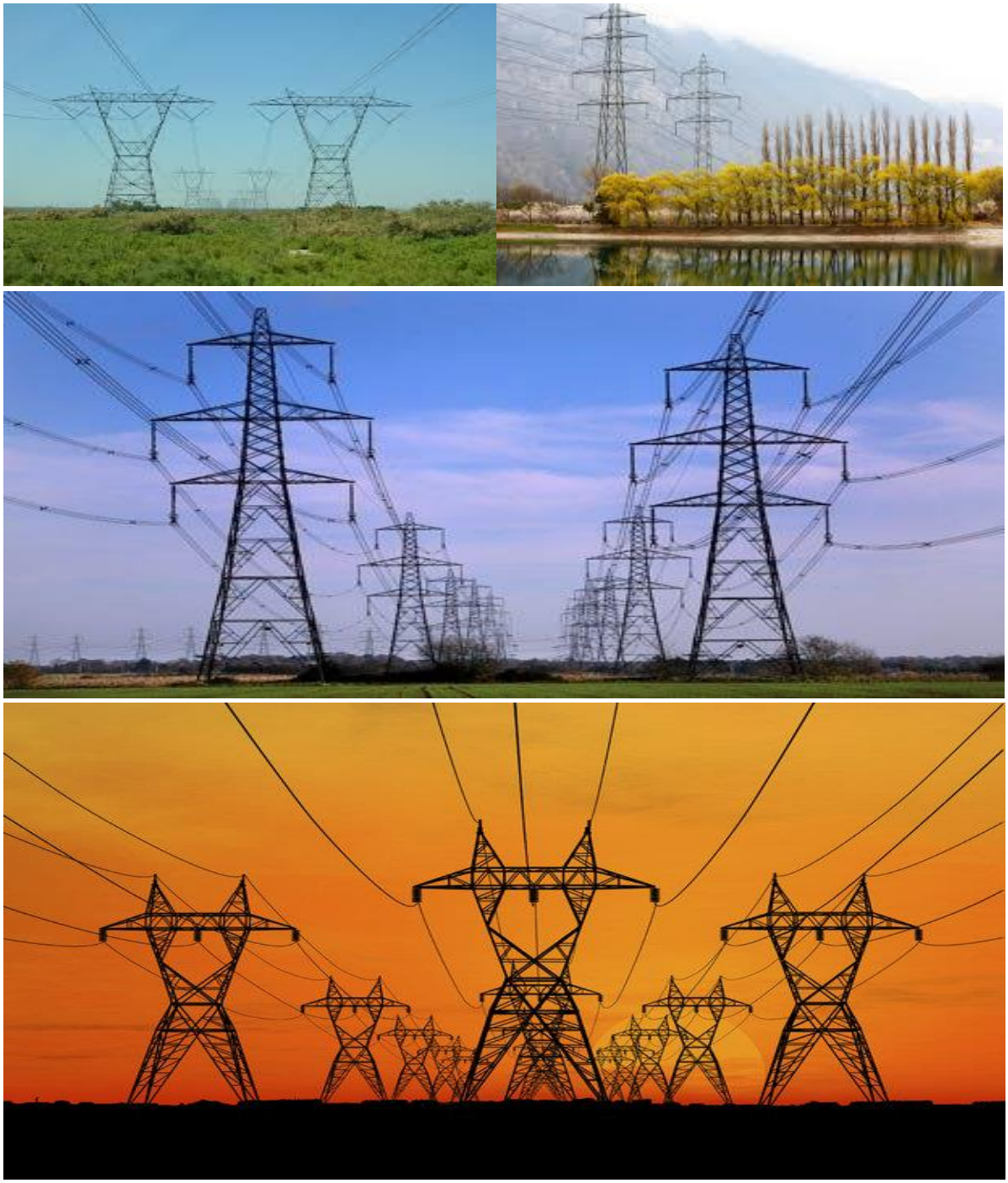
# UMMBILA EMOYENI EGI, MPUMALANGA PROVINCE

## Environmental Management Programme for the 132kV and 400kV power lines associated with the Ummbila Emoyeni EGI

November 2022

APPENDIX 1

# GENERIC ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr) FOR THE DEVELOPMENT AND EXPANSION FOR OVERHEAD ELECTRICITY TRANSMISSION AND DISTRIBUTION INFRASTRUCTURE



environmental affairs
Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

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## INTRODUCTION

### 1. Background

The National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) requires that an environmental management programme (EMPr) be submitted where an environmental impact assessment (EIA) has been identified as the environmental instrument to be utilised as the basis for a decision on an application for environmental authorisation (EA). The content of an EMPr must either contain the information set out in Appendix 4 of the Environmental Impact Assessment Regulations, 2014, as amended, (EIA Regulations) or must be a generic EMPr relevant to an application as identified and gazetted by the Minister in a government notice. Once the Minister has identified, through a government notice, that a generic EMPr is relevant to an application for EA, that generic EMPr must be applied by all parties involved in the EA process, including, but not limited to, the applicant and the competent authority (CA).

