where the run-off from road surfaces was much higher than initially anticipated, and the practical solution was to create an increase in the number of grit traps in the vicinity of the problem areas.

Cumulative construction effects from both Project West Wind and Project Mill Creek should not be considered as being a significant problem, as the construction phase of West Wind will be over by the time construction at Mill Creek commences.

Mr Breese concluded by saying that potential adverse effects relating to sediment discharge can be adequately avoided and mitigated through commitment to the proposed measures outlined in the EMP and associated SEMP.

In terms of monitoring, Mr Breese was cautious about the method of monitoring deposited sediment, and stated that it would have to be a system that allowed rigorous interpretation

Stephen Fuller – Ecology

Mr Fuller outlined the characteristics of the site area – e.g. pastoral area with no significant vegetation within the project footprint; with 6 freshwater streams that could potentially be affected by the proposal. He noted that of these streams, four discharge into the Makara Estuary. Overall, the types of stream habitat that occur within the project footprint were considered representative of similar rural streams in the Wellington region.

Mr Fuller discussed lessons learnt at Project West Wind, which need to be put into practice at Project Mill Creek, in particular improved preparation for the first autumn rain following droughts, increased sampling in headwaters, increased emphasis on vegetative treatment of overland flows, and improved sediment management in close proximity to the two stream crossings. Mr Fuller endorsed the proposal by Meridian to increase the size of the sediment ponds at Mill Creek by 50%, thereby exceeding the requirements of the Regional Council guidelines.

Mr Fuller recommended to Meridian that permanent turbidity monitoring would assist in establishing baseline levels prior to construction subject to appropriate siting, installation and monitoring to ensure accurate operational performance.

With regard to recommending measures to avoid, remedy or mitigate effects, Mr Fuller discussed the concept of “No Go zones” in the form of a no go map to be used in the EMP and SEMP. Adherence to the No Go map will ensure indigenous wetland and remnants of vegetation will be avoided, thus negating the need for mitigation measures in these areas. With regard to protection of streams, wetlands and estuaries, based on experience at Te Apiti and Project West Wind, it was Mr Fuller’s opinion that with best practice management of sediment and erosion, effects would be short term and minor, and no mitigation would be required.

Furthermore, Mr Fuller stated that stream crossings could be easily designed to avoid effects on fish passage and provide continuous stream bed habitat.

Mr Fuller refuted claims made by submitters that all the sediment seen in Makara Stream is a direct result of sediment discharge from Project West Wind, and instead stated that a number of activities in the local area contributed to the overall degradation of the stream

In response to concerns raised by WRC Officer’s and Dr Blaschke Mr Fuller detailed how the original proposal has been amended, resulting in three key changes:

- Mill Creek crossing moved to avoid a slightly higher value section of stream and reduce the length of culvert
- Move a stream crossing near turbine F14 (culvert F1) 300m north to minimise effects on the intermittent tributary of Hawkins Stream
- Modified design of a small diversion below culvert Boom 019 to better maintain habitat quality

In response to concerns raised by submitters, particularly Mr Beccard and Mrs Niven, Mr Fuller explained the methodology in assessing impact upon avian fauna (particularly the falcon), and concluded that the potential effects would be less than minor. He also tabled a statement of evidence from Kevin Stafford, which related to the impact of wind turbines in relation to horses and was submitted as part of the Environment Court

hearing for Project West Wind. He concluded that the typical noises associated with turbines are unlikely to cause any significant response in horses nearby.

Dr Vaughan Keesing – Fresh water ecology

Dr Keesing explained his research methodology for determining the existing environment relating to fish abundance, habitat and water quality.

The greatest risk to the aquatic ecology lies with the lower Hawkins Gully, Smith's Gully and the condition of lower Makara River and Estuary. The potential adverse effects solely lie with potential significant sediment discharge.

Dr Keesing explained the process of sedimentation and the effect it would have on the local environment. He went on to say that the risk of sedimentation effects resulting from a sediment breach/discharge is very low, and as such does not need mitigation strategies in place. Remedial actions for such an occurrence should be developed in the SEMP.

Dr Keesing did not consider mixing zones in ephemeral systems to be appropriate or practical. He did, however, concur that mixing zones of the main streams (perennial) would be appropriate and stated that a 70m zone would be appropriate. For the Smiths, Hawkins and Mitchell Systems, Dr Keesing stated that a 40m mixing zone would be sufficient.

It was Dr Keesing's opinion that the existing environment is not pristine, nor does it contain sensitive indigenous communities. On the contrary, Dr Keesing explained that the stream systems are dominated by tolerant species, and that the environment has undergone decade of degradation due to the nature of the pastoral activities.

In response to Dr Mike Joy's submission, Dr Keesing asserted that there is no evidence to show that the ecological environment is stretched to its limit. Furthermore, he reiterated that should minor sediment discharges occur the aquatic communities were resilient enough to withstand the sediment pulse.

Dr Tim Haggitt – Marine ecology

Dr Haggitt was commissioned by Meridian in 2004/2005 to undertake an ecological and physical process assessment of Ohau Bay and Oteranga Bay as part of initial investigations into the construction of landing wharfs for Project West Wind. Dr Haggitt returned to the site in Sept 2008 in order to assess the impact the construction period has had on the tidal marine life (i.e. the impact the additional sediment load has had on the area). Dr Haggitt stated that there is no evidence to show that there has been change to the inshore ecological community. Furthermore, Dr Haggitt explained the rough tidal action and strong currents in the area would aid with sediment disbursement.

With regard to the Makara Estuary and Bay, Dr Haggitt noted that the estuary would be prone to silt load, due to the calmer nature of the environment. However, he also noted that the existing environment would contribute significantly to the sediment and silt loading in the estuary (particularly the eroding stream banks, which are grazed by farm animals).

Tony Coggan – Truescape Images

Mr Coggan explained the technology behind the Truescape images and how they were developed. He discussed in detail the primary human field of view and how this is captured in the Truescape images using a 28mm lens.

As part of his evidence, Mr Coggan showed a Truescape photo simulation of a point at Project White prior to construction and showed a photo of the same view post

construction with the turbines in place. The photo simulation was identical to the constructed wind farm – both in turbine placement and scale.

Peter Rough – Landscape

Mr Rough discussed the legislative and policy framework with which his assessment was relevant to. He then detailed the character and features of the local environment, including a discussion on the natural character of the coastal environment and outstanding natural features and landscapes (or the lack thereof). He also discussed the existing character of the area in terms of its open, rural nature.

Mr Rough concurred with Mr Hudson’s assessment that turbines represent the most obvious visual effect resulting from the proposed wind farm, due to the distribution and size of the turbines. Mr Rough also stated that the visual effects relating to earthworks resulting from the core site access roads, turbine platforms, fill sites etc will not be as significant, as they will be mostly concealed from public view and will be subject to remedial work. Ancillary structures in Mr Rough’s view could be adequately placed to avoid significant effects.

Mr Rough explained that due to the sheer size of the turbines, the most obvious and effective form of mitigation with regard to visual effects, would be to exclude turbines at the planning stage. He detailed how the process had already gone through a robust assessment phase, where several turbines were removed from the south-west corner of the subject site as a result of his advice to Meridian concerning the landscape and visual effects these turbines would have on Makara Beach and the surrounding environs.

Mr Rough disputed the statement by Mr Hudson that the neighbour West Wind site was more suited for a wind farm and instead he argued that the Mill Creek site was more appropriate for wind farm development, as the rolling nature of the landscape allows for simpler engineering and as a result, less landscape and visual effects. He also noted that the Mill Creek site does not contain the rugged nature and remoteness, as seen in the West Wind site. Mr Rough stated that the “scenic aesthetic” approach taken by Mr Hudson resulted in him [Hudson] arriving at an ill-founded conclusion regarding the placement of turbines on the Mill Creek landscape.

