Appendix C

Site Sensitivity Verification

PROPOSED CONSTRUCTION OF THE LEEUWBOSCH 3 SOLAR PHOTOVOLTAIC (PV) ENERGY FACILITY NEAR LEEUDORINGSTAD, NORTH WEST PROVINCE

Site Sensitivity Verification Report

DEDECT Reference:	***(*To be provided*)***
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SITE SENSITIVITY VERIFICATION
(IN TERMS OF PART A OF THE ASSESSMENT PROTOCOLS PUBLISHED IN GN 320 ON 20 MARCH 2020

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1. INTRODUCTION

The original BA process for the proposed Leeuwbosch Solar Photovoltaic (PV) plant was initiated in August 2016. All specialist studies were undertaken and subsequently all site sensitivities were identified. The BA was however put out on hold prior to submitting the final basic assessment report (FBAR) to the competent authority. Subsequently, the proponent, Leeuwbosch PV Generation (Pty) Ltd (hereafter referred to as Leeuwbosch PV Generation) revised their development proposals to accommodate two separate Solar Photovoltaic (PV) Energy facilities (SPEFs), each with a capacity of up to 9.9MW, on Portion 37 of the Farm Leeuwbosch No. 44, near Leeudoringstad, North West Province. Environmental Authorisation for both of these facilities was granted on 14 December 2021 by way of reference numbers NWP/EIA/41/2021 (Leewbosch 1 Solar PV) and NWP/EIA/45/2021 (Leewbosch 2 Solar).

Leeuwbosch PV generation is now proposing to construct a third solar photovoltaic (PV) plant and associated infrastructure on Portion 37 of the Farm Leeuwbosch No 44. The proposed development will have a maximum export capacity of up to 15 megawatt (MW) and will be known as the Leeuwbosch 3 Solar PV Plant. The proposed PV Facility will require Environmental Authorisation (EA) and as such, the project is the subject of a separate Basic Assessment (BA) in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) as amended. A visual impact assessment (VIA) is being undertaken by SLR Consulting South Africa (Pty) Ltd (SLR) as part of the required BA process.

In accordance with Appendix 6 of the National Environmental Management Act (Act 107 of 1998, as amended) (NEMA) Environmental Impact Assessment (EIA) Regulations of 2014, a site sensitivity verification has been undertaken in order to confirm the current land use and environmental sensitivity of the proposed project area as identified by the National Web-Based Environmental Screening Tool (Screening Tool).

2. SITE SENSITIVITY VERIFICATION

The site sensitivity verification exercise conducted in support of the Visual Impact Assessment (VIA) for the proposed Leeuwbosch 3 SPEF has been based on a desktop-level assessment supported by field-based observation. This verification involved an assessment of factors as outlined below.

2.1 PHYSICAL LANDSCAPE CHARACTERISTICS

Physical landscape characteristics such as topography, vegetation and land use are important factors influencing the visual character and visual sensitivity of the study area. Baseline information about the physical characteristics of the study area was initially sourced from spatial databases provided by NGI, the

South African National Biodiversity Institute (SANBI) and the South African National Land Cover Dataset (Geoterraimage – 2020). The characteristics identified via desktop means were later verified during the site visit.

2.2 IDENTIFICATION OF SENSITIVE RECEPTORS

Due to the extent of the study area and the potentially large number of receptor locations, the identification of visual receptors was undertaken via desktop means only, using Google Earth imagery.

2.3 FIELDWORK AND PHOTOGRAPHIC REVIEW

Fieldwork was originally undertaken in October 2016 (early summer) as part of a visual assessment undertaken for preliminary solar PV development proposals on the Leeuwbosch application site. Given the time that has elapsed since the original fieldwork was undertaken, a second site visit was undertaken, involving a two (2) day site visit between the 12th and 13th of August 2020 (late winter).

The purpose of the site visits was to:

- verify the landscape characteristics identified via desktop means;
- conduct a photographic survey of the study area;
- identify any additional visually sensitive receptor locations within the study area; and
- inform the impact rating assessment of visually sensitive receptor locations (where possible).

3. OUTCOME OF SITE SENSITIVITY VERIFICATION

Visual sensitivity of the broader area surrounding the proposed Leeuwbosch 3 SPEF application site was found to be low, largely due to the to the presence of degraded land and anthropogenic elements such as the Kgakala Township, R502 and R504 regional roads, high voltage power lines, Leeubos TR 132kV Traction Substation and the existing railway line, which would likely reduce the scenic quality of the area.

In addition, no formal protected areas were identified in the study area and although a significant number of potentially sensitive receptors were identified, most of these appear to be existing farmsteads. These farmsteads are regarded as potentially sensitive visual receptors because they are located within a mostly rural setting and the proposed development will likely alter natural vistas experienced from these locations, although the residents' sentiments toward the proposed development are unknown.

As a result of the relatively flat terrain and the lack of screening vegetation, PV arrays placed on the site are expected to be at least partially visible from most of the potentially sensitive receptors and as such, no areas on the site were deemed to be significantly more sensitive than the remainder of the site.

4. NATIONAL ENVIRONMENTAL SCREENING TOOL

In assessing the visual sensitivity of the proposed Leeuwbosch 3 SPEF application site, consideration was given to the Landscape Theme of the National Environmental Screening Tool. Under this theme, the tool identifies areas of "**Medium"** sensitivity in respect of solar PV development on the application site. The identification of areas of "Medium" landscape sensitivity in this instance is related to the proximity of the site to Kgakala Township. **Figure 1** below is an extract from the Screening Tool Report generated for the Leeuwbosch 3 SPEF application site.