### 2. Purpose

This document constitutes a generic EMPr relevant to applications for the development or expansion of overhead electricity transmission and distribution infrastructure, and all listed and specified activities necessary for the realisation of such infrastructure.

### 3. Objective

The objective of this generic EMPr is to prescribe and pre-approve generally accepted impact management outcomes and impact management actions, which can commonly and repeatedly be used for the avoidance, management and mitigation of impacts and risks associated with the development or expansion of overhead electricity transmission and distribution infrastructure. The use of a generic EMPr is intended to reduce the need to prepare and review individual EMPrs for applications of a similar nature.

### 4. Scope

The scope of this generic EMPr applies to the development or expansion of overhead electricity transmission and distribution infrastructure requiring EA in terms of NEMA, i.e. with a capacity of 33 kilovolts or more. This generic EMPr applies to activities requiring EA, mainly activity 11 and 47 of the Environmental Impact Assessment Regulations Listing Notice 1 of 2014, as amended, and activity 9 of the Environmental Impact Assessment Regulations Listing Notice 2 of 2014, as amended, and all associated listed or specified activities necessary for the realisation of such infrastructure.

## 5. Structure of this document

This document is structured in three parts with an Appendix as indicated in the table below:

| Part | Section | Heading | Content |
|---|---|---|---|
| A | | Provides general guidance and information and is **not legally binding** | Definitions, acronyms, roles & responsibilities and documentation and reporting. |
| B | 1 | Pre-approved generic EMPr template | Contains generally accepted impact management outcomes and impact management actions required for the avoidance, management and mitigation of impacts and risks associated with the development or expansion of overhead electricity transmission and distribution infrastructure, which are presented in the form of a template that has been pre-approved.<br><br>The template in this section is to be completed by the contractor, with each completed page signed and dated by the holder of the EA prior to commencement of the activity.<br><br>Where an impact management outcome is not relevant, the words "not applicable" can be inserted in the template under the "responsible persons" column.<br><br>Once completed and signed, the template represents the EMPr for the activity approved by the CA and is legally binding. The template **is not required** to be submitted to the CA as once the generic EMPr is gazetted for implementation, it has been approved by the CA.<br><br>To allow interested and affected parties access to the pre-approved EMPr template for consideration through the decision-making process, the EAP on behalf of the applicant /proponent must make the hard copy of this EMPr available at a public location and where the applicant has a website, the EMPr should also be made available on such publicly accessible website. |
| | 2 | Site specific information | Contains preliminary infrastructure layout and a declaration that the applicant/holder of the EA |

| Part | Section | Heading | Content |
|---|---|---|---|
| | | | will comply with the pre-approved generic EMPr template contained in Part B: Section 1, and understands that the impact management outcomes and impact management actions are **legally binding**. The preliminary infrastructure layout must be finalized to inform the final EMPr that is to be submitted with the basic assessment report (BAR) or environmental impact assessment report (EIAR), ensuring that all impact management outcomes and actions have been either pre-approved or approved in terms of Part C.<br><br>This section **must be** submitted to the CA together with the final BAR or EIAR. The information submitted to the CA will be considered to be incomplete should a signed copy of Part B: section 2 not be submitted. Once approved, this Section forms part of the EMPr for the development and is legally binding. |
| C | | Site specific sensitivities/ attributes | If any specific environmental sensitivities/ attributes are present on the site which require site specific impact management outcomes and impact management actions, not included in the pre-approved generic EMPr, to manage impacts, these specific impact management outcomes and impact management actions must be included in this section. These specific environmental attributes must be referenced spatially and impact management outcomes and impact management actions must be provided. These specific impact management outcomes and impact management actions must be presented in the format of the pre-approved EMPr template (Part B: section 1)<br><br>This section will not be required should the site contain no specific environmental sensitivities or attributes. However, if Part C is applicable to the site, it **is required** to be submitted together with the BAR or EIAR, for consideration of, and decision on, the application for EA. The information in this section must be prepared by an EAP, and must contain his/her name and |

| Part | Section | Heading | Content |
|---|---|---|---|
| | | | expertise including a curriculum vitae. Once approved, Part C forms part of the EMPr for the site and is legally binding.<br><br>This section applies only **to additional** impact management outcomes and impact management actions that are necessary for the avoidance, management and mitigation of impacts and risks associated with the specific development or expansion and which are not already included in Part B: section 1. |
| Appendix 1 | | | Contains the method statements to be prepared prior to commencement of the activity. The method statements are **not required** to be submitted to the competent authority. |

## 6. Completion of part B: section 1: the pre-approved generic EMPr template

The template is to be completed prior to commencement of the activity, by providing the following information for each environmental impact management action:

- For implementation
  - a 'responsible person',
  - a method for implementation,
  - a timeframe for implementation
- For monitoring
  - a responsible person
  - frequency
  - evidence of compliance.