With regard to cumulative effects in relation to the proximity of Project West Wind to Mill Creek, Mr Rough explained that the separation of the two wind farms would be apparent to the viewer; the exception being in a couple of identified points such as Colonial Knob and in offshore views in the vicinity of Ohau Point. In other locations where both wind farms will be visible, the developments will be viewed as separate entities (primarily due to the clustered nature of Mill Creek in contrast with the more spread out nature of West Wind). Mr Rough states that the cumulative visual effects will be slight, and therefore acceptable.

With the assistance of 22 “TrueView” photo simulations, Mr Rough was of the opinion that a reasonable assessment of potential landscape and visual effects of the proposed wind farm, including effects from residential locations was able to be made. In addition, a further 76 “TrueViews” were prepared from viewpoints located at various residential properties. Attempts to visit a number of these photopoint locations were frustrated, so an in depth on-site assessment in conjunction with all of the “TrueViews” was unable to be carried out.

The following conclusions were made from the residential “Trueview” photo simulations:

- 22 views from photopoints on 20 properties no turbines visible
- 16 views from 16 photopoints will have negligible to slight effect on visual amenity

- 13 views from 9 photopoints would have a moderate effect on visual amenity
- 18 views from 16 photopoints might have substantial effects on visual amenity

Response to John Hudson's assessment of visual amenity effects – private houses

- The visual effects of turbines suggested for removal are not so adverse so as to warrant their removal
- Turbine G04 is the most problematic turbine that Mr Hudson recommended for approval, however mitigation options or relocation should be considered before removal is recommended
- Even though the house site at 1000 Makara Road is in close proximity to three turbines (F11, F13 & F14), there will not be any direct views from the proposed dwelling into the subject site

In discussing the significant natural features, Mr Rough disagreed with Mr Hudson that the whole of Mill Creek's coastal environment is an outstanding natural landscape

In his assessment of Sec 6 matters, Mr Rough discussed the definition of the coastal environment. Mr Rough argued that neither the subject site, nor the site's coastal environment can be considered to be an outstanding natural landscape at either the regional or district levels. Within the site's coastal environment is a section of Wellington's distinctive coastal escarpment, which is the only listed landscape feature of significance on the Mill Creek site. Mr Rough stated that the feature could be accorded status as an outstanding natural feature. He emphasised that no turbines would be located on this feature but from some coastal locations, such as on the shoreline and in coastal waters close to the shoreline, some turbines will have localised minor to moderate effects on the coastal escarpment where they appear to be located at the top of the escarpment.

Mr Rough explained that the proposed wind farm would have some unavoidable effects on the quality of the environment, but the layout and design of the wind farm has resulted in a proposal that minimises adverse effects on the quality of the environment where such effects are unavoidable.

In response to a request by the Chair, Mr Rough produced a tabulated summary where he provided analysis of the TrueViews and the effect the individual turbines would have on visual amenity etc. He also raised concerns about the methodology employed by Ms Steven in her "scoring" of turbines visual effects.

Mr Rough disputed the coastal environment as delineated by Ms Steven in her evidence, and instead argued that his delineation was based on the same methodology as that which formed the basis of the coastal environment for the West Wind Project – and was accepted by four landscape professionals at the time.

In his reply, Mr Rough also addressed concerns raised by a number of submitters. One particular key concern was that of Ralph Jorgensen, who was sceptical of the Truescape photo simulations and the accuracy these portrayed of the existing landscape. Mr Rough disagreed with the lens argument put forward by Mr Jorgensen, and stated that the current lens technology used is accepted in the Environment Court and produces the best visual representation.

David Dunlop – Transport

Mr Dunlop described the alternative routes considered and identified access through Porirua and Spicer Road as the preferred route

His discussion regarding anticipated traffic generation included:

- Overweight and over dimension loads (approx 2-3 inbound vehicles per day over a 5 month period)
- Heavy construction vehicles (maximum of 29 inbound vehicles per day over an 18 month period)
- Construction workers (maximum of 58 inbound vehicles per day over an 18 month period)
- Operational employees and servicing post-construction (maximum of 6 inbound vehicles per day)

The northern section of OVR (between BRR and its northern end) is to be upgraded to a sealed width of 6.5m where possible; comprising a 5.5m carriageway with two 0.5m sealed shoulders on either side and improvements to a number of curves in the road. Where 6.5m is not possible, a minimum width of 6m will be achieved.

Widening of OVR will avoid all the residential property frontages located on the eastern side of OVR and will only affect the one shared access way for the 4 residents that live on the Western side of OVR. Mr Dunlop was of the opinion that the current speed limit of 60km would be ok. He noted that he was unaware of conditions in other projects where particular road users were further restricted in speed.

In response to concerns raised by submitters and following a meeting with Mr Kong, Manager of the Councils transport Network, Mr Dunlop clarified matters relating to the anticipated waiting times and presented an amended design showing a 180m passing area at the mid-point of OVR north with an overall road width of 10m. Additional project modifications also included access design modifications at BRR and site access to improve geometric design and safety.

Mary O’Callahan – Planning

Ms O’Callahan discussed the statutory and policy framework under which the application could be considered and assessed.

In terms of permitted baselines – Ms O’Callahan discussed intensive rural activities such as forestry and dairy farming having similar ecological effects and with regard to forestry could dramatically alter the existing landscape. She also referred to the permitted level of vegetation clearance (up to 1ha) and its associated effects. Ms O’Callahan also discussed the smaller built components by discussing the permitted level of in terms of accessory buildings and their possible visual effects.

Ms O’Callahan expressed concern about the number of residential properties being established in the local vicinity without Meridian being considered an affected party. She went on to say that in terms of potential noise effects, Meridian was facing ever-changing goal posts. As such, Ms O’Callahan suggested the condition requiring compliance with the noise standards at residential properties be amended to reflect the date of the application lodgement (being 12 March 2008).

In her evidence, Ms O’Callahan explored the various potential effects of the proposal, and discussed possible mitigation options. She is satisfied that the adverse effects of the proposal *can* be avoided, mitigated or remedied to an extent that is reasonably practicable in the context of the proposal. Furthermore, she does not believe any turbines warrant removal.

Malcolm Hayes – Acoustics

Mr Hayes discussed the different types of noise associated with the operation of wind turbines. He elaborated on the assessment methodology of the measurement of background noise and predicted noise levels at each of the receptor locations (initially

two, then an additional six were added). He provided tables outlining what the background noise level was when it was below 20dB LA95 and the local wind speed was less than 1.5 m/s at 10m agl.

Based on these predictions, he stated that the proposed Mill Creek wind farm can operate in accordance with the requirement of NZS6808:1998 and even the "sub-6808" noise conditions. The closest residential site in proximity to the turbines would be the proposed house site at 1000 Makara Road. Mr Hayes noted that this location is also likely to comply with the requirements of NZS6808:1998 even in a southerly wind direction. In terms of cumulative noise effects, Mr Hayes stated that both West Wind and Mill Creek could be operated to meet the requirements of NZS6808:1998.

Mr Hayes refuted the issue of VAD and stated that infrasound and low frequency noise emitted through the turbines will not be of sufficient level to cause health effects. He also disagreed with the notion that ground induced vibrations resulting from the turbines would cause adverse health effects following a study that explored the level of ground vibration resulting from turbines.

In terms of internal noise levels and with respect to potential for sleep disturbance, Mr Hayes stated that the predicted model was based on all turbines operating in the same noise mode and at the same wind speed. He noted that the southern turbines, experience lower wind speeds than those experienced at the monitoring mast (located at turbine L01). He cautioned that without taking into account the reduction in wind speed seen by the nearest wind turbines to a receptor location, an over prediction of the incident noise at that receptor will occur.

There was some discussion between Dr Trevathan and Mr Hayes re the ground level measurement of G=0.5. The predictions were based on G=0.5, if predicted using G=0 then there could be an increase of 2dBA. However, he noted the prediction model was very conservative and output prediction levels were likely based 2-3dBA too high anyway.

