

SITE VERIFICATION REPORT

December 2022

The development of Highveld Solar Power Plant, near Witbank, Mpumalanga province



ENVIRONAMICS

PROJECT DETAIL

DFFE Reference No's.	:	To be confirmed
Project Title	:	Proposed Highveld Solar Power Plant, near Witbank, Mpumalanga province
Authors	:	Mrs. Lisa de Lange Ms. Christia van Dyk
Client	:	Highveld Solar Power Plant (RF)(Pty) Ltd
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1 INTRODUCTION

This Site Verification Report is compiled in compliance with Government Notice No. 320, dated 20 March 2020, which includes the requirement for an Initial Site Sensitivity Verification Report to be produced for a development footprint. 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.

1.1 Specialist Assessments identified by the Screening Report

The DFFE Screening Tool Report (Appendix B of the Basic Assessment Report) identified the following specialist assessment to be included in the assessment:

1. Agricultural Impact Assessment
2. Landscape/Visual Impact Assessment
3. Archaeological and Cultural Heritage Impact Assessment
4. Paleontology Impact Assessment
5. Terrestrial Biodiversity Impact Assessment
6. Aquatic Biodiversity Impact Assessment
7. Civil Aviation Assessment
8. Defence Assessment
9. RFI Assessment
10. Geotechnical Assessment
11. Social Economic Assessment
12. Plant Species Assessment
13. Animal Species Assessment

The table included below provides an indication of the specialist studies identified by the DFFE Screening Tool Report, as well as an indication of whether the studies were undertaken or not and a motivation or confirmation of the studies being included or not.

Table 1.1: Specialist studies identified by the DFFE Screening tool and specialist studies conducted

Study identified in the DFFE Screening Tool and sensitivity	Study included?	Appendix
Agricultural Impact Assessment Sensitivity: Very High	Yes	An Agriculture Potential Assessment is included in Appendix D4. The high sensitivity is disputed by the report.
Landscape / Visual Impact Assessment Sensitivity: Very High	Yes	A Visual Impact Assessment is included in Appendix D3.
Archaeological and Cultural Heritage Impact Assessment Sensitivity: Low	Yes	A Heritage Impact Assessment is included in Appendix D4.
Palaeontological Impact Assessment Sensitivity: Very High	Yes	A Palaeontological Impact Assessment is included in Appendix D5.
Terrestrial Biodiversity Impact Assessment Sensitivity: Very High	Yes	A Terrestrial Biodiversity Assessment Report is included in Appendix D1. This assessment has been undertaken in terms of the Protocols of GNR320 – refer to the content of the report.
Aquatic Biodiversity Impact Assessment Sensitivity: Very High	Yes	A Wetland Assessment Report is included in Appendix D1. This assessment has been undertaken in terms of the Protocols of GNR320 – refer to the content of the report.
Avian Impact Assessment Sensitivity: Low	Yes	Avifauna Impact Assessment Report is included as Appendix D2. This assessment has been undertaken in terms of the

		Protocols of GNR320 – refer to the content of the report.
Civil Aviation Assessment Sensitivity: Low	No	Study not included. Refer to section 2 of this report for site verification.
Defence Theme Sensitivity: Low	No	Study not included. Refer to section 2 of this report for site verification.
RFI Assessment Sensitivity: Low	No	Study not included. Refer to section 2 of this report for site verification.
Geotechnical Assessment Sensitivity: Not indicated	No	The Geotechnical Assessment will be conducted before construction begins as part of the micro-siting of the facility layout. The consideration of geotechnical aspects is considered to be of a technical concern rather than an environmental concern.
Plant species Assessment Sensitivity: Medium	Yes	Refer to Appendix D1. The Terrestrial Biodiversity Impact Assessment also includes the relevant Plant Species Assessment. This assessment has been undertaken in terms of the Protocols of GNR320 – refer to the content of the report.
Animal Species Assessment Sensitivity: High	Yes	Refer to Appendix D1. The Terrestrial Biodiversity Impact Assessment also includes the relevant Animal Species Assessment. This assessment has been undertaken in terms of the

Protocols of GNR320 – refer to the content of the report.

