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CK 2007/043724/23  
VAT No. 4690249976

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12 April 2022

To: Savannah Environmental (Pty) Ltd  
1st Floor, Block 2, 5 Woodlands Drive Office Park,  
Cnr Woodlands Drive & Western Service Road  
Woodmead  
2191

**PROPOSED AMENDMENT TO THE AUTHORISED ABO WIND LICHTENBURG 3 PV PROJECT (DEA REF 14/12/16/3/3/2/1091).**

**Background to Project**

The solar energy facility will have a contracted capacity of up to 100MW and will comprise the following key infrastructure components (Figure 1):

- Arrays of PV panels (either static or tracking PV systems) with a generation capacity of up to 100MW.
- Mounting structures to support the PV panels.
- On-site inverters to convert the power from Direct Current (DC) to Alternating Current (AC) and a substation to facilitate the connection between the solar energy facility and the Eskom electricity grid.
- An on-site 88/132kV substation.
- Battery Energy Storage System (BESS), with a capacity of up to 500MW/500MWh, an extent of no more than 5ha, and a maximum height of 3.5m
- A new 88/132kV power line between the on-site substation and the existing Watershed Main Transmission Substation (MTS).
- Cabling between the project components (to be laid underground where practical).
- Offices and workshop areas for maintenance and storage.
- Temporary laydown areas.
- Internal access roads and fencing around the development area.



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ABO Wind Lichtenburg 3 PV (Pty) Ltd is now considering the following amendments (Figure 2 and Figure 3):

- a change in the capacity of the step-up/on-site substation from 88/132kV to 33/132kV;
- a change in the location of the step-up/on-site substation;
- consideration of the Grid Connection Corridor Alternative 2 as the preferred grid corridor. Furthermore, an extension to this corridor is proposed so that the proposed Collector (on-site/step-up) Substation Complex on Lichtenburg 3 PV is located within the corridor;
- a substitution of the wording from "a new 132kV overhead power line from the on-site Substation to the Mmabatho/Watershed DS 1 88kV power line", with "a 132kV power line from the Lichtenburg 3 PV facility Collector Substation Complex to the Eskom Watershed Substation."
- The Collector (on-site/step-up) Substation Complex will be the point where all electricity from Lichtenburg 3 PV and other projects is collected and is evacuated to the Eskom Watershed Substation. Therefore, only one 132kV power line will be built from the Collector Substation Complex and will terminate at the Eskom Watershed Substation.

### **Terms of Reference**

The terms of reference are to:

- Determine whether the proposed amendments will have an effect on the assessed impacts of the 2018 Avifaunal Impact Assessment Report.
- If there will be any additional impacts, such impacts (when identified) should be assessed in accordance with the methodology specified by Savannah Environmental.
- Determine any potential advantages and/or disadvantages associated with the proposed amendments;