In his reply, Mr Hayes provided written rebuttal to issues raised by submitters. The most significant being those raised by Dr Trevathan. He did not change the opinions made or conclusions reached in his primary evidence-in-chief. In particular he refuted Dr Trevathan's comments relating to source sound power levels noting a very degree of consistency across wind turbines within the same farm as empirically measured.

He also provided some more detail as to the percentage time that conditions described as "sub-6808" might occur for different wind speed categories. His tables detail the percentage time of the noise survey that the following conditions were met: a background noise level at or below 25 dB LA95 and a wind speed measured at 10m agl at the noise measurement position that is below 1.5, 2.5 and 3.5 m.s-1.

In rebuttal, Mr Hayes noted that the microphone windscreen effect artefacts commented on by Mr James would need to exist for 95% of the measurement time period in order to be "recognised" under an L95 index. Similarly for any noise events measured with respect to the ambient background noise. Occasional traffic or animal noises are not "counted". Mr Hayes argued that the average is in fact the appropriate measure as this is representative of the noise environment across a range of wind speeds. To base everything on the lowest noise background noise recorded would be artificial.

Mr Hayes also submitted compliance reports regarding the monitoring of noise at two operational wind farms and the correlation between predicted noise levels, and actual noise levels. These demonstrated compliance with the conditions of consent, and also that the operational noise levels were at or below those predicted (with one minor exception). Mr Hayes noted that there was in fact a general tendency to slightly over-predict the audible output.

Paul Wilson – Construction

Mr Wilson outlined the approach undertaken by Meridian with regard to constructing an operational wind farm. The team is constantly looking at ways of effective process improvement, both in an environmental sense (physical and community) and cost effectiveness. Mr Wilson stated that lessons are constantly learnt through other projects, which aids an innovative and dynamic planning and construction phase. Examples of this are the new position of Environmental Manager at West Wind and the use of straw mulch.

Project managers foster a culture where the workers on site have an enhanced understanding of health, safety and environmental performance, which ensures the best outcome. Strong relationships are maintained between contractors and the Project Archaeologist, which ensures the accidental discovery protocol is effective. Mr Wilson also discussed the establishment of the 0800 number for inquiries from the community regarding the construction of West Wind – he noted that this seems to have been working well.

In terms of traffic management, Mr Wilson noted that Project Mill Creek has some unique aspects of the project that will mitigate the issue around contractors operating outside predetermined hours and utilising non-specified routes. All construction related traffic will enter the site from the Spicer Road access – including construction workers etc. Particular attention will be paid to reducing the impact of project related traffic on local road users along OVR North.

Morrie Love – Maori cultural

Mr Love addressed the Maori cultural values associated with the site. He noted that the Kumuhore cultivation site (M7) is located in an area that has been extensively disturbed through pastoral activities. He stated that the cultivation areas probably did not contain urupā (burial sites), Pā (fortified villages), kāinga (villages) or other significant Maori structures and so were unlikely to include tapu sites.

Mr Love explained that the manawhenua of the project area today are those who held ahi kā being Te Atiawa / Taranaki whanui represented by the Wellington Tenths Trust and the Port Nicholson Block Claim Team. Ngati Toa maintained ahi kā north of Makara and from time to time used this coast for fishing and transited the area when travelling to the South Island.

In response to the submission/evidence from the Ngati Tama group, Mr Love sought to clarify the position of the Ngati Tama group and their affiliation to the area by stating the following:

“It is acknowledged that Ngati Tama were resident in the Ohariu area from around the late 1820s. Many Ngati Tama leaders were consulted on Project Mill Creek during the drafting of the Cultural Impact Report and through the project. The people consulted included Mr Neville Baker, Ngati Tama kaumatua who is a Wellington Tenths Trustee and Kevin Amohia from the Port Nicholson Block Team. Mr Atawhai (Archie) Taiaroa who is an administrator for the closest Maori-owned block known as Makaka 37 and 39A in Opau Road, was also consulted, as was Waitangi Tribunal claimant Mr David Churton, among many others of Ngati Tama. Waitangi Tribunal claimants, Te Puoho Katene and Taku Parai also representing Ngati Tama have also been involved in the Port Nicholson Block Claim Team. There has also been consultation and a site visit with the group which appeared at the Project Mill Creek hearing representing the Ngati Wai Hapu. Meridian Energy and Wellington Tenths Trust have been and will continue to be involved with consultation with various Ngati Tama groups and people over Project Mill Creek. It is noted that in many of the early works Te Atiawa (or Ngati Awa) was often used to

refer to the hapu of Northern Taranaki including Te Atiawa, Ngati Mutunga and Ngati Tama.”

Furthermore, Mr Love noted that the evidence of the Ngati Tama group did not identify sites of cultural significance within the project boundaries.

Mary O’Keefe – Archaeology

Ms O’Keefe discussed the effects of the project on archaeological and historic sites. She noted that while there are eight archaeological sites recorded in the vicinity of the proposed wind farm, they are all outside the project boundaries.

However, there is potential for unrecorded sites to be located within the project site – such as possible gardening sites of Maori origin along the F and G roads. Evidence for the existence of these sites can be found in the historic survey plan SO 11034 and a plan compiled by the Wellington Tenths Trust, which also shows cultivation areas in the same location. Furthermore, this area equates with the Kumuhore cultivations, site M7 in the Wellington District Plan.

These potential archaeological sites are of some archaeological interest, but are unlikely to be of high significance. They would add to the body of knowledge as to subsistence activities in this area of Wellington, but would not substantially add to or change the understanding of the archaeological landscape. Ms O’Keefe suggested recommended mitigation measures, such as an accidental discovery protocol as part of the CMP and the availability of an archaeologist on site.

Lynley Fletcher – Community Consultation

Ms Fletcher discussed the extent of consultation undertaken with the Ohariu/Makara community. Although not a mandatory requirement to consult, it is Meridian’s policy to consult with the community where the project will be located. She discussed the process whereby Meridian undertook significant planning stages of the project in order to be informed when discussing potential issues with key stakeholders such as DOC and the local community.

Consultation with the community was undertaken in several ways:

- 4 woolshed meetings
- 2 open days
- Undertaking 76 Truescape visual simulations
- Replying to a large number of enquiries
- CD Rom containing RC app as lodged and then a second CD of the RC app as notified
- Attended a Makara/Ohariu Community Board meeting
- Requested that the submission period to for the consent be doubled

Ms Fletcher also discussed the submissions received both in support and opposition to the application. Significant changes to the proposal as a result of effective consultation included changes to the access road and road alignment to avoid the disturbance of road frontage of properties. In addition, responses to the Councils Sec 92 requests for further info on behalf of the community. Ms Fletcher stated that the consultation process was robust and went over and above any consultation undertaken for any other projects preceding Mill Creek.

The Community Liaison Group as established as a condition of the West Wind decision has been a very useful forum from Meridians perspective. Discussions are still on-going

to establish the best way forward in creating a similar forum for Project Mill Creek that is user friendly for the community representatives.

Major Submitters:

John Third – Independent submission

Mr Third made a significant submission to the hearing that covered many aspects of the proposal. The following will summarise the main concerns and points emanating from these concerns.

Information Process

Mr Third discussed the level of consultation the community had received from Meridian. He expressed dissatisfaction with the approach employed and noted that the release of information was largely staged and selective. Mr Third was unconvinced that Meridian was providing the public with the “full picture” and failed to address the concerns of many residents. As an example, Mr Third recounted his experience of receiving a photo simulation of his property. He stated that the process was overly complicated and the end result not entirely accurate.

