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3 July 2023

**Savannah Environmental (Pty) Ltd**  
Care of Michael Morreira

Per email: Michael@savannahsa.com

Dear Michael

## **PART 1 AMENDMENT: VISUAL ASSESSMENT**

### ***Proposed Machadodorp PV 1 Solar Energy Facility, Mpumalanga Province***

#### **1. PROJECT TITLE**

Construction of the 14MW Machadodorp PV 1 Solar Energy Facility (SEF) on Portion 8 of the Farm De Kroon 363 in the Emakhazeni Local Municipality in the Mpumalanga Province.

#### **2. BACKGROUND AND PURPOSE OF THE AMENDMENT**

Solar to Benefit Africa wishes to extend the validity of the Environmental Authorisation (EA) for the Machadodorp PV 1 Solar Energy Facility (DEA Ref: 14/12/16/3/3/1/738) for an additional 10 years.

#### **3. ASSESSMENT OF THE PROPOSED AMENDMENT**

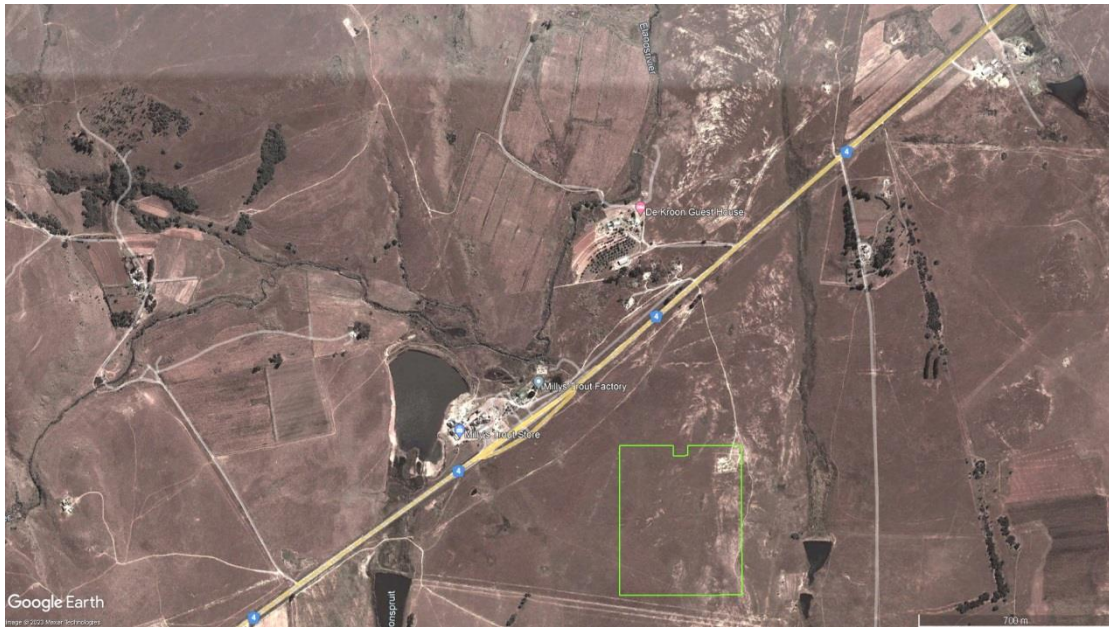
The reviewer has assessed the proposed amendment to the extension of the validity of the EA and has drawn the following conclusions:

##### **3.1. The Affected Environment**

The description of the affected environment, as described in the original VIA report remains largely unchanged. The location and layout of the proposed PV Facility on Portion 8 of the Farm De Kroon No. 363 JT similarly remains unchanged. There is however signs of a new development, presumably a service station, opposite the Caltex Star Stop and Milly's Trout Store, immediately south of the N4 national road. The ground works for this development is located approximately 200m west of the proposed Machadodorp PV 1 SEF. Refer to **Figures 1 and 2** below.

Other than the above development on the same farm earmarked for the SEF development, the land use zonation for the larger study area (agriculture) remains the same.

