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05 November 2019

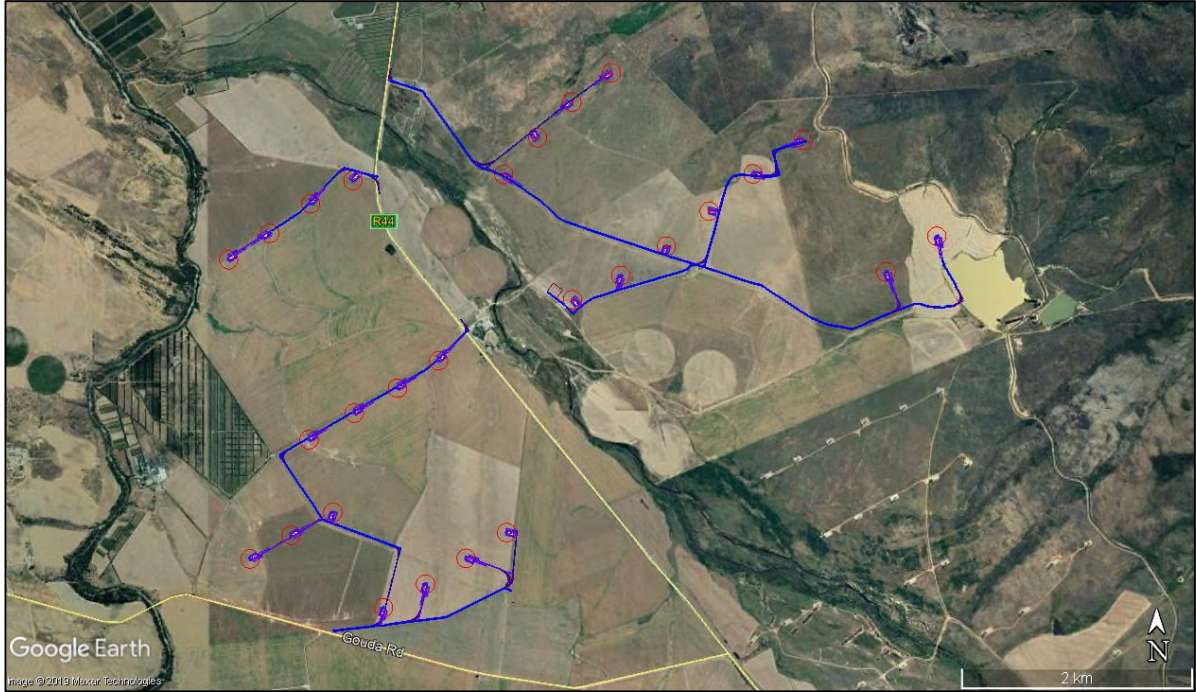
**RE: Amendment Application for the ZEN Wind Energy Facility DEA ref. 14/12/16/3/3/2/322**

FE Bonne Esperance (Pty) Ltd has requested several amendments to the authorised Zen Wind Energy Facility. The Environmental Authorisation (EA) Amendment Application proposes changes to the final layout and number of turbines and consequently Savannah Environmental has requested a comparative assessment and comments from 3Foxes Biodiversity Solutions on the ecological implications of the proposed changes to the layout. The intended amendments include:

- Reduction in the number of turbines from 46 to 27;
- Increase rated power of turbines from 3 MW to up to 6 MW per WTG
- Increase rotor diameter from 122 m to up to 165 m;
- Increase hub height from 110 m to up to 140 m;
- Increase in the overall capacity of the wind energy facility from 140 MW to up to 147 MW;
- Potential increase to dimensions of the crane pad and laydown area (storage area per turbine);
- Increase in the concrete foundation from 20m x 20m x 4m to 25m x 25m x 6m;
- Update of the layout; and
- Change the holder of the EA.

As the layout of the facility will be affected by these changes, Savannah Environmental has requested confirmation regarding the assessed impacts in terms of the following:

1. Discussion on the change in impact or any new impacts, if any
2. Additional mitigation measures, if any
3. Any disadvantages and advantages that may result due to the amendment



**Figure 1.** The amended layout for the Zen Wind Energy Facility, showing the new 27 turbine layout of the facility.

**1. Change in Impact or any New Impact Due to the Proposed Amended Layout**

I have reviewed the proposed amended layout in reference to both the original assessed layout as well as the ecological sensitivity of the site. A comparative assessment of the original assessed ecological impacts and the impacts of the amended layout is provided below in Table 1. The amended layout remains within the low sensitivity parts of the site and as a result, there are no impacts that have increased as a result of the amendment. Consequently, there are no impacts associated with the proposed changes to the layout that would increase terrestrial ecological impacts as compared to those originally assessed.

**Table 1.** Impacts as originally assessed for the Zen Wind Energy Facility and the likely impact associated for the same impacts for the amendment.

Impact	Original Assessment		Amendment
	Pre Mitigation	Post Mitigation	Post Mitigation
Loss of Vegetation and Listed Species	Medium	Low	Low
Faunal Impacts	Medium	Low	Low
Alien Plant Invasion Risk	Medium	Low	Low
Increased Erosion Risk	Medium	Low	Low

Reduced Landscape Connectivity	Medium	Low	Low
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## **2. Additional Mitigation Measures**

No additional mitigation measures or changes to the EMPr mitigation measures would be required in terms of this amendment because no significant change to impacts or new impacts will occur. All the original avoidance and mitigation measures as indicated in the original ecological study are still relevant and applicable to the amended layout and must be implemented.

## **3. Advantages and Disadvantages of the Proposed Amendment**

The major changes to the development in terms of the current amendment is the reduction in the number of turbines and the associated increase in their size. However, as the total footprint of the facility will decrease, and no high sensitivity areas would be impacted, the changes are seen as positive or neutral and as such, there are no disadvantages of the amended layout as compared to the original assessed layout. As such, the amendment is supported from an ecological perspective as it would not increase or change any impacts or lead to new impacts associated with the development and implementation of the amended layout.

## **Conclusions and Summary Findings**

- The amendment is supported from an ecological perspective as it will result in similar assessed impacts on fauna, flora and habitats at the site. Consequently, the proposed amended layout would not result in a change in the assessed impacts and no adjustment to the original assessed impacts is required.
- The Zen Wind Energy Facility amendment is supported in terms of terrestrial ecology impacts. Overall, the impact of the amended layout on fauna and flora would be similar to the authorised layout and there are no fatal flaws or critical issues associated with the proposed changes.
- In addition, the cumulative impacts associated with the amended layout are similar to the original layout and are considered acceptable. As a result, the amendment is supported from an ecological perspective as it will not result in an increase in the significance in any of the assessed ecological impacts.

Prepared by Simon Todd

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