1.2 Sensitivities of the studies not conducted

This report has been produced specifically to consider the Civil Aviation, Defence and RFI theme and addresses the content requirements of (a) and (b) above.

The sensitivities for the Civil Aviation, Defence and RFI themes associated with Highveld Solar Power Plant are as follows:

1.2.1 Civil Aviation Theme

The site sensitivity is classified as Low due to no major or other types of civil aviation aerodromes in close proximity of the project site.

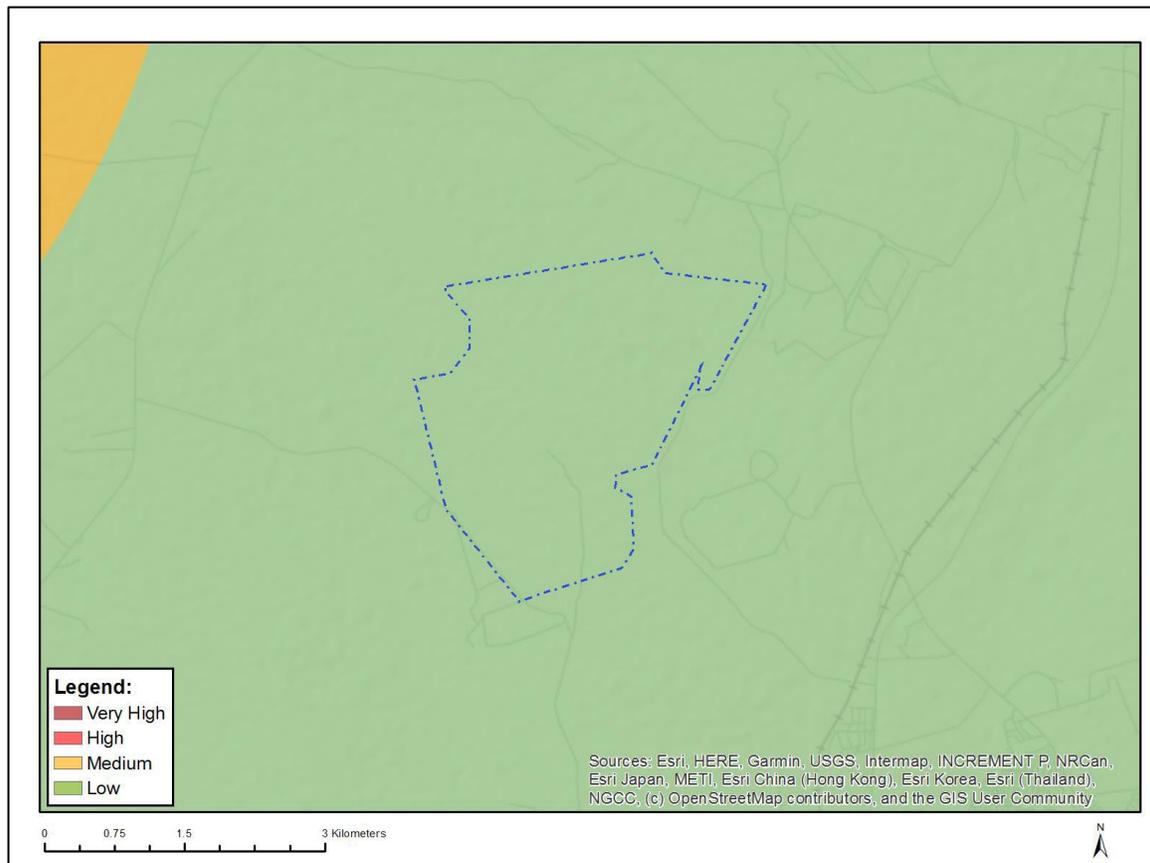


Figure 1.1: Civil aviation sensitivity as indicated by the DFFE Screening Tool Report

1.2.2 Defence theme

The defence theme is considered to be low for the proposed project. Refer to Figure 1.2 below.