The above conclusion was verified through consultation with the project proponent and the current land owner(s), as well as the observation of satellite imagery of the study area taken during 2012 and 2023.



**Figure 1:** Google Earth satellite image April 2012 (proposed PV Facility indicated in green).



**Figure 2:** Google Earth satellite image June 2023 indicating the ground works west of the proposed PV Facility (indicated in green).

### 3.2. Terms of reference for the VIA

The terms of reference for the original VIA report (based on the *Guideline for Involving Visual and Aesthetic Specialists in EIA Processes (2005)*), included:

- Description of the site context, location and environmental characteristics.
- Description and categorisation of the proposed project in terms of the set guidelines.
- Identification of main view corridors and preparation of a photographic study and digital elevation model as basis for the viewshed analysis.
- Undertaking viewshed analysis as a mechanism to identify and select observation

- points for visual impact assessment of the proposed development.
- Assessment of potential visual impact of proposed development from selected observation points in terms of standard procedure and guidelines.
- Description of measures to mitigate potential detrimental impacts and enhance the potential positive impact of the proposed development.

The following methodology (supplementary/additional to the original VIA report) was undertaken during this Visual Assessment:

- Determine the potential visual exposure of the proposed project infrastructure
- Determine the visual distance/observer proximity to the project infrastructure
- Identify potential sensitive visual receptors and areas of higher viewer incidence
- Determine the visual absorption capacity of the landscape
- Calculate a visual impact index to identify the magnitude of the visual impact on potentially affected areas/receptors
- Determine the significance of the potential visual impact
- Provide mitigation measures to alleviate the potential visual impacts

The above activities and analyses are still relevant in light of the proposed amendment to the extension of the validity of the EA.

### 3.3. Impact rating assessment and impact mitigation measures

Four dominant *view corridors* were identified (in the VIA report) within the region, namely:

- **N4.** The main movement corridor between Pretoria and Maputo.
- **R36.** The main movement route between Carolina in the south and Machadodorp in the north. Further to the north, the road extends up to Mashishing (Lydenburg), some 70km away.
- **R541.** A movement route between the R38 in the south and Machadodorp in the north. The R541 has been identified in the Spatial Development Framework of the Gert Sibande Municipality as a potential tourism corridor which would include the towns of Machadodorp, Badplaas and Mkhondo.
- **Moloto Development Corridor.** This corridor follows the alignment of the current railway line in the region. The corridor significant opportunities for the Nkangala District area, both in terms of economic spin-offs from the corridor and tourism potential.

Additional (or selected) *Key Observation Points* (KOPs) included as **Annexure 2** to the VIA report included:

- KOP 3. Located in the settlement of Emthonjeni.
- KOP 4. Located at the Machadodorp Plaza on the N4 toll road.
- KOP 5. Located at an existing mine adjacent to the R36.
- KOP 6. Located within the Rolling Hills Estate.
- KOP 7. Located on the R751 tourism corridor.
- KOP 8. Located at the main complex of the Kloppenheim Country Estate.
- KOP 11. Located on the N4 toll road some 2 km east of the project site.

Observation points 1, 2, 9 and 12 are also indicated on the maps in the VIA report, but are not discussed in Annexure 2. There is no mention or indication of a KOP 10. The KOPs are indicated on **Maps 1** and **2** below.

The visual impact analysis of the **original VIA** and *assessment from the relevant observation points in the foreground and middle ground* is summarised as follows:

- Visibility: Medium
- Visual exposure: Medium to high
- Visual absorption capacity: Medium
- Visual sensitivity of receptors: Medium to high
- Visual intrusion: Medium
- Significance of impact: Medium

Additional potential sensitive visual receptors (and potential magnitude of the impact) identified during **this Visual Assessment** (per the methodology mentioned in the previous section) include:

Potentially **very high** magnitude (receptors located within 1km of the proposed development):

- 1 - N4 National Road
- 2 - De Kroon 1 (Milly's)
- 3 - Shavile homestead (mentioned as KOP 12 in the VIA report)
- 4 - Schoongezicht 1 homestead

