



SITE SENSITIVITY VERIFICATION REQUIREMENTS WHERE A SPECIALIST ASSESSMENT IS REQUIRED BUT NO SPECIFIC ASSESSMENT PROTOCOL HAS BEEN PRESCRIBED

PUBLISHED IN GOVERNMENT NOTICE NO. 320, GOVERNMENT GAZETTE 43110 OF 20 MARCH 2020

PROPOSED EXPANSION OF THE DARLING NATIONAL DEMONSTRATION WIND FARM AND ASSOCIATED INFRASTRUCTURE, WESTERN CAPE PROVINCE (DARLING 1B WIND ENERGY FACILITY)

BASIC ASSESSMENT PROCESS FOR ENVIRONMENTAL AUTHORISATION

Government Notice No. No. 320, dated 20 March 2020, includes the requirement for an Initial Site Sensitivity Verification Report to be produced for a development footprint. As per Section 1.3, the outcome of the Initial Site Verification must be recorded in the form of a report that-

- a) Confirms or disputes the current use of the land and environmental sensitivity as identified by the national web based environmental screening tool;
- b) Contains a motivation and evidence of either the verified or different use of the land and environmental sensitivity;
- c) Is submitted together with the relevant reports prepared in accordance with the requirements of the Environmental Impact Assessment Regulations.

This report has been produced specifically to consider the **flicker theme** and addresses the content requirements of (a) and (b) above.

a) CONFIRMS OR DISPUTES THE CURRENT USE OF THE LAND AND ENVIRONMENTAL SENSITIVITY AS IDENTIFIED BY THE NATIONAL WEB BASED ENVIRONMENTAL SCREENING TOOL

Based on the DEFF Screening Tool, the site is overlain by a very high sensitivity due to the presence of '*potential temporarily or permanently inhabited residence*' (Figure 1).



Figure 1: Map of the Relative Flicker Theme Sensitivity

Table 1 below provides for the EAPs 'confirmation / dispute' of the land and environmental sensitivity as identified by the National Web Based Environmental Screening Tool.

Table 1: Specialist assessments identified in terms of the national web-based screening tool for the proposed development

Identified Specialist Assessment	Assessment Protocol	Identified Sensitivity		Comment
		By DEFF Screening Report	By Specialist / EAP	
Flicker Assessment	Site Sensitivity Verification requirements where a specialist assessment is required but no Specific Assessment Protocol has been prescribed, gazetted 20 March 2020.	Very High Sensitivity	Low Sensitivity	<p>Although noise and flicker are two separate themes within the DEFF Screening Tool, the sensitive features ('dwellings') are the same for both themes.</p> <p>In Arcus' experience, the separation distances required to ensure noise effects are not significant and also provide sufficient setback to ensure shadow flicker effects are also not significant. Shadow flicker constraints are thus catered for to some degree by the noise related spatial constraints and buffers. No further flicker assessment was conducted during the application process as mitigation measures identified by the noise impact assessment applies to this theme. Refer to Noise Impact Assessment Report, Volume II.</p>

b) CONTAINS A MOTIVATION AND EVIDENCE OF EITHER THE VERIFIED OR DIFFERENT USE OF THE LAND AND ENVIRONMENTAL SENSITIVITY

Based on the above outcomes, the EAP disputes the environmental sensitivities identified on site. There is no reason for the development not to proceed based on the results of the assessment and no objection is made. Potential residential dwellings have been identified through the examination of digital mapping as part of the Noise Impact Assessment for the Proposed Development, as well as aerial photography and mapping showing the location of potential buildings. The potential buildings shown in Figure 2 have been compared with the corresponding location on aerial photography.