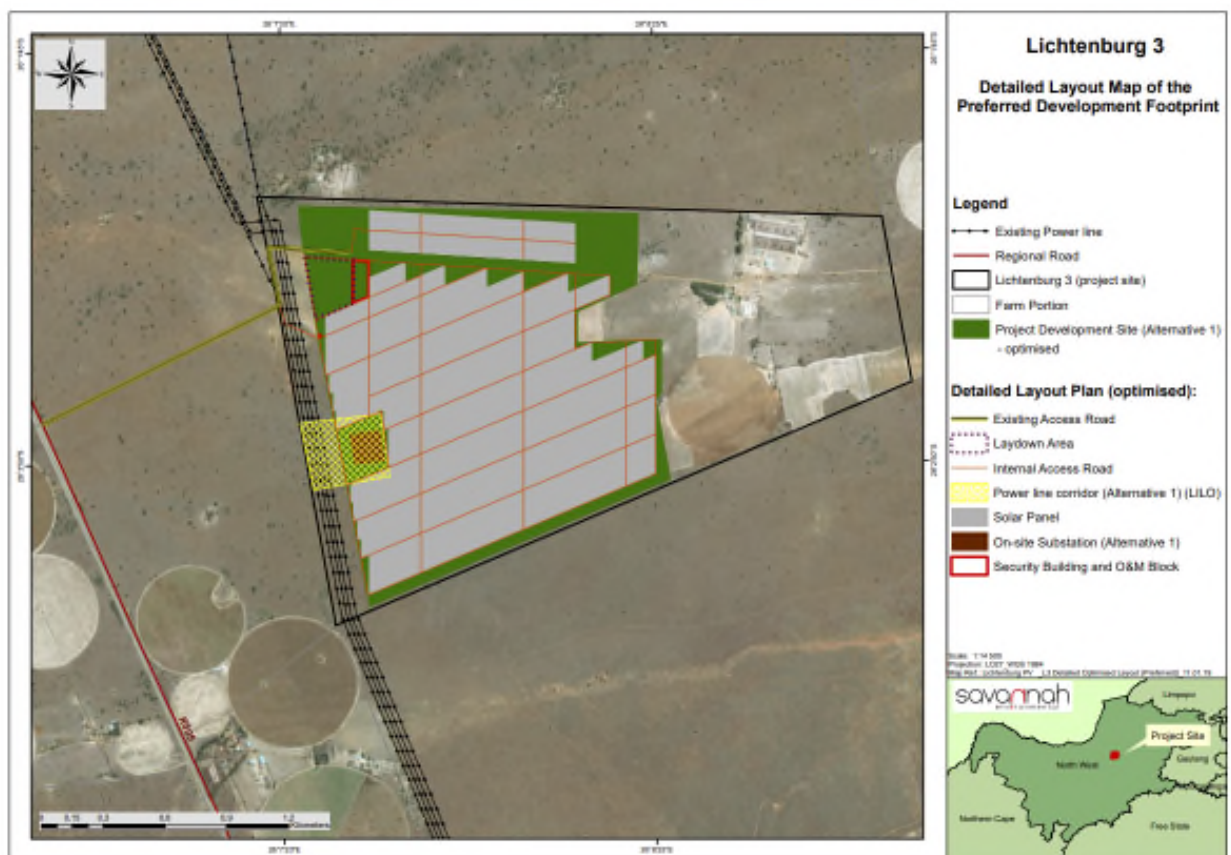


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- Provide measures to ensure avoidance, management and mitigation of impacts associated with such proposed changes, and any changes to the existing EMPr.



**Figure 1:** A map illustrating authorised layout of the proposed ABO Wind Lichtenburg 3 PV Facility.



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**Figure 2:** A map illustrating the proposed connection extension (in yellow) and the Alternative 2 Grid Connection Corridor (in green) as the preferred grid connection corridor.