Potentially **high** magnitude (receptors located within 1 - 3km of the proposed development):

- 5 - Goede Hoop 1 homestead (appears derelict)
- 6 - Unknown homesteads
- 7 - Goede Hoop 2 homestead
- 8 - Schoongezicht 2 homestead
- 9 - De Kroon 2 homestead
- 10 – Driefontein homestead

Potentially **moderate** magnitude (receptors located within 3 - 5km of the proposed development):

- 11 - Goede Hoop 3 homestead (The Silver Sixpence)
- 12 - Goedewater homestead
- 13 - Connievale homestead
- 14 - Unknown homestead

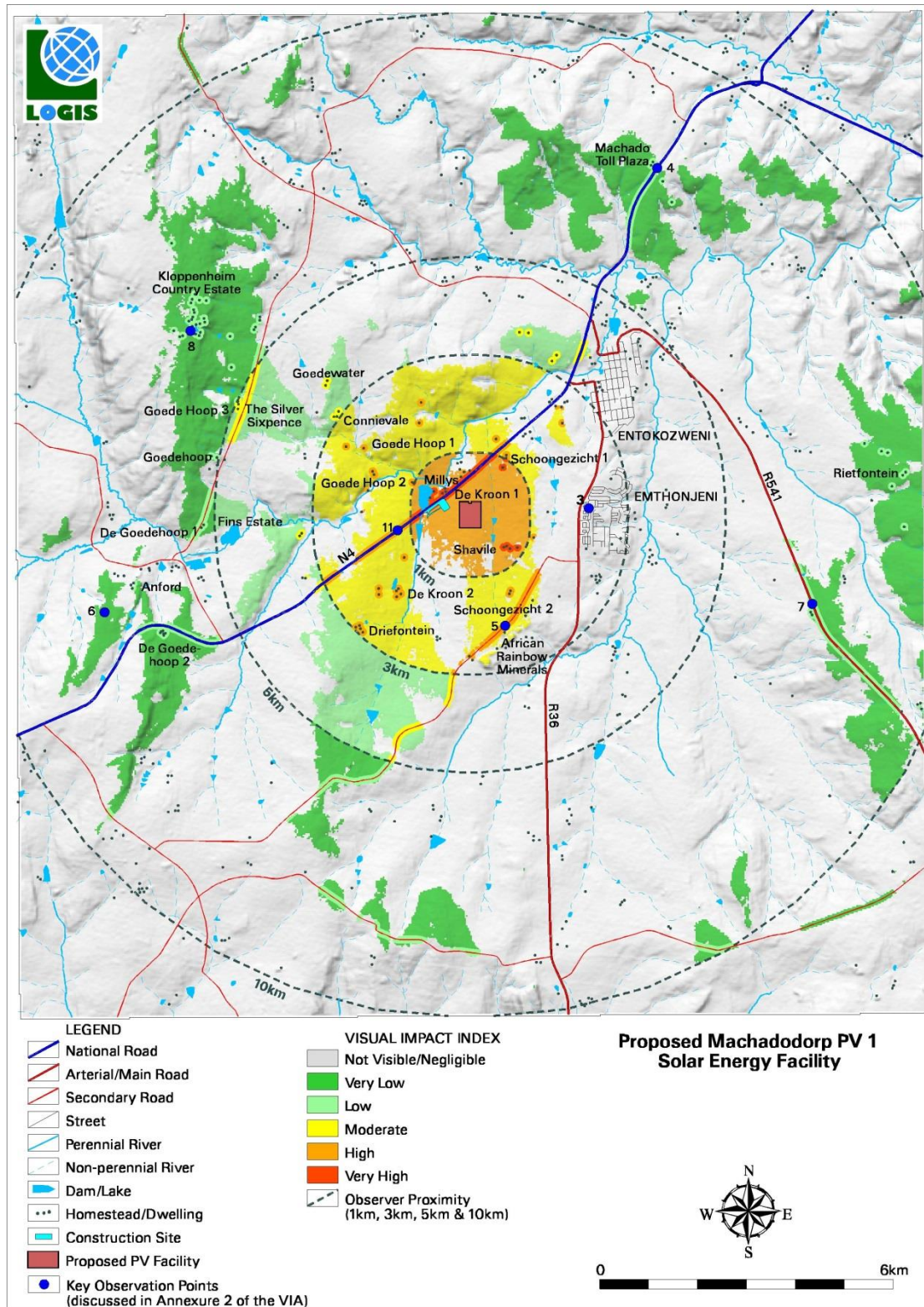
Potentially **low** magnitude (receptors located beyond 5km of the proposed development):