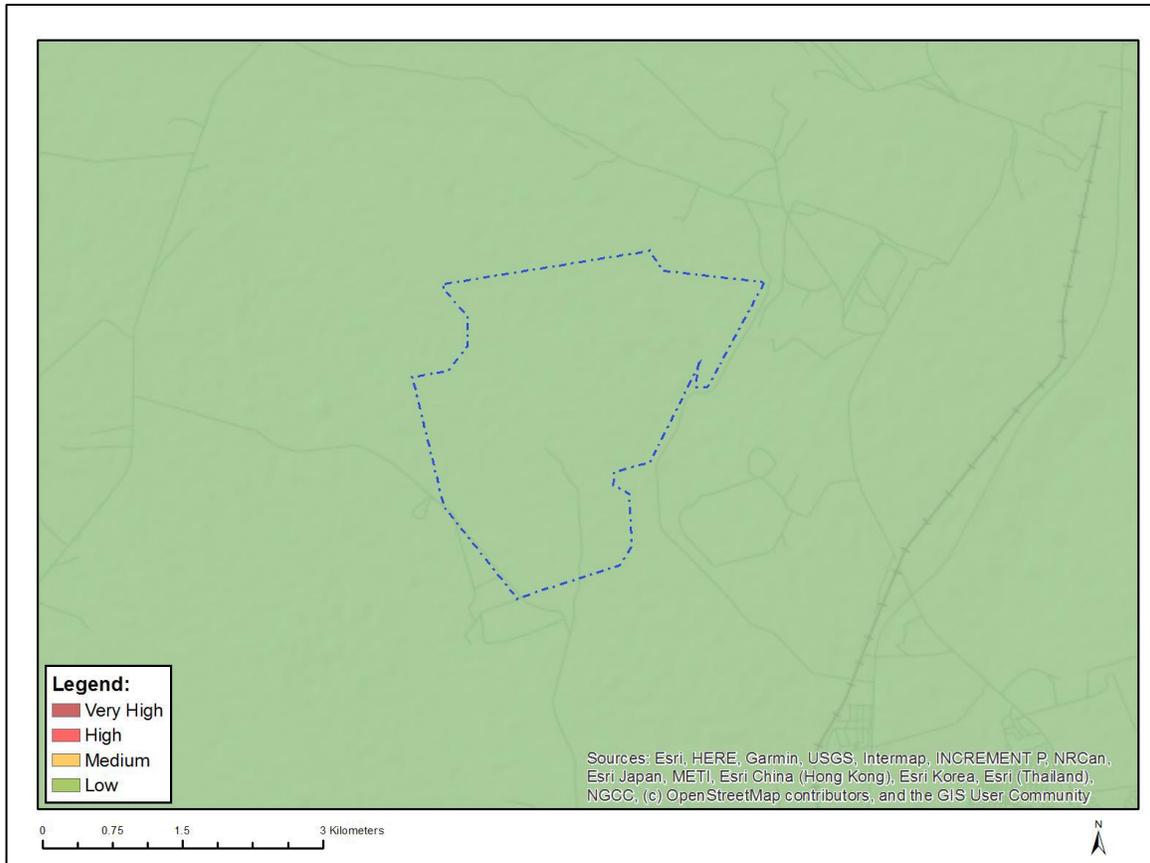


Figure 1.2: Defence theme sensitivity as indicated by the DFFE Screening Tool Report

1.2.3 RFI Theme

The sensitivity of the RFI theme is considered to be low for the proposed project. Refer to Figure 1.3 below.