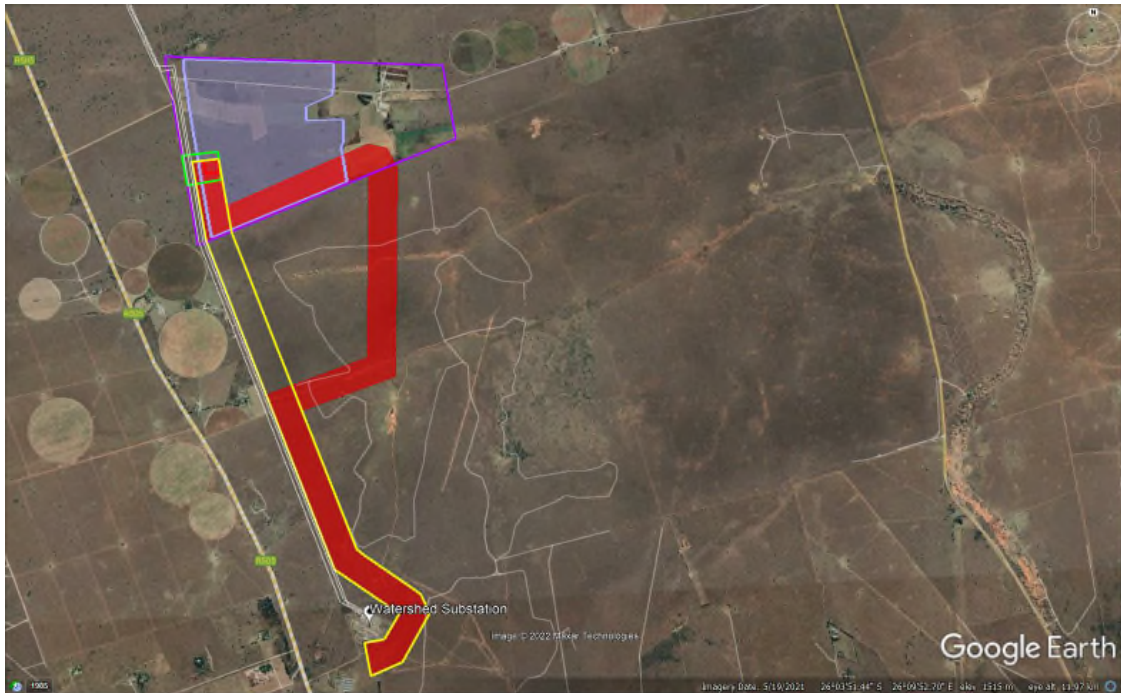




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**Figure 3:** A map illustrating the proposed Alternative 2 Grid Connection Corridor (in yellow) as the preferred grid connection corridor, instead of Alternative Grid Connection 3 (in red).

### Locality

The study site comprises the Remaining Extent of Portion 02 of Farm Zamenkomst No 04, located approximately 10km north-north-west of Lichtenburg, in Ward 16 of the Ditsobotla Local Municipality, of Ngaka Modiri Molema District, North West Province.



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## Background to the 2018 Avifaunal Impact Assessment

Baseline avian data was obtained from point count sampling techniques during two independent sampling sessions (July 2018 and October 2018). The objectives of the avifaunal study were to: (a) describe the avifauna associations in the project area according to species composition and richness prior to construction activities; (b) provide an inventory of bird species occurring in the project area including species prone towards collisions with the proposed infrastructure; (c) provide an impact assessment; and (d) provide an indication of the occurrence of species of concern (e.g. threatened and near threatened species).

Five avifaunal habitat types were identified and consisted of open mixed dolomite grassland with bush clump mosaics, artificial livestock watering points, moist/wet grasslands, pastures/agricultural land and power line servitudes of which the pylons were used for roosting by vultures. Approximately 206 bird species are expected to occur in the wider study area, of which 100 species were observed in the area with 87 species confined to the study site (infrastructure footprint). The expected richness included 12 threatened or near threatened species, 15 southern African endemics and 21 are near-endemic species. The critically endangered White-backed Vulture (*Gyps africanus*) and near-threatened Black-winged Pratincole (*Glareola nordmanni*) were observed on the study site, although the endangered Cape Vulture (*G. coprotheres*) and endangered Lappet-faced Vulture (*Torgos tracheliotos*) were confirmed from habitat adjacent to the study site. Nine southern African endemics and 10 near-endemic species were confirmed on the study site. In addition, a total of 48 collision-prone bird species have been recorded from the wider study area (sensu atlas data), of which 23 species were birds of prey.

The main impacts associated with the proposed PV solar facility include the following:

- The loss of habitat and subsequent displacement of bird species due to the ecological footprint required during construction.
- Direct interaction (collision trauma) by birds with the surface infrastructure (photovoltaic panels) caused by polarised light pollution and/or colliding with the panels (as they are mistaken for waterbodies).



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- Collision with associated infrastructure (mainly overhead power lines).

An evaluation of potential and likely impacts on the avifauna revealed that the impact significance was **moderate** after mitigation (depending on the type of impact), with the exception of the potential for birds to collide with the associated power lines, which was **high without mitigation** (and **moderate after mitigation**). The study site is not located near any prominent wetland system or impoundment, and therefore the risk of waterbird collisions with the proposed infrastructure was considered to be low.