- 15 - Kloppenheim Estate
- 16 - Goedehoop
- 17 - De Goedehoop 1 (Fins Estate)
- 18 - Anford (Country House)
- 19 - De Goedehoop 2
- 20 - R541 Main Road (mentioned as KOP 7)
- 21 - Rietfontein & surrounding dwellings

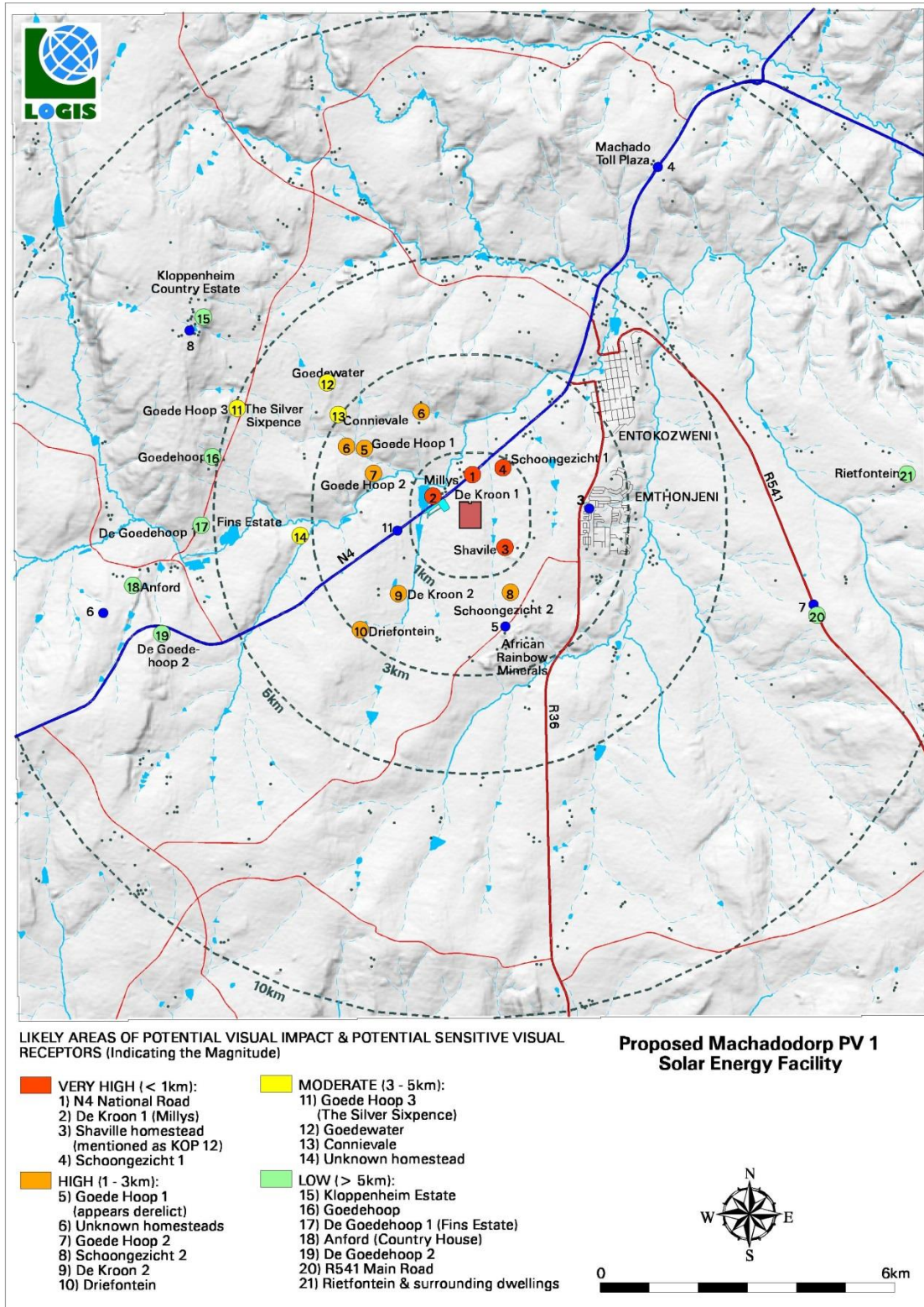
The visual impact index and the receptors mentioned above are indicated on **Maps 1 and 2**