Visual Amenity

Mr Third provided a thorough description of the various attributes residents of Ohariu Valley enjoy about their surroundings. He noted that the size of the proposed turbines is of concern, especially given their location along the Ohariu Valley ridgelines. Mr Third noted his concern regarding the visual impact the proposed turbines would have upon the Ohariu Valley, and stated that the proposal was not in accordance with the Ohariu Valley Community Plan, nor the objectives and policies of the Wellington City Council District Plan. He remained adamant that the “industrial structures” will be out of context in the rural area and would not fit in with Ohariu Valley’s rural character and environment.

Mr Third discussed the use of a 28mm lens by Truescape when creating the individual photo simulations, and noted that the accepted industry standard was in fact to use a 50mm lens camera. He went on express doubt over the accuracy of the visual effects by Meridian (in particular Mr Rough) given an incorrect lens type was used in the production of the photo simulations.

Noise

Mr Third stated that the NZS6808 is out of date and should not be relied upon as a standard for noise emissions from wind farms. Coupled with this, Mr Third expressed doubt over Mr Hayes’ noise projections and use of base data. Mr Third was concerned about Meridian’s apparent dismissal over the issue of ILFN and its association with VAD. He noted that many in the community were concerned about the lack of substantive information regarding the true impact of noise effects post build. Mr Third cited accounts from residents who live nearby wind farms overseas, where they chronicled their experiences dealing with the effects from wind farms. As such, it was suggested that if anything, the proposal should be delayed in order to fully ascertain the effects of noise and level of vibration emanating from the turbines which will be constructed as part of Project West Wind.

Health

Mr Third primarily focused upon the possibility of occupants of nearby dwellings being exposed to high levels of ILFN and concern of the resulting phenomenon known as “Vibro-Acoustic Disease”, VAD. Mr Third expressed concern about the lack of research undertaken by Meridian into VAD prior to the proposed construction and the impact this

would have on the community. As with the other concerns noted, Mr Third requested a 3km buffer zone to counter these effects.

Use of Wind Power for Electricity Generation

In terms of generating electricity, Mr Third claimed that wind power is unpredictable and as such, not suited to contributing as a critical generator into the national power grid. He provided an overview of the electricity sector and the process involved in supplying power. In doing so, he highlighted the risk of relying upon wind generation within the market, and stated that to do so would invariably create gaps and increases system risk overall. He discussed the relationship between wind power and hydro generation, but emphasised that this pairing would not reduce the risk in shortfall, as dry periods and calm periods were often in coexistence. He declared that the cost involved with establishing Project Mill Creek would outweigh the output gained. Mr Third also expressed a general disbelief in the greenhouse warming theory – underpinning the resolve for more renewable energy.

Overall, if not declined in its entirety, Mr Third requested that the Panel impose a minimum 3km set back from properties.

Ohariu Preservation Society:

Morgan Slyfield – Legal Counsel

Landscape Amenities

Mr Slyfield discussed the merits of whether the site is an outstanding Natural Landscape in light of evidence from Mr Rough and Mr Hudson.

It is the view of OPS that Mr Rough was unable to undertake a thorough site visit of the affected properties and as such, his assessment cannot be considered to be complete. In contrast, Anne Steven was able to undertake an extensive site visit of the wider area, and from that formulate a matrix of effects each individual turbine has on the surrounding area (in terms of their contribution to visual effects).

With regard to the ridgelines and hill tops overlay introduced under PC33, Mr Slyfield noted that Meridian’s approach to this was not substantial, given Mr Rough confirmed that he gave no weight to the overlay. Instead, he concurred with Ms Anderson’s opening statement and noted that the ridgeline and hilltops overlay should be given some weight under PC33. He also discussed the lack of cumulative effects assessment provided by Mr Rough, claiming it oversimplified the matter.

Mr Slyfield also raised concerns about Meridian’s project shaping process, stating that the project team has put forward a proposal where little shaping is now available, therefore an assertion that they have already “got it right”. This is refuted by OPS.

Noise

Mr Slyfield challenged the validity of the NZS6808:1998 standard and Meridian’s use of it. He stated that the standard is outdated in relation to the advance in turbine technology over the past 10 years. He also noted how recent decisions have shown a departure from the standard, notably conditions imposed in the West Wind and Motorimu consent decisions.

With regard to the phenomenon of Vibro-Acoustic Disease (VAD) Mr Slyfield stated that the Commissioners must pay particular regard to Section 3 of the Act, and accordingly, possible VAD related effects must be weighed alongside all other noise effects.

Traffic and Construction:

Mr Slyfield stated that OPS has concerns that Meridian has understated and possibly ignored some of the actual and potential traffic effects relating to the proposal. OPS are

particularly concerned that the proposal will result in a serious loss of amenity to other road users.

Part Two Analysis:

- Mr Slyfield argues that Sections 6(a) and (b) are relevant as discussed by Mr Hudson and Ms Stevens. The maintenance and enhancement of amenity values under section 7(c) is also relevant.
- OPS submits that Mr Third's and Mr Leyland's evidence in combination cast significant doubt on the contribution that Mill Creek would make to the economic wellbeing of the community, or the desire to increase the nation's stores of renewable energy.
- The costs of Mill Creek are simply too high relative to any benefits.

Mariana Alves-Pereira – Vibro-Acoustic Disease

By teleconference, Ms Alves-Perreira discussed how:

- VAD may have an effect whether the sound energy is audible or inaudible
- Short and occasional exposure will not lead to the pathology; but long term and continuous or intermittent exposure will lead to the pathology
- Research has not yet established scientifically valid dose-responses for in-home infrasound and Low Frequency Noise exposure
- At this stage there is no scientific basis for minimum separation distance or noise separation – although occupiers of homes within 2km do exhibit signs of VAD
- Control studies have not yet been undertaken

Jim Mikož – Ecology (Marine and Intertidal)

Mr Mikož discussed the value of the Makara Estuary as an intertidal zone – demonstrating his point using the yellow eyed mullet as a case study. He stated that very little research had been undertaken relating to intertidal zones in New Zealand and the plant life that sustains the marine ecology in that area.

The Yellow eyed Mullet feeds off the grasswort plant, which does not have the structure to support mud and high levels of sedimentation. The Makara Estuary provides an important environment for spawning yellow eyed mullet due to the intertidal nature. If the estuary is degraded to such an extent that it can no longer support the required plant growth necessary to sustain the yellow eyed mullet, then there will be knock on effects to other species that feed off the yellow eyed mullet – one being the endangered Hector Dolphin.

Mr Mikož also discussed the effect on other species in the local Makara Estuary environment, such as sand hoppers, mysid shrimp and kelp flies. In conclusion, Mr Mikož stated that if there is a large scale sediment discharge from Mill Creek into the Makara Estuary, the natural ecosystem of the valuable intertidal zone will be lost.

Dr Daniel Shepherd – Psychoacoustics

Dr Shepherd discussed how wind turbine technology and the impact on the local community is a new area of research – the health effects of wind turbines are only beginning to be understood.

Particular points to note regarding the impact of turbines on residents health:

- Impact on sleep – causing additional stress
- Impact on psychological health – a feeling the turbine noise is intrusive
- Increased annoyance
- Residents feel a loss of control

Dr Shepherd discussed the use of NZS6808 – his view was that the standard is inadequate and outdated, and should not be relied upon for ensuring the safety and wellbeing of residents with regard to noise effects. He claimed that the status of the standard (the fact that it is under review) meant that it shouldn't be relied upon and that by nature standards lag behind relevant research. Furthermore, Dr Shepherd stated that NZS6808 is not a noise standard that correlates to a person's health, but rather just controls noise output. He claimed that standards built upon dose-response curves are not appropriate yardsticks for the measurement, control, or prediction of psychological responses to wind turbine noise.

Dr Shepherd did not believe Meridian has provided enough evidence to show that there will be no effects on health resulting from the proximity of the turbines and the resulting noise.