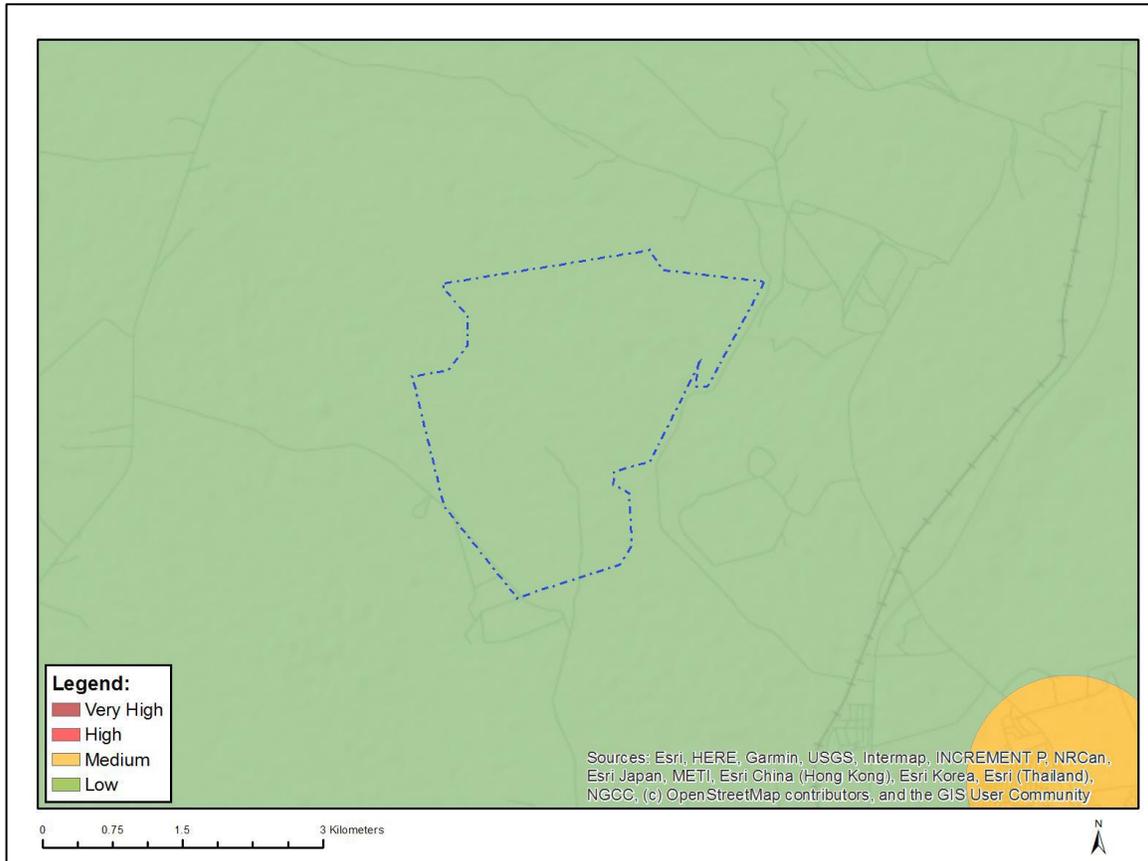


Figure 1.3: RFI theme sensitivity as indicated by the DFFE Screening Tool Report

1.3 Current/ Verified Land Use

The current land use of the property is mainly used for agricultural and mining purposes, which includes cattle grazing and other mining activities. The project is located approximately 15 km northwest of the mining town of Witbank. The majority of the project area of influence (PAOI) can be characterized by intensive mining activities, tailings dams and ESKOM infrastructure, including various high voltage lines. Refer to Figures 1.4 – 1.7 for photographs of the existing Eskom Infrastructure, mines and current land uses.



Figure 1.4: Aerial view of the PAOI



Figure 1.5: Eskom power lines and tailing storage facilities within the PAOI



Figure 1.6: Aerial view of the surrounding landscape



Figure 1.7: Current land use of the PAOI

2 SITE VERIFICATION

This section will evaluate and verify the sensitivity ratings provided by the DFFE Screening Tool Report and provide feedback from the EAP.