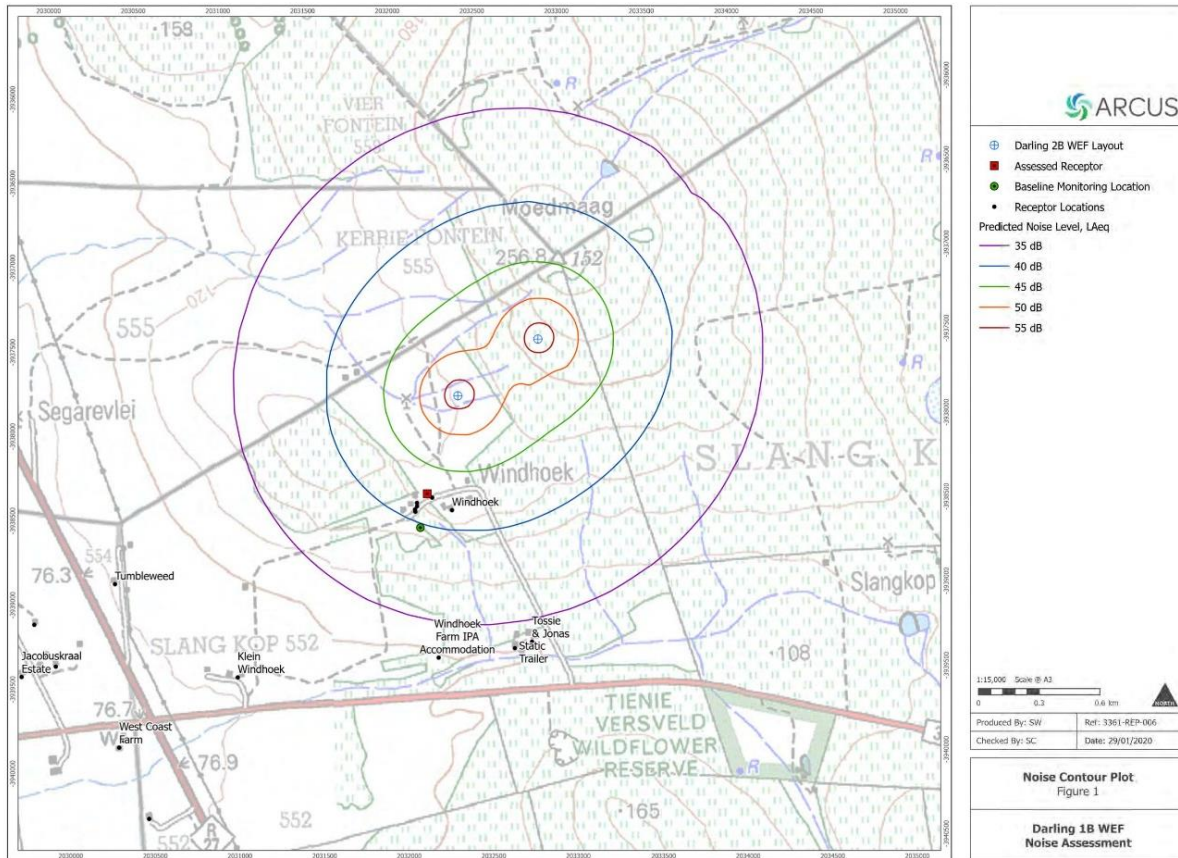


Figure 2: Map of the Noise Sensitive Receptors of the Surrounding Environment

As effects during the construction phase are temporary in nature, the likelihood of complaint is reduced in comparison to longer-term effects such as operational noise. Areas where the construction noise is predicted to be below the typical rural SANS 10103 rating level (45 dBA) have been designated to have no impact. It has been considered appropriate to define the desired rating level for construction noise according to Table 1.2 below for daytime noise:

Table 1.2: Darling 1B WEF - Predicted Construction Noise Levels, dBA, $L_{Req,T}$

Activity	Predicted Rating Level dBA, $L_{Req,T}$	Impact Severity	
		Day	Night
Construction of Tracks / Laydown Areas	70	Very High	None
Excavation and Concreting of Turbine foundations	50	Low	None
Turbine Erection	49	Low	None
Generator	47	None	Low

As can be seen, worst-case potential impacts from construction of the Development are Very High during the construction of tracks and hardstanding at the nearest noise-sensitive development located within the Windhoek area. However, this is limited to the construction of the closest sections of track / laydown areas only. Intensity impacts of Low or None are predicted for all other daytime and night-time activities.

Table 1.3 shows the maximum predicted noise level during operation at the nearest noise-sensitive property to the Development.

Table 1.3: Predicted Operational Noise Levels, dBA, $L_{Aeq,T}$

Receptor Name	Distance to nearest turbine (m)	Grid Reference of dwelling (UTM 34S)		Predicted Maximum Rating Level dBA, $L_{Aeq,T}$	Impact Severity
Windhoek	510 (T2)	244497	6309418	42 dB	Low

The predicted maximum operational noise level at the nearest noise-sensitive development is 42 dB, $L_{Aeq,T}$, resulting in an impact intensity of Low. Noise sources during decommissioning would be similar to, though fewer than those during construction and the duration shorter. Effects during decommissioning would therefore be no greater than those during construction.

With regard to shadow flicker, effects are transient, and can be mitigated via the turbines control software if required. As such, producing hard constraints may unnecessarily reduce the Development's generating capacity and have therefore not been provided. However, in Arcus' experience, the separation distances required to ensure noise effects are not significant also provide sufficient setback to ensure shadow flicker effects are also not significant. Shadow flicker constraints are thus catered for to some degree by the noise related spatial constraints and buffers.

Figure 2 overleaf shows the areas that have been identified as no-go zones (500m) from a confirmed or potential dwelling during the Screening phase.