Bryan Leyland – Energy

Mr Leyland argued that the generation of energy through wind is not a cost effective option. Mr Leyland claimed that other sources such as hydropower, geothermal and coal and gas fired stations can generate power at approx half the cost to that of an average wind farm. He noted that wind farms to date have not contributed as much to the national power supply as originally anticipated. Mr Leyland does not believe wind power should be considered as a viable energy source, as the motivating factor behind it (global warming) is a sham.

Dr Rick James – Acoustics

Dr James discussed how dBA and dBC limits should be set for wind farms in an effort to further protect public health of the surrounding residents.

He did not believe the NZS6808 standard is robust in terms of acoustical measurement and awareness of instrumentation limitations. Mr James is also concerned about the method used in ascertaining background noise levels by Malcolm Hayes. Mr James argued that wind artefacts have contaminated the study's test results. He stated that this is a significant flaw, as it would permit data contaminated with artefacts to be used in decisions related to appropriate siting of turbines.

Dr James stated that the commissioners should restrict turbines within 2km of residential dwellings from operating during night time hours. He also provided alternative background sound levels to account for modelling uncertainties in Mr Hayes original modelling.

Colin Knowles – K2Vi 3D modelling software

Mr Knowles discussed an alternative method for portraying the visual impact of the proposed wind farm through the use of 3D modelling on a system known as K2Vi. Mr Knowles provided detailed background on how the 3D model worked and discussed the methodology behind the digital modelling of landscapes. The K2Vi technology is an alternative method for assessing the potential visual impact of the proposed Windfarm on the landscape compared with the Truescape simulations provided by Meridian.

The K2Vi software allowed a "layering effect" where various landscape features could be incorporated into the digital model such as vegetation and existing

buildings/structures and the proposed turbines and wind farm features could be toggled where necessary. The software shows the 39.4 degree horizontal view angle equivalent to the use of a 35mm camera with a 50mm lens.

Mr Knowles presented the model – simulating “fly-overs” of various viewpoints in and around the subject site. The software also includes a measuring tool to allow 3D measurements to be taken, as well as horizontal and vertical measurements.

Anne Steven – Landscape

Ms Steven discussed the concept of the landscape in context and the varying landscape areas in the general vicinity. She agreed with the assessment’s of Mr Hudson and Mr Rough, who described the context landscape as having a rural or essentially rural character with two factors – openness and pastoral landuse – being notable contributors to the perceived landscape.

Ms Steven discussed the appropriate policy framework and planning instruments, and agreed that some weight should be given to Plan Changes 32 & 33.

She also discussed the coastal environment as defined by Mr Rough and Mr Hudson. In general she was in agreement with the model, but extended the boundary further inland by an additional ridgeline (which resulted in 6 additional turbines being included in the coastal environment). She also considers the coastal escarpment to be an Outstanding Natural Feature.

Drawing on the photo-simulations, K2Vi and observations made during site visit(s), Ms Steven discussed the impact the proposed turbines would have on the surrounding residences and viewpoints.

Overall, Ms Steven does not consider the landscape assessment of Mr Rough to be stringent enough, stating that he placed too much emphasis on vegetation within private sites providing mitigation screening, and underestimates the dominance of the turbines on the surrounding landscape and properties. Ms Steven seemed more inclined to accept the assessment of Mr Hudson, although she stated that it too fell short of a robust assessment – particularly with regard to setting the standard for amenity.

When discussing the Truescape, Ms Steven stated that the images do not accurately represent the true visual perception when comparing the landscape with the Truescape Sims. Ms Stevens also argued that the awkward size of the simulations would’ve resulted in people not viewing them in the correct manner. She also raised concern about the restricted locations where the TrueViews were taken, and suggested that in some cases the choice of location seemed to be a deliberate downplay of the presence of turbines. Overall, however, Ms Stevens conceded that the TrueViews remained an important and useful tool when assessing the visual impact.

Ms Steven concluded that:

- The proposed activity will have significant adverse effects on the natural coastal environment;
- The proposed activity will have potentially significant adverse effects on the outstanding natural feature of the coastal escarpment;
- The proposed activity will have significant adverse effects on the existing rural character and visual amenity of the Ohariu Valley;
- The proposed activity will have significant cumulative effects on landscape values when considered in conjunction with Project West Wind; and,
- The proposed activity has no positive effects in terms of landscape.

Dr Jeremy Trevathan – Acoustics

Dr Trevathan reviewed the methodology used by Mr Hayes in developing noise models which in turn informed Mr Hayes' assessment of potential noise effects. Dr Trevathan found that Mr Hayes had not undertaken an "uncertainty analysis", something determined as "not only advisable, but almost a necessity" by technical reviewers of NZS6808, nor appropriately considered ground absorption or meteorological condition variables.

Dr Trevathan provided a separate analysis applying these uncertainties and variables, and effectively concluded that, in the conditions compared, expected noise levels are between 4 dBA and 8 dBA higher than those provided by Mr Hayes.

Dr Trevathan concluded that there is reasonable doubt that:

- The effects of the proposal, if established as proposed and operated in compliance with the conditions rules, would be minor.
- The proposal could operate unmodified in compliance with the proposed 'sub-6808' condition.
- The proposal could operate unmodified in compliance with the night time condition proposed.
- In terms of suggested alterations to the proposal, Dr Trevathan was of the opinion that, based on his calculations, in order to provide some degree of certainty that the noise effects associated with the unrestricted operation of the wind farm would be reasonable, turbines

In terms of suggested alterations to the proposal, Dr Trevathan was of the opinion that, based on his calculations, in order to provide some degree of certainty that the noise effects associated with the unrestricted operation of the wind farm would be reasonable, turbines K01-03 and F08-HI would need to be removed in addition to the six already recommended for removal by the WCC/PCC Officers Report (being G01-G04, and F13 & F14).

Kerry Geange – Planning

Mr Geange questioned whether the road widening works associated with OVR and BRR fall under Rule 15.1.7. Rule 15.1.7 which states that "any activity relating to the upgrade and maintenance of existing formed roads and accessways except for the construction of new legal road is a Permitted Activity"

In response to the proposed construction period, Mr Geange urged the hearing panel to limit construction to a window of 24 months, thereby taking into account Meridians anticipated 18 month construction phase while factoring in a buffer of 6 months. He claimed that this would bring a level of comfort to residents about certainty of the construction phase and associated effects.

He also questioned (along with a number of other submitters) whether the lease agreements associated with the turbine platforms which are for a period of at least 40 year should require subdivision consent under section 218 of the Resource Management Act (thereby making the application non-complying).

He also stated that in terms of visual amenity and landscape effects, there is not a suitable permitted baseline argument that can be applied.

Based on the assessments provided by Mr Hudson, Ms Steven, and Mr Rough, Mr Geange stated that it is clear that the proposed activity will have a significant adverse effect on the landscape values of the site, the coastal environment and the outstanding natural feature.

Mr Geange reviewed an extensive amount of material and produced a table at 9.5 of his evidence that, in his opinion, listed the "most offensive turbines" in relation to their "effect category" (e.g. relating to noise, visual amenity, and landscape effects). The 13 turbines recommended for removal were the G-Series, K-Series, and turbines F8-11 and F13 & F14. There may be an opportunity to relocate some of these within the site. Obviously the effects of any relocation would need careful consideration.

Bob Barraclough – Traffic engineering

Mr Barraclough discussed the Traffic Impact report and the flaws he considered were present in that document.

- Understates how many properties will be affected by the construction traffic
- Incorrect summation of traffic flows and assessment of safety impact
- Various inaccuracies and contradictions
- Lack of detail and understanding of the speed and time taken for overweight and over dimension vehicles to navigate the roads
- Haven't factored in the number of businesses operating from the general locality and their servicing requirements etc

Mr Barraclough was concerned that various reports fail to identify how much material will need to be brought in from external quarries, and as a result the knock-on traffic effects have not been adequately considered and assessed. In addition, Mr Barraclough was concerned that the level of water extraction/taking had not been adequately accounted for in the assessment.