The endangered Cape Vulture (*Gyps coprotheres*), critically endangered White-backed Vulture (*Gyps africanus*) and Lappet-faced Vulture (*Torgos tracheliotos*) were identified as regular foraging visitors to the study site (according to SABAP2 reporting rates and on-site observations). These species are highly prone to power line collisions, whereby the proposed energy facility (especially the proposed overhead power lines) could pose a collision and electrocution risk to vultures. The risk of collision/electrocution was considered likely when vultures feed on a carcass in close proximity to a power line or when attempting to roost on the pylon structures (especially vultures visiting a nearby active vulture restaurant). However, with mitigation, the risk of vultures colliding with the associated infrastructure could be reduced from **a high to a medium** significance.

#### **Avifaunal Sensitivity (according to amendments)**

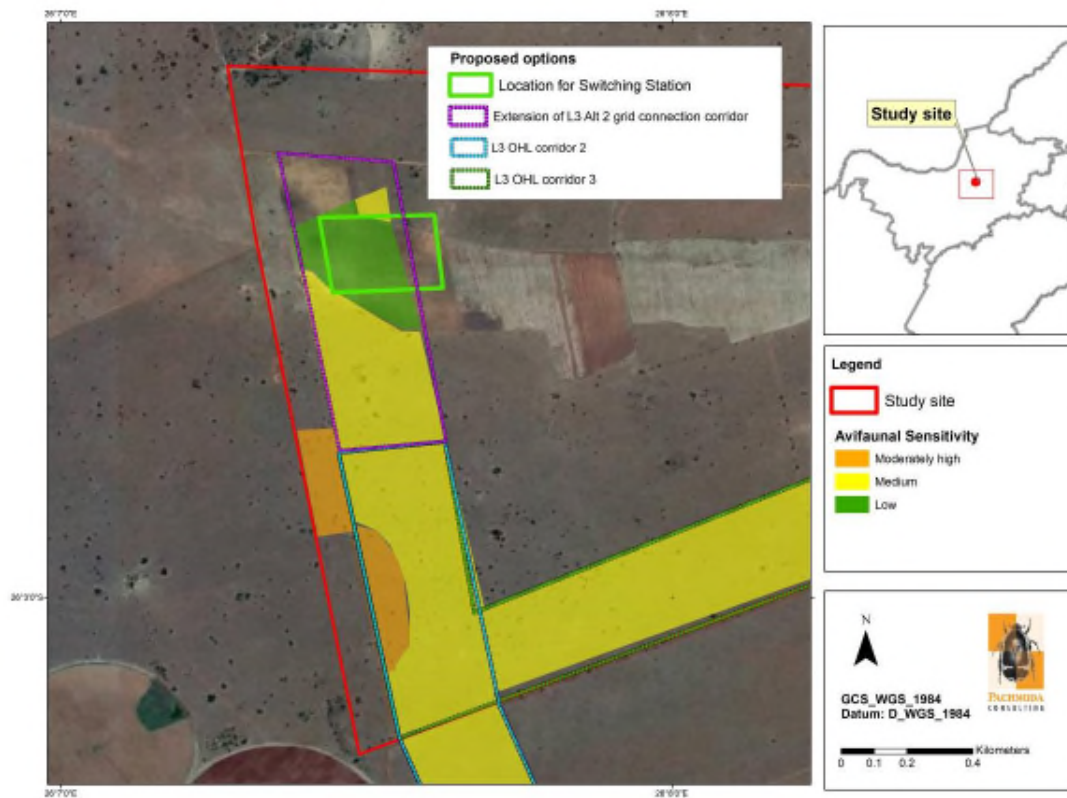
According to Figure 4 and Figure 5, it is evident that the footprint of the proposed amendment features coincides with avifaunal sensitivities that have remained unchanged when compared to the assessment done in 2018.