In conclusion, the DEFF Screening Tool identified one sensitivity rating within the development footprint, namely, Very high. Although there is some overlap with the findings on site and the Screening Tool's outcome, the confirmed dwellings on site have been buffered by 500m which is designated to be no-go zones.

The sensitivity input received from the noise specialist will be taken forward and considered within the Basic Assessment (BA) process and the impact to these areas assessed. Appropriate layout and development restrictions has been implemented within the development footprint to ensure that the impact to noise and flicker is deemed acceptable by the noise specialist.

c) IS SUBMITTED TOGETHER WITH THE RELEVANT REPORTS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS

The Noise Impact Assessment is contained in Volume II of the BA report.

Kind Regards,



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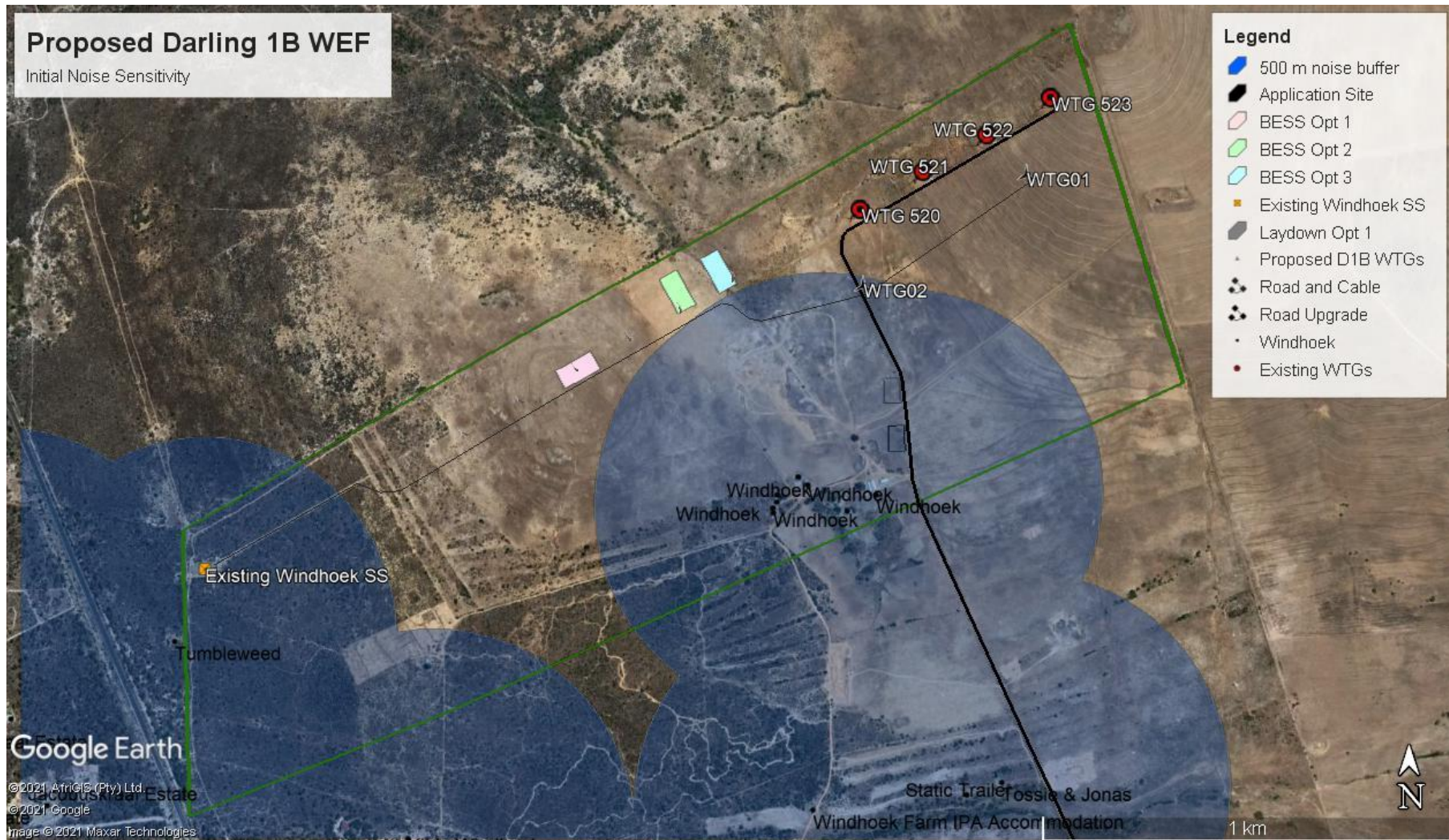


Figure 2: Environmental Sensitivity Map produced by the Noise Specialist during Screening Phase