To avoid undue traffic effects on the southern part of OVR, Mr Barraclough stated that the road through Spicer Forest should be undertaken prior to the widening of the northern section of OVR.

It was noted by Mr Barraclough that many of the residents in Ohariu Valley collect their drinking water from their roof. He stated that the road widening phase would create a dust nuisance and taint drinking water supplies.

Makara Guardians

Residents from Ashhurst

Several residents from the Manawatu appeared at the hearing in as witnesses for the Makara Guardians submission. The witnesses were: Harvey Scott Jones, Martin Murray, and Wendy Brock. Although the visual effects were a real concern, the primary concern that the residents emphasised was the audible impact the turbines were having on their lifestyles due to their close proximity to the wind farms. Mr Martin in particular found that his sleep was significantly disrupted due to the noise and low frequency vibrations experienced within his house.

Molly Melhuish – Energy

Ms Melhuish discussed the energy generation climate within New Zealand and how the proposed Mill Creek project would fit into that context. Although an advocate of diversification in energy generation, Ms Melhuish was sceptical about the correlation between energy generated through wind and hydro means. She agreed with Dr Leyland, who concluded that wind energy tends to be low at the same time as hydro levels are low.

She was also concerned that Project Mill Creek would not add diversity within the wind farm energy generation, as this needed to be more focused outside of Wellington and

the Manawatu. The economic cost was also discussed by Ms Melhuish. She concluded that the national benefits of such a proposal did not outweigh the other costs – and stated that Meridian was advocating for out-dated generalities in a time of rapid change.

Ian Leary – Planning

Mr Leary discussed in detail the proposal and its potential cumulative impact when measured against Project West Wind. Mr Leary focused on the cumulative effects that specifically relating to construction, visual effects and natural character, effects on rural character and amenity, recreational effects and noise effects.

With regard to construction effects, Mr Leary considered the primary effect to be that resulting from large scale earthworks and resulting sedimentation. His particular concern regarding possible sedimentation events related to the ecology of the Makara Estuary. In terms of the visual effects, Mr Leary discussed the concept of the proposed wind farm reading as an extended operation of Project West Wind. He stated that it was acknowledged in the consenting of West Wind that there would be significant effects on the natural character of the area, and that Project Mill Creek would further exacerbate these impacts.

Mr Leary was concerned that the proposal would tarnish the rural landscape of the Makara and Ohariu area, (which he argued was the area that exhibited the most rural characteristics in Wellington), and that there would no longer be Rural Areas within Wellington that were not tainted by development and built structures. He argued that this effect could not be mitigated through conditions.

Jenny Jorgensen – President of Makara Guardians

Mrs Jorgensen coordinated the Makara Guardians submission and facilitated the various witnesses. Mrs Jorgensen is concerned about the proximity of the proposed turbines to residential houses – especially when considered in cumulative terms in that many of the same houses that will be affected by West Wind and Mill Creek.

In relation to potential noise emitted from the proposed turbines, Mrs Jorgensen is concerned that the Siemens model does not have a warranty that provides the manufacturers guaranteed sound power level that relates to the maximum noise a turbine can make. Based on this concern, Mrs Jorgensen was not convinced that the noise modelling by Mr Hayes would accurately reflect the true output levels. Furthermore, Mrs Jorgensen stated that the NZS6808:1998 standard was not best practice and did not protect residents. In an effort to ensure residents are adequately protected, Mrs Jorgensen suggested a buffer distance of 3km. She also discussed the merits of having a buffer zone from private property boundaries to the proposed turbines (2km), in that way residents would be able to utilise their entire site how they please.

Due to dominance and cumulative visual effects and noise effects, Mrs Jorgensen submitted that the following turbines should be removed from the proposal: F07, F08, F09, F10, F11, F13, F14, L01, L02, E01, K01, K02, K03, G01, G02, G03 and G04.

In terms of the potential impact the proposal will have on the coastal environment and Makara Estuary, Mrs Jorgensen stated that the following turbines should be removed: All of the F turbines, all of the H turbines and J01, E06, E07, and E05.

In her personal submission, Mrs Jorgensen undertook a comprehensive analysis of the West Wind decision making process - especially the Environment Court hearing process and associated conditions. Particular regard was paid to the potential noise effects and traffic management conditions to mitigate construction traffic effects.

Paul Hughes – Makara Guardians Open Space analyst

Mr Hughes discussed the possible impact of the proposal on the coastal open space environment, particularly in relation to the Makara Beach vicinity and area referred to as the Makara Promenade (the area in which most people use for walking recreation). Mr Hughes stated that the Makara Promenade has outstanding natural character and amenity value in the lower North Island and that many people are drawn to the area due to its outstanding natural character. A particular concern Mr Hughes expressed was the possible effect the proposal will have on the seaward coastal and seascape views. The visual complexity of the turbines (each spinning out of sync) will exacerbate the effects upon the coastal skyline.

Mr Hughes disagreed with the approach taken by Mr Rough in terms of the split of the visual coastal environment and discussed Mr Rough's delineation of dominance and influence zones. Mr Hughes stated that valuable views should be taken account of even though they lie behind the "dominance zones" as demarcated by Mr Rough. He further stated that it is inappropriate to ignore what dominates the landscape/seascape, particularly the skyline. Mr Hughes generally agreed with Mr Hudson's assessment. Mr Hughes expressed the view that it is inappropriate to develop the coastal environment for wind generation purposes, especially as there are other areas nationally that could be developed for wind generation without affecting the coastal environment. He concluded that it is inappropriate to grant consent to turbines that do not preserve the natural character of coastal environment viewed from the shorelines south of Makara on the Makara Promenade. In terms of visual mitigation, Mr Hughes noted that the F series and L01 should be removed from the project.

Marieke Hilhorst (Chairperson) - Makaracarpas Society Inc

Marieke Hilhorst coordinated the submission by the Makaracarpas. She discussed the planning and statutory framework relevant to the group's ecological concerns. Particular concerns relate to the possibility of high rates of sediment discharge, which would adversely affect the Makara Estuary. Makaracarpas were particularly concerned about the potential effect sedimentation discharges from F13 & F14 could have on the Hawkins Gully and catchment areas feeding into the Makara Estuary.

Concerns were raised about Meridians past record at West Wind and the perceived issues there have been with regard to sediment run and degradation of the Makara Estuary and catchment areas since construction started. Furthermore, the Makaracarpas were frustrated about the lack of available data and background levels relating to sediment levels in the Makara Estuary – they do not feel that Meridian has taken a responsible approach to the ongoing monitoring of the sediment disposal in the estuary.

Ms Hilhorst, on behalf of the Makaracarpas, strongly endorsed the concept of riparian planting along the Makara Stream and other catchment areas in order to mitigate the effects of erosion and sediment and to improve the existing situation in the estuary. She also discussed the idea of monetary compensation if the sediment measures failed.

The Makaracarpas dispute Dr Keesing's notion that NTU trigger limits should not be set at a level that breaches consent. Makaracarpas would like to see this happen so that further enforcement from the respective Councils can be initiated if NTU limits are too high.

Dr Mike Joy - Ecology

Dr Joy was concerned that there would not be enough monitoring of sediment deposition resulting from the proposal. He discussed the difference between suspended sediment and deposited sediment and the effect each has on waterways. He suggested that meaningful monitoring is required in the levels of deposited sediment including continuous monitoring and also discussed the various measures that can be taken in

monitoring sediment. He noted that the waterways in the subject site represent some of the best remaining fish habitat in the Wellington region outside conservation land. Dr Joy stated that sediment would be one of the most important adverse influences on the health of a natural ecosystem.

Dr Joy also discussed concerns relating to permanently piping sections of the waterways. Particular concerns related to the loss of fish habitat, interruption in fish passage/migration, and the creation of bottlenecks where fish could be targeted by predators.