2.1 Civil Aviation Theme

The site sensitivity is classified as Low as no major or other civil aviation aerodromes are located within close proximity to the project site.

Table 2.1: Verification of DFFE Screening Report Sensitivity Ratings for the Civil Aviation Theme

Identified Sensitivity		Comment
DFFE Screening Report Low Low potential for negative impacts on the civil aviation installations, and if there are impacts there is a high likelihood of mitigation. Further assessment of the potential impacts may not be required.	EAP Feedback Low	<p>The site verification report confirms the low sensitivity of the site.</p> <p>The Project Area of Influence (PAOI) consists of a high volume of Existing Eskom Infrastructure (power lines, substations etc.), as well as various mining related infrastructure (tailings dams etc.). The current land use for the development area is cattle grazing. The surrounding landscape are characterised by mining activities and the operation of high voltage existing grid connection infrastructure including power lines and a Main Transmission Substation. Refer to Figures 1.4 – 1.7.</p> <p>The Civil Aviation Authority (CAA) has been identified as an I&AP, and has received the Draft Basic Assessment report for review and commenting. No comments from the CAA have been received as part of the public participation process.</p>

The proposed development will not have an unacceptable negative impact on civil aviation installations based on the findings of the site visit and the existing civil aviation infrastructure present within the general area.

Although the development is for the construction of a solar power plant, the associated power lines will be adequately fitted with the necessary identifier devices and will be constructed according to applicable standards. The power line route follows existing power lines, is located within a eMalahleni Renewable Energy Development Zone (REDZ) (refer to Figure 2.1 below) and

falls within the International Strategic Power Line Corridor (refer to Figure 2.2 below). The consolidation of power line infrastructure will result in the reduction of possible impacts related to civil aviation installations.