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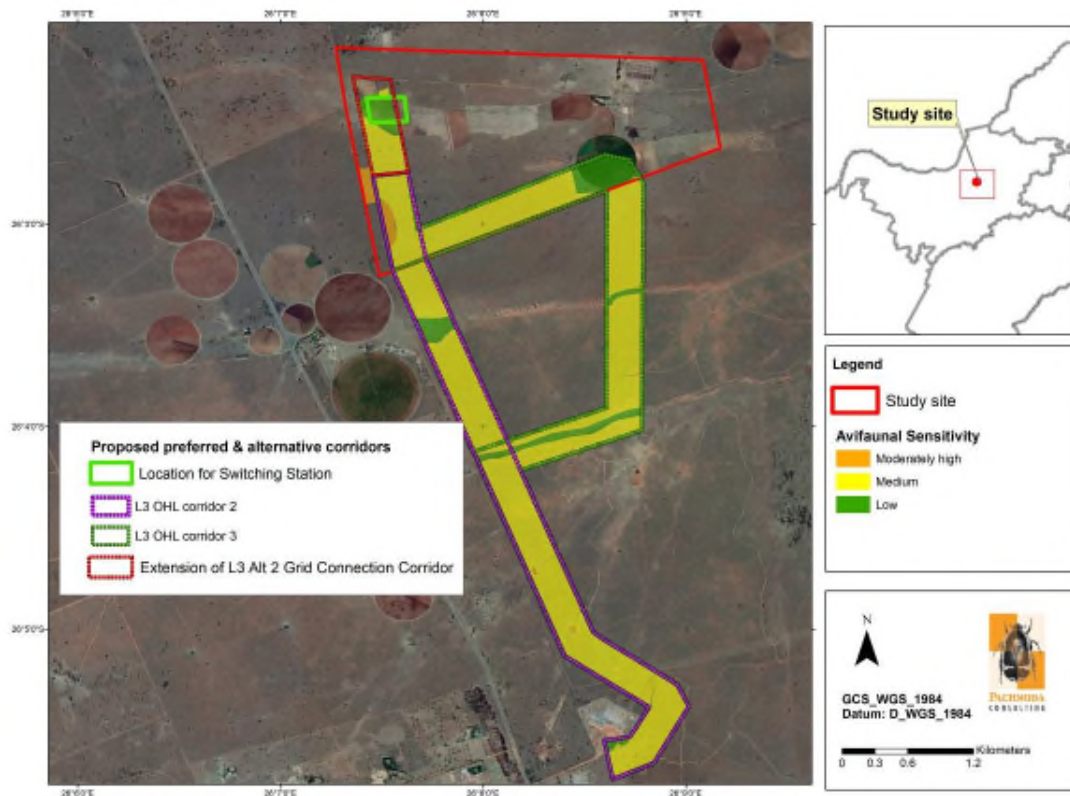
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**Figure 4:** A map illustrating the avifaunal sensitivity on the proposed Lichtenburg 3 PV connection extension (in purple) as assessed during 2018.





**Figure 5:** A map illustrating the avifaunal sensitivity of Alternative 2 Grid Connection Corridor (in purple) as assessed during 2018.

### Conclusion and recommendations

In summary, all impacts as presented in the 2018 Avifaunal Report will remain **unchanged** during the implementation of the proposed amendments, which will have **no change** in the overall impact significance. In addition, the Collector (on-site/step-up) Substation Complex will be located on a habitat with low avifaunal sensitivity (c. agricultural land) and will cover a small surface area, which will result in a low impact significance rating (when compared to the PV layout).



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The Alternative 2 Grid Connection Corridor is located alongside existing power line servitudes (in contrast to a section of Alternative Grid Connection 3 which deviated from the existing powerline servitudes), and the **advantage** of the Alternative 2 Grid Connection Corridor is that its placement along existing power lines will greatly increase the visibility of the overhead cables to passing birds (during daylight), thereby reducing avian collision with the overhead cabling structures. Therefore, the impact of avian collisions at the Alternative 2 Grid Connection Corridor is predicted to be lower when compared to Alternative Grid Connection 3 (refer to the 2018 Avifaunal Report).

Nevertheless, it is recommended that all the proposed mitigation measures and EMP actions be rigorously implemented as stipulated in the 2018 Avifaunal Report. However, it is further recommended that all artificial livestock watering points that are to be spanned by overhead powerline corridors be relocated/removed to prevent potential bird collisions (e.g. when birds congregate at the watering holes in an attempt to drink/ingest water or when birds of prey are hunting prey attracted to the water resource).

A handwritten signature in black ink, appearing to read "Lukas Niemand", is written over a light blue horizontal line.

Lukas Niemand  
Company Owner  
Pachnoda Consulting cc