In terms of flocculation, Dr Joy emphasised that a cautious approach must be taken. He warned that overuse of flocculants may adversely impact on the health of the fish and stream invertebrates. He suggested that the sediment ponds be oversized to withstand any expected rainfall to ensure excessive amounts of flocculants are not deposited in the waterways and ultimately the estuary.

In general Dr Joy disputed much of Dr Keesing's findings. In particular, Dr Joy stated that fish communities are not adapted to high sediment flows as such events would rarely occur naturally. As such, Dr Joy concluded that it would be incorrect to assume these communities will tolerate occasional failures, as these would be on top of the degradation already present and could therefore cause total collapse of the ecosystem.

Councils' response

John Hudson – Landscape

Mr Hudson agreed with Mr Rough concerning the delineation of the coastal environment - with the inland extent running along the ridgeline on which the F series are located. He disagreed with Ms Steven's assessment that the inland extent lies along the next ridge (this would place some of the E series and H series in the coastal environment).

In terms of the outstanding natural landscape – both Mr Rough and Ms Steven's agree that this includes the coastal escarpment, but does not extend further inland. While Mr Hudson agrees that the outstanding natural landscape is confined to the coastal escarpment, he stated that this is part of a larger outstanding natural landscape. In essence, the outstanding natural landscape is the coastal escarpments, but the coastal environment extends further inland (to the F series ridge).

With regard to visual amenity Mr Hudson disputes the notion put forward by Mr Rough that mitigation in the form of vegetation planting could be used to counter the visual effects of the turbines at 7 different properties – instead he raises the issue of “appropriateness”. Mr Hudson did not find Mr Rough's visibility analysis schedule to be overly useful – in that it did not include a robust evaluation of visual effects.

While Mr Hudson accepted the visual effects matrix that Ms Stevens devised, he did not consider the analysis to be overly useful, as it did not lead to an evaluated outcome and determine a clear threshold of acceptability vs. unacceptability. Mr Hudson found Mr Geange's model more useful, and noted that he came to the same conclusion, with the exception that he includes F8-F11 for removal for noise mitigation.

Mr Hudson questioned the relevance of comparison of Ms O'Callahan's permitted baseline argument. Furthermore, he stated that rural character was reduced and he rejected the notion that the rural character was maintained because rural activities would still be carried out on the subject site.

He differentiated between rural character and visual amenity – stating that the concept of visual amenity to submitters related to their individual properties, while rural character was more a matter of the rural landscape in general (used the placement of turbines on

the coast as an example). Mr Hudson also stated that the current rural character would not be preserved if there was a reversion to native woodland.

Mr Hudson noted that the TrueView simulations did seem to portray distant items smaller than what they appear in reality. Mr Hudson, did however, reiterate that the TrueView simulations were an important tool in assessing the potential visual effects.

With respect to the house site at 1000 Makara Road, Mr Hudson found the K2Vi model to be useful when assessing the visual impact of turbines F09, F10 and F11. Mr Hudson recommended removal of F11 due to its proximity and visibility to this house site. In total, due to visual effects, Mr Hudson's final recommendation was for the removal of the G series, K series, F11, F13 and F14.

Soon Teck Kong – Traffic engineering

Mr Kong was satisfied that a road width of 5.5m with an additional 0.5m buffer on either side would be sufficient to enable safe passage of the proposed loads. He did not accept the argument put forward by OPS that the road width should be at least 7.5m, as he stated that this would not create a safer road network for vulnerable users as vehicular traffic would be faster etc. He recommended passing bays prior to sections of the road that could not be widened to 6.5m total. Mr Tong also stated that local widening at tight bends would be required to enable passage of the HCV units.

In terms of operating speed, Mr Tong was of the opinion that 40km would be optimum, as the current speed limit of 60km would not be conducive to safety for all road users. Mr Tong elaborated on the various points where he considered the recommended speed limit of 40km would enhance safety. He also stated that a 2 minute delay was considered a maximum acceptable delay by road users.

Mr Tong also discussed the proposed conditions that related to traffic matters. In this discussion, he disagreed with the Applicant removing some of the proposed conditions and incorporating them into TMPs, as he did not consider the TMP process to have as many enforcement options.

Dr Paul Blaschke - Ecology

With regard to the sedimentation levels in the Makara Estuary presently and anticipated in the future, Dr Blaschke noted that a precautionary approach to sedimentation should be taken, while bearing in mind the scale of present and likely future disturbances, compared with those in the past. Dr Blaschke strongly recommend baseline and trend monitoring of the Makara Estuary as a condition of consent, along with more fundamental studies of estuary biota and processes by Greater Wellington.

Initially Dr Blaschke did not support the proposed locations of turbines F13 & F14 unless Applicant demonstrate that it could successfully adapt erosion control to these particular sites to achieve an exceptional performance standard of erosion and sediment control. Dr Blaschke considered the Applicant to have shown this additional information, and as such he was satisfied that adverse ecological effects from these two turbine locations can be managed to acceptable levels, and proportionate or less than effects from some other proposed turbine locations.

The evidence that was presented that lead Dr Blaschke's change in opinion can be summarised as follows:

- The access track to F14 has been realigned to relocate culvert FI upstream and reduce its impacts on the Hawkins Stream tributary.
- The volume of earthworks now required is estimated at 36,000m³ (Mr Breese EIC, at 10.2). This is still a significant volume (about 5.6% of the total volume), but the bulk of that volume would come from road cuts along the whole length of

road, rather than from the immediate vicinity of the turbines, which is the closest position to the Hawkins Stream.

- These two turbine locations are at the end of a road and traffic movements on this part of the road will be relatively light during construction and very light after construction.
- Rank grass buffer strips are proposed to catch sediment overtopping grit traps or sediment ponds at the sites of the two turbines (see Sheet 142, Revision RO, Indicative SEMP Details, Turbines F13 and F14, presented as additional information by Mr Breese on about 15 August 2008). The two grass "strips" proposed in these locations are in fact irregular polygons which are at least 40m wide at the narrowest width, rather than the 5 or 10 metres suggested by Mr Fuller to be adequate. Dr Blaschke considered that the size and dimensions of the grass areas shown on Sheet 142 are appropriate, whereas 5 or 10 meter strips would not be.

Dr Blaschke originally had reservations about the widespread use of flocculation methods to treat sediment – however after hearing all of the evidence he stated that all sedimentation ponds should be managed with the use of flocculation methods due to the clear improvement of sediment retention efficiencies through the use of flocculation. In terms of mitigation for any sediment discharge events, Dr Blaschke considered a minimum of 1000m of riparian restoration to be necessary. He also recommended the Applicant consider off site mitigation measures in addition to this.

Nigel Lloyd – Acoustics

Mr Lloyd discussed in detail the proposed conditions relating to noise and stated that they were based on the West Wind conditions which resulted from intensive caucusing during the Environment Court hearing.

In his assessment of background noise measured at various residences, Mr Lloyd stated that the data demonstrates that some dwellings would be more appropriately protected by increasing the critical quiet background sound cut-off wind speed from 1.5m/s to 3.5m/s (particularly at the Bruce and Third households).

Mr Lloyd did not agree with Jeremy Trevathan that in the case of wind farms that the building will reduce outside noise by only 5dB. He went on to state that an outside wind farm noise level that complies with 40dBA L95 should readily comply with the internal recommended WHO level of 30dBA Leq.

In terms of the proposed conditions, Mr Lloyd provided background to the various conditions and responded to questions raised by submitters and Commissioners as to why they are suitable, how they work and proposed amendments corrections to be made.

Sean Lisle – WRC Compliance Officer

There have been a number of issues regarding sediment discharges and control at the West Wind site. Other aspects such as construction methodology are also addressed. These are responded to through observations made during site visits and as a result of complaints received. With regard to erosion and sediment control issues, the key is to address these as quickly as possible.