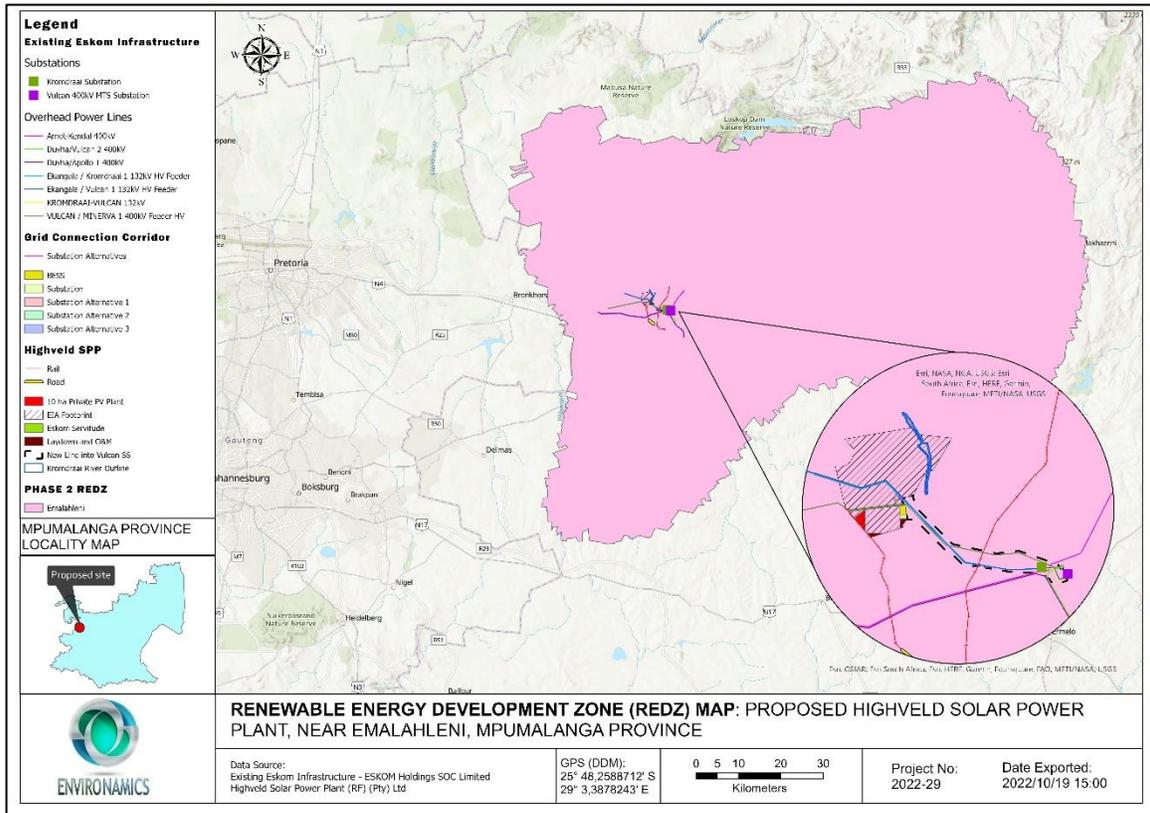


Figure 2.1: Map indicating the Highveld Solar Power Plant in relation to the REDZ.

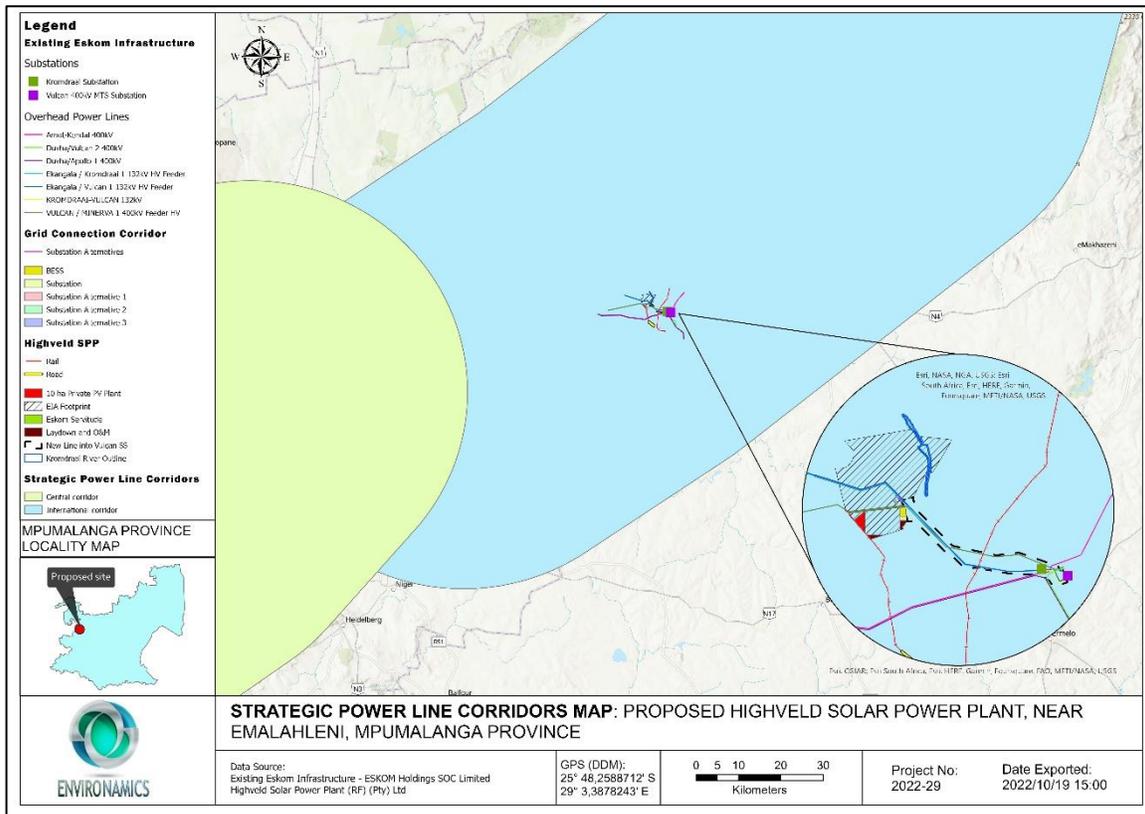


Figure 2.2: Map indicating the Highveld Solar Power Plant in relation to the strategic power line corridors

Based on the above, the EAP confirms the outcome and results for the Civil Aviation Theme for the Highveld Solar Power Plant.