below.







**Map 2:** Likely areas of potential visual impact and potential sensitive visual receptors.

In spite of the fact that some of the additional receptors sites may experience visual impacts of **very high** to **high** magnitude, these impacts may still only be of **moderate** (medium) significance. This is due to the fact that none of the recipient sites (e.g. adjacent land owners)<sup>1</sup> have objected to the proposed development. The likelihood of the impact

<sup>1</sup> To the author's knowledge and according to the Comments and Responses Report.

occurring is therefore low.

The proposed extension of the validity of the EA by an additional ten years is therefore not expected to alter the influence of the project infrastructure on *areas of higher viewer incidence* (observers traveling along the roads within the region) or *potential sensitive visual receptors* (residents of homesteads in closer proximity to the infrastructure).

The proposed amendment to the validity of the EA is consequently not expected to influence the anticipated visual impact, as stated in the original VIA report (i.e. the visual impact is expected to occur regardless of the amendment). This statement relates specifically to the assessment of the visual impact within a 1km (and potentially up to 3km) radius of the SEF structures (potentially *moderate* significance), but also generally apply to potentially *moderate to low* visual impacts at distances of up to 5km from the structures.

From a visual perspective, the proposed amendment will therefore require no (zero) changes to the significance rating within the original visual impact assessment report that was used to inform the approved EIA. In addition to this, no new mitigation measures are required.

There are no new assessment guidelines which are now relevant to the authorised development which were not undertaken as part of the initial visual impact assessment. Additional to this, and as stated above, there have been no changes to the environment of the region surrounding the proposed development site, and only one new development (in progress) on the farm earmarked for the PV Facility.

#### **3.4. Cumulative visual impact**

There are no proposed or authorised solar energy facility developments within a 30km radius of the proposed Machadodorp PV 1 SEF. The relatively constrained area of potential visual exposure of the development is unlikely to be of any significance in terms of cumulative visual impacts within the larger region.

### **4. CONCLUSION AND RECOMMENDATIONS**

The proposed amendment will require no changes to the impact significance ratings as stated within the original VIA report which was used to inform the approved EIA. In addition to this, no new mitigation measures are required.

It is suggested that the amendment to the validity of the EA be supported, subject to the conditions and recommendations as stipulated in the original EA, and according to the Environmental Management Programme (EMPr) and suggested mitigation measures, as provided in the original VIA report.

### **5. REFERENCES**

Chief Directorate National Geo-Spatial Information, varying dates. *1:50 000 topographical Maps and Data*.

Google Earth, 2012 & 2023. *Satellite imagery*.

Oberholzer, B. (2005). *Guideline for involving visual and aesthetic specialists in EIA processes: Edition 1*.

Zone Land Solutions, 2012. *Visual Impact Assessment: Proposed Machadodorp PV Solar Energy Facility, Mpumalanga Province.*



Feel free to contact me at any time, should you have any queries.

Kind regards.

A handwritten signature in black ink, appearing to read 'L. du P.' with a stylized flourish.