In an effort to ensure these issues are dealt with as quickly as possible "on the ground" advisory notices are issued (non-statutory enforcement tool issued on site there and then. Meridian has 1 week to remedy the situation – 9 advisory notices issued). These notices detail what has been observed and outline actions that need to be undertaken to get the issue under control. Primarily relate to erosion sediment control issues.

In addition, there is a “please explain” letter – these are for more significant issues and can have consequences regarding enforcement. These require Meridian to detail what was happening at the time of the failure e.g. Level of rainfalls, why there have been failures, what has been done to remedy/mitigate situation and what will be done to improve the situation. (Meridian has 15 working days to respond to this process – 2 issued so far). So far no enforcement action has been taken to date (enforcement actions would be those set out under the Act)

Issues resulting from on-site discharges are being worked into the discharge conditions. Mr Lisle has been involved in the formulation of proposed conditions. Agree that the Applicant has been striving for continuous improvement regarding site construction methodology. Meridian has notified WRC of any incidences.

Mr Lisle has been involved in monitoring and approval of SEMP's. There was a requirement by the Court to have SEMP's approved by WRC. Monitoring was initially weekly due to the rapid construction activity on site. Once the entire site was opened up and erosion sediment controls all set up the monitoring was cut back to fortnightly (prior to Autumn/Winter rainfall).

Mr Lisle explained that complaints are generally received through the 0800 number. WRC responds with a site visit and tries to identify the source of the sediment breach. These complaints relate mainly to sedimentation of water courses/water quality at Makara Estuary.

Primary reason for increased sedimentation is generally related to the effectiveness of the erosion sediment controls - the size/area of catchment and also maintenance issues. Monitoring points need to reflect the discharge points i.e. proximity to discharge site. Would be preferable if disposal sites are not too steep – note that Meridian has opted for the more gentle slopes where possible.

Jeremy Rusbatch & Ange Lenz – WRC Reporting Officers

Mr Rusbatch, WRC's Senior Resource Advisor, introduced the position of WRC and the issues of contention. Mr Rusbatch noted that all consents required from WRC relate to the construction phase of the project. The principal consents are those related to discharge of sediment laden water to streams, and pipe structures placed in beds of streams.

Ms Lenz discussed stream works and recommendations regarding these proposed works. It was recommended that the land use consents required to undertake stream works within OVR and BRR be granted. However, a null recommendation was recommended for the piping and associated reclamation works in the core site and Spicer Forest.

Ms Lenz expressed concern about the lack of information provided by the Applicant to show how the effects upon the loss of fish habitat and stream functions could be mitigated. She noted that as mitigation had not been adequately provided by the Applicant, the works were not consistent with the RFP, RPS and the Act. Likewise, Ms Lenz noted that additional information should be provided by the Applicant at the Hearing to address issues relating to the proposed size of the Ohariu Stream and Mill Creek culverts (A1 & C6). She stated that the proposal catered for a 1 in 10 year return period flood event, which was not adequate and highlighted a number of adverse effects that may arise as a result.

Mr Rusbatch discussed the consents relating to discharges to water. He noted that the consent required to discharge sediment laden water from the concrete batching plant be granted, and made a null recommendation for other consents to discharge sediment laden water to land. Mr Rusbatch explained that the WRC had recently moved away from its previous approach to the management and control of sediment based on a

management plan regime. Instead it now preferred one of input controls based on setting a qualitative/quantitative limit on the receiving stream environment pursuant to section 107. Mr Rusbatch acknowledged that the issues arising during the construction of Project West Wind partly contributed to this shift. However, he advised that the WRC remained open-minded on the issues and the type of information Meridian might produce during the Hearing to address the concerns and the null recommendation.

In response to matters raised throughout the Hearing WRC subsequently stated that they had amended their original recommendation and recommended that the hearing panel grant the resource consents subject to the recommended conditions of consent. The Officer's stressed that a number of the consent conditions were critical to this revised favourable recommendation, particularly those conditions relating to mitigation being undertaken within the core site and best practice being applied to the treatment of sediment laden water.

One of the key measures of the conditions was a requirement to flocculate all sediment retention ponds. In light of the proposed new conditions, WRC indicated that it was then satisfied that the SEMP management plan process, with approval by WRC, would be satisfactory in outlining how the intent of the conditions would be met. WRC maintained throughout the Hearing the need for monitoring the effects of an earthworks site of this scale, noting that there would be at least 10 sediment retention ponds, or 1 pond for every kilometre of road as well as discharges from sediment retention ponds associated with fill sites in the catchments.

Furthermore, WRC considered that, despite the imposition of conditions, significant adverse effects were likely as a result of the Applicant's proposal (given the nature of the terrain and the climate of the area), and recommended a requirement to undertake mitigation for the anticipated adverse effects of sediment discharges (and the stream works) in the form of riparian planting.

Rachel Pawson and Lisa Hayes – WCC (and PCC) Reporting Officers

Ms Pawson, WCC's Senior Planner, introduced the position of Wellington City Council and Porirua City Council and summarised the main issues of the proposal and the City Councils' conclusion. The Planning Report, prepared by Ms Pawson and Ms Hayes, having been circulated to all parties prior to the hearing was taken as read.

Ms Pawson summarised the main issues being those related to operational noise effects, traffic effects associated with construction, the visual amenity effects on neighbouring properties, the impact on the natural character of the coastal environment and the effects from sedimentation and erosion associated with the proposed earthworks. Ms Pawson noted that in a large part, Wellington City Council deferred consideration of the sedimentation and erosion effects to WRC due to their increased level of expertise in this area.

Ms Pawson recommended approval of Project Mill Creek, subject to removal of the entire G series and F13 and F14 turbines. This recommendation was based particularly on grounds of visual amenity and ecological effects. In discussion, Ms Pawson explained that the F series along the edge of the coastal environment and area identified by Mr Hudson as an outstanding natural landscape underwent a robust assessment in terms of appropriateness in terms of section 6(a) and 6(b). She noted that the appropriateness of the development in this instance would take precedence over the preservation of the natural character, of the coastal environment and outstanding natural landscape.

In terms of weighting of relevant District Plan Changes, Ms Pawson noted that Plan Changes 32 and 33 should be accorded significant weight, as they had progressed

significantly through the appeal process. She noted that Plan Change 65 should however only be accorded little weight, as it is only early stage of the process. Ms Pawson also stated that the Ohariu Valley Community Plan and Makara Community Plan were guiding documents, which have no statutory weight.

In response to matters raised throughout the Hearing Ms Pawson discussed various points of clarification, which had been raised by submitters, the Applicant and Commissioners. In particular, Ms Pawson discussed the receiving environment and reiterated that Wellington City Council's view, as supported by Legal Counsel, as being "*only properties with all relevant resource consents can be considered as part of the receiving environment*". Ms Pawson clarified the Wellington City Council's position on the weighting of Plan Changes 32 & 33 – PC32 should be accorded significant weight, while PC33 should be accorded some weight, but not significant or overriding weight. Again, Ms Pawson noted that this was advised by Wellington City Council's Legal Counsel. Ms Pawson also covered jurisdictional matters and sought to clarify the process of obtaining approval for subdivision and construction of dwellings in the Rural Area. She also discussed the role of the existing Community Liaison Group currently operating.

Based on information provided throughout the hearing and as advised by Mr Hudson, Ms Pawson also presented a change in recommendation. In addition to the original recommendation by Wellington City Council, Ms Pawson stated that further additional turbines were recommended for removal, based purely on visual effects, and it was these effects that warranted their removal. The additional turbines recommended for removal consisted of the K series and F11. Subject to the recommended turbines removal, Ms Pawson noted that Project Mill Creek meets the objectives and policies of the Wellington City Council and Porirua City Council District Plans and Part 2 of the Act. In addition, Ms Pawson submitted revised recommended conditions of consent.