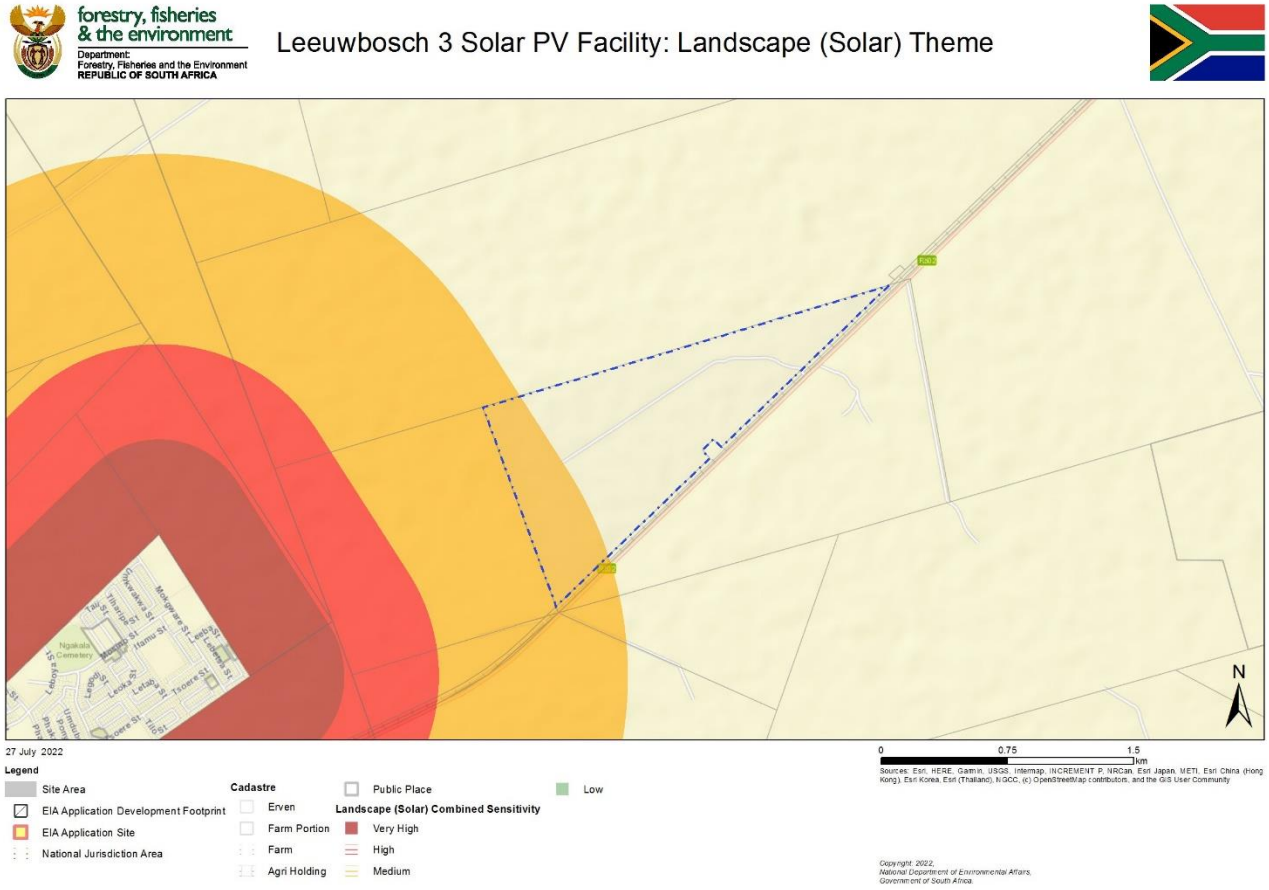

Figure 1: Relative Landscape Sensitivity for the Leeuwbosch 3 SPEF application site

It should be noted that the Screening Tool is a very high level, desktop study and as such the results of the study in respect of landscape sensitivity must be viewed against the findings of the field investigation as well as factors affecting visual impact, such as:

- the presence of visual receptors;
- the distance of those receptors from the proposed development; and
- the likely visibility of the development from the receptor locations.

This VIA has found that, although there is a relatively high concentration of receptors in the Kgakala, Township, these receptors are not expected to be sensitive to the visual impact of the proposed development due to the existing visual degradation within these areas. Urban development and electricity infrastructure have significantly altered the visual character in this sector of the study area and general degradation of the landscape has been exacerbated by significant amounts of litter in the township and the surrounding area (**Figure 2**). Accordingly, the verification did not suggest any significant level of landscape sensitivity in this area.

Figure 2: Typical landscape in Kgakala Township

5. CONCLUSION

The site sensitivity verification exercise conducted in support of the Visual Impact Assessment (VIA) for the proposed Leeuwbosch 3 SPEF has been based on a desktop-level assessment supported by field-based observation. In assessing the visual sensitivity of the proposed Leeuwbosch 3 SPEF application site, consideration was given to the Landscape Theme of the National Environmental Screening Tool, and as outlined above, the findings of the sensitivity assessment undertaken in the VIA have been verified.