This assessment is considered sufficient for the civil aviation theme. There is no reason for the developments not to proceed based on the results of the assessment and no objections are made.

2.2 Defence Theme

Table 2.2: Verification of DFFE Screening Report Sensitivity Ratings for the Defence Theme

Identified Sensitivity		Comment
<p><u>DFFE Screening Report</u></p> <p>Low</p> <p>Low potential for negative impacts on the defence installations, and if there are impacts there is a high likelihood of mitigation. Further assessment of the potential impacts may not be required.</p>	<p><u>EAP Feedback</u></p> <p>Low</p>	<p>The site verification report confirms the low sensitivity of the site as the closest military operations are the Pretoria South African Military Base located ~98km north west of the affected property.</p> <p>The affected properties are confirmed to be used for agricultural, mining purposes and existing Eskom power lines and therefore the development of Highveld Solar Power Plant will not have any impact on defence installations.</p> <p>The project is therefore not expected to have an impact on Defence Installations.</p>

The proposed development will not have an unacceptable negative impact on defence installations.

The EAP confirms the outcome and results for the Defence Theme for the Highveld Solar Power Plant. Considering the site under assessment and the surrounding defence aspects the sensitivity is confirmed as low.

This assessment is considered sufficient for the defence theme. There is no reason for the development not to proceed based on the results of the assessment and no objections are made.

2.3 Radio Frequency Interference (RFI) Theme

Table 2.3: Verification of the DFFE Screening Tool Report Sensitivity Ratings for the Radio Frequency Interference (RFI) Theme

Identified Sensitivity		Comment
<u>DFFE Screening Report</u> Low	<u>EAP Feedback</u> Low	<p>The site verification is inconclusive as no desktop information could be sought and the Screening report did not indicate a sensitivity for the project.</p> <p>The South African Radio Astronomy Observatory (SARAO) have been consulted regarding the development of the project and the Draft Basic Assessment have been circulated to SARAO for review and commenting. No comment has been received from SARAO to date.</p>

The EAP was not able to validate the findings of the Screening Tool. A desktop based assessment into telecommunications; Radio Astronomy Advantage Areas and Weather Radar installation areas was undertaken, however no information is readily available. The EAP could not confirm if any features are present in proximity to the proposed development.

The EAP is not able to confirm the findings of the DFFE Screening Tool and as such comment have been sought from the relevant telecommunications representatives during the application process for the proposed development. This includes the South African Radio Astronomy Observatory and OpenServe.

3 CONCLUSION

The DFFE Screening Tool Report identified twelve (12) specialists' studies to be conducted, which includes Agricultural Impact Assessment, Landscape/Visual Impact Assessment, Archaeological and Cultural Heritage Impact Assessment, Palaeontology Impact Assessment, Terrestrial Biodiversity Impact Assessment, Aquatic Biodiversity Impact Assessment, Avian Impact Assessment, Civil Aviation Assessment, RFI Assessment, Geotechnical Assessment, Plant Species Assessment and Animal Species Assessment. The screening report identified the Defence Theme as having a low sensitivity, however no study was recommended.

The low sensitivity ratings for the Civil Aviation, Defence and RFI theme is confirmed by the site verification report. Therefore, the project will not have an unacceptable negative impact on any civil aviation installations. The Civil Aviation Authority have also been consulted as part of the Basic Assessment process, but no comment / objection has been received to date.