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**Lourens du Plessis (PrGISc)**



## environmental affairs

Department:  
Environmental Affairs  
REPUBLIC OF SOUTH AFRICA

### DETAILS OF THE SPECIALIST, DECLARATION OF INTEREST AND UNDERTAKING UNDER OATH

	(For official use only)
File Reference Number:	
NEAS Reference Number:	DEA/EIA/
Date Received:	

Application for authorisation in terms of the National Environmental Management Act, Act No. 107 of 1998, as amended and the Environmental Impact Assessment (EIA) Regulations, 2014, as amended (the Regulations)

#### PROJECT TITLE

Construction of the 14MW Machadodorp PV 1 Solar Energy Facility (SEF) on Portion 8 of the Farm De Kroon 363 in the Emakhazeni Local Municipality in the Mpumalanga Province: Part 1 Amendment

#### Kindly note the following:

1. This form must always be used for applications that must be subjected to Basic Assessment or Scoping & Environmental Impact Reporting where this Department is the Competent Authority.
2. This form is current as of 01 September 2018. It is the responsibility of the Applicant / Environmental Assessment Practitioner (EAP) to ascertain whether subsequent versions of the form have been published or produced by the Competent Authority. The latest available Departmental templates are available at <https://www.environment.gov.za/documents/forms>.
3. A copy of this form containing original signatures must be appended to all Draft and Final Reports submitted to the department for consideration.
4. All documentation delivered to the physical address contained in this form must be delivered during the official Departmental Officer Hours which is visible on the Departmental gate.
5. All EIA related documents (includes application forms, reports or any EIA related submissions) that are faxed; emailed; delivered to Security or placed in the Departmental Tender Box will not be accepted, only hardcopy submissions are accepted.

#### Departmental Details

<p><b>Postal address:</b> Department of Environmental Affairs Attention: Chief Director: Integrated Environmental Authorisations Private Bag X447 Pretoria 0001</p> <p><b>Physical address:</b> Department of Environmental Affairs Attention: Chief Director: Integrated Environmental Authorisations Environment House 473 Steve Biko Road Arcadia</p> <p>Queries must be directed to the Directorate: Coordination, Strategic Planning and Support at: Email: <a href="mailto:EIAAdmin@environment.gov.za">EIAAdmin@environment.gov.za</a></p>
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## 1. SPECIALIST INFORMATION

Specialist Company Name:	Lourens du Plessis t/a LOGIS			
B-BBEE	Contribution level (indicate 1 to 8 or non-compliant)	Exempt	Percentage Procurement recognition	0
Specialist name:	Lourens du Plessis			
Specialist Qualifications:	BA			
Professional affiliation/registration:	Professional Geo-Information Science (GISc) Practitioner registered with the SA Geomatics Council (SAGC) Reg. No. GPr GISc 0147			
Physical address:	531A Witogie Street Die Wilgers Pretoria			
Postal address:	PO Box 384 La Montagne			
Postal code:	0184	Cell:	082 922 9019	
Telephone:		Fax:		
E-mail:	lourens@logis.co.za			

## 2. DECLARATION BY THE SPECIALIST

I, Lourens du Plessis, declare that –

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- all the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.



Signature of the Specialist

t/a LOGIS

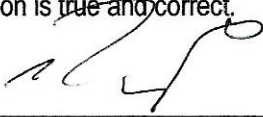
Name of Company:

2023-07-05

Date

3. UNDERTAKING UNDER OATH/ AFFIRMATION

I, Lourens du Plessis, swear under oath / affirm that all the information submitted or to be submitted for the purposes of this application is true and correct.



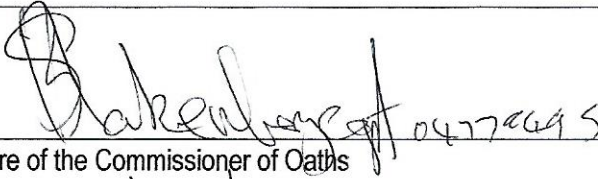
Signature of the Specialist

t/a LOGIS

Name of Company

2023-07-05

Date



Signature of the Commissioner of Oaths

2023/07/05

Date

