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Ref: Castle WEF

Savannah Environmental (Pty) Ltd
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Attention: Ms. Hermien Slabbert / Thalita Koster

Dear Madam

SPECIALIST STUDY: NOISE IMPACT ASSESSMENT: PROPOSED CASTLE WIND ENERGY FACILITY EAST OF DE AAR: CHANGE OF WIND TURBINE SPECIFICATIONS

The above-mentioned issue as well as report SE-JCWEF/ENIA/201408-Rev 1 is of relevance.

I conducted an Environmental Noise Impact Assessment (ENIA) during September 2014 for the proposed Castle Wind Energy Facility (WEF). With the input data as used, this assessment indicated that the proposed project will have a noise impact of a **low significance** on all Noise Sensitive Developments (NSDs) in the area during both the construction and operational phases using the Vestas V112 3.0MW wind turbine for all wind speeds. This wind turbine has a maximum sound power generation level of 107.0 dBA. The projected maximum noise levels would be less than 36 dBA at the closest NSD.

The wind energy market is fast changing and adapting to new technologies as well as site specific constraints. Optimizing the technical specifications can add value through, for example, minimizing environmental impact and maximizing energy yield. As such the developer has been evaluating several turbine models, however the selection will only be finalized at a later stage once the most optimal wind turbine are identified (factors such as meteorological data, price and financing options, guarantees and maintenance costs, etc. must be considered).

Because of the availability of more optimal or efficient wind turbines, the developer of the Castle WEF is considering changing the wind turbine specifications. As the specifications of the final selection are not yet defined, this review evaluates a potential worst-case scenario, with a wind turbine with a sound power emission level of 109 dBA. Other changes include:

- Rotor Diameter increase from up to 150 to **between 110 to 200m**
- Hub height from up to 130 m to **between 90 to 150m**
- Individual turbine capacity from up to **4.5 MW to up to 7.9 MW**

All of the proposed wind turbines are further than 1,000m from any potential noise-sensitive receptors and even with the higher potential sound power emission level (worst-case of 109 dBA), the maximum projected noise level will be less than 38 dBA at the closest NSD.

Considering the location of the wind turbines and the potential noise impact, it is my opinion that the change will not increase the significance of the noise impact. A full noise impact assessment with

new modeling will not be required and the findings and recommendations as contained in the previous document will still be valid. Therefore, from a noise perspective these changes are acceptable.

Should you require any further details, or have any additional questions, please do not hesitate to call me on the above numbers.

Yours Faithfully,


Morné de Jager
Enviro-Acoustic Research cc

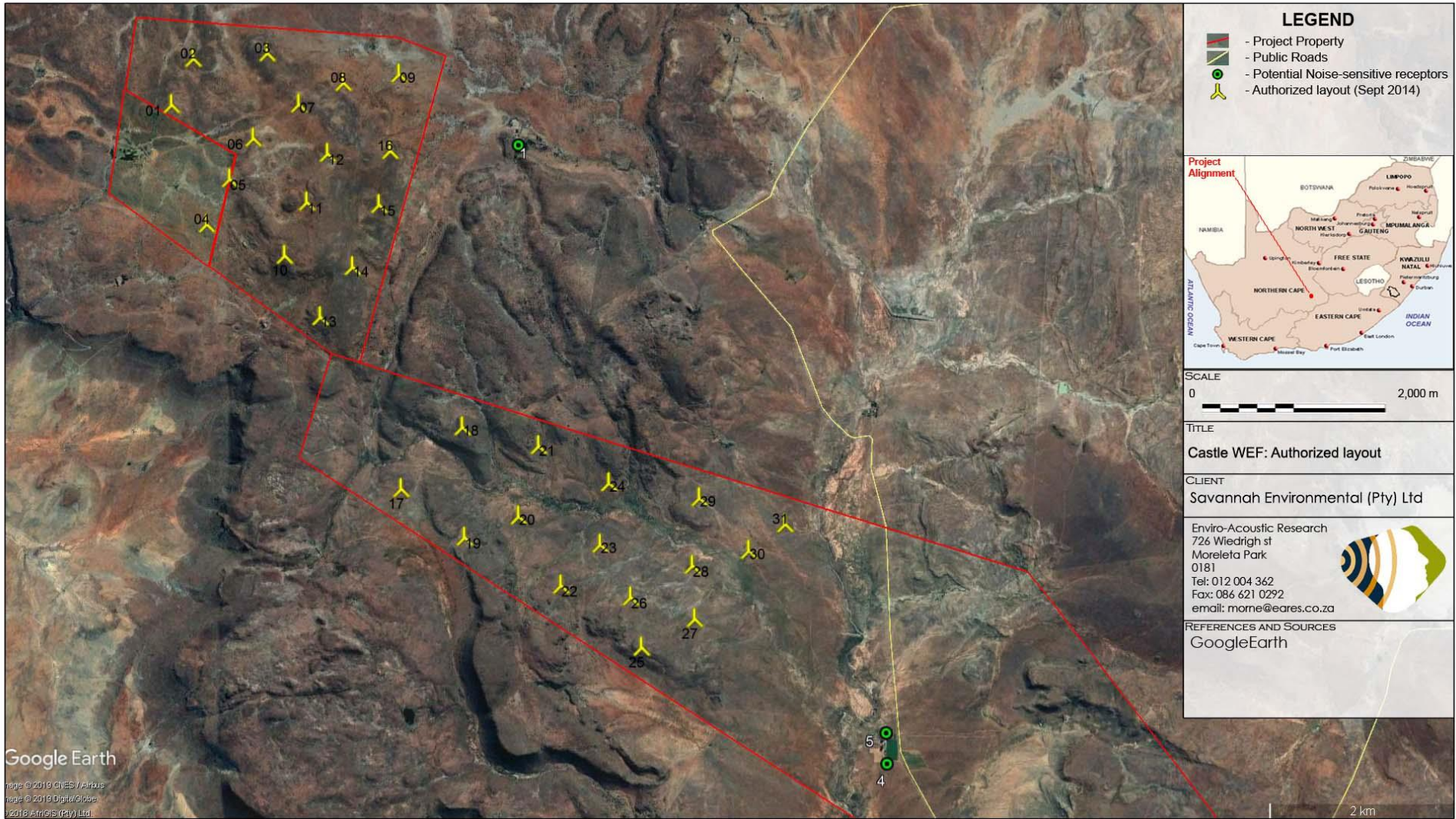


Figure 1: Locations of wind turbines compared evaluated