The completed template must be signed and dated by the holder of the EA prior to commencement of the activity. The method statements prepared and agreed to by the holder of the EA must be appended to the template as Appendix 1. Each method statement must be signed and dated on each page by the holder of the EA. This template, once signed and dated, is legally binding. The holder of the EA will remain responsible for its implementation.

## 7. Amendments of the impact management outcomes and impact management actions

Once the activity has commenced, a holder of an EA may make amendments to the impact management outcomes and impact management actions in the following manner:

- Amendment of the impact management outcomes: in line with the process contemplated in regulation 37 of the EIA Regulations; and
- Amendment of the impact management actions: in line with the process contemplated in regulation 36 of the EIA Regulations.

## 8. Documents to be submitted as part of part B: section 2 site specific information and declaration

Part B: Section 2 has three distinct sub-sections. The first and third sub-sections are in a template format. Sub-section two requires a map to be produced.

Sub-section 1 contains the project name, the applicant's name and contact details, the site information, which includes coordinates of the corridor in which the proposed overhead electricity transmission and distribution infrastructure is proposed as well as the 21-digit Surveyor General code of each cadastral land parcel and, where available, the farm name.

Sub-section 2 is to be prepared by an EAP and must contain his/her name and expertise including a curriculum vitae. This sub-section must include a map of the site sensitivity overlaid with the preliminary infrastructure layout using the national web based environmental screening tool, when available for compulsory use at: https://screening.environment.gov.za/screeningtool. The sensitivity map shall identify the nature of each sensitive feature e.g. raptor nest, threatened plant species, archaeological site, etc. Sensitivity maps must identify features both within the planned working area and any known sensitive features in the surrounding landscape within 50m from the development footprint. The overhead transmission and distribution profile must be illustrated at an appropriate resolution to enable fine scale interrogation. It is recommended that <20 km of overhead transmission and distribution length is illustrated per page in A3 landscape format. Where considered appropriate, photographs of sensitive features in the context of tower positions must be used.

Sub-section 3 is the declaration that the applicant/proponent or holder of the EA in the case of a change of ownership must complete, which confirms that the applicant/EA holder will comply with the pre-approved generic EMPr template in Section 1 and understands that the impact management outcomes and actions are legally binding.

### (a) Amendments to Part B: Section 2 – site specific information and declaration

Should the EA be transferred, Part B: Section 2 must be completed by the new applicant/proponent and submitted with the application for an amendment of the EA in terms of Regulations 29 or 31 of the EIA Regulations, whichever applies. The information submitted as part of such an application for an amendment to an EA will be considered to be incomplete should a signed copy of Part B: Section 2 not be submitted. Once approved, Part B: Section 2 forms part of the EMPr for the development and the EMPr becomes legally binding to the new EA holder.

**PART A – GENERAL INFORMATION**

## 1. DEFINITIONS

In this EMPr any word or expression to which a meaning has been assigned in the NEMA or EIA Regulations has that meaning, and unless the context requires otherwise –

**"clearing"** means the clearing and removal of vegetation, whether partially or in whole, including trees and shrubs, as specified;

**"construction camp"** is the area designated for key construction infrastructure and services, including but not limited to offices, overnight vehicle parking areas, stores, the workshop, stockpile and lay down areas, hazardous storage areas (including fuels), the batching plant (if one is located at the construction camp), designated access routes, equipment cleaning areas and the placement of staff accommodation, cooking and ablution facilities, waste and wastewater management;

**"contractor"** - The Contractor has overall responsibility for ensuring that all work, activities, and actions linked to the delivery of the contract, are in line with the Environmental Management Programme and that Method Statements are implemented as described.

**"hazardous substance"** is a substance governed by the Hazardous Substances Act, 1973 (Act No. 15 of 1973) as well as the Hazardous Chemical and Substances Regulations, 1995;

**"method statement"** means a written submission by the Contractor to the Project Manager in response to this EMPr or a request by the Project Manager and ECO. The method statement must set out the equipment, materials, labour and method(s) the Contractor proposes using to carry out an activity identified by the Project Manager when requesting the Method Statement. This must be done in such detail that the Project Manager and ECO is able to assess whether the Contractor's proposal is in accordance with this specification and/or will produce results in accordance with this specification;

The method statement must cover applicable details with regard to:

(i) Construction procedures;
(ii) Plant, materials and equipment to be used;
(iii) Transporting the equipment to and from site;
(iv) How the plant/ material/ equipment will be moved while on site;
(v) How and where the plant/ material/ equipment will be stored;
(vi) The containment (or action to be taken if containment is not possible) of leaks or spills of any liquid or material that may occur;
(vii) Timing and location of activities;
(viii) Compliance/ non-compliance; and
(ix) Any other information deemed necessary by the Project Manager.

**"slope"** means the inclination of a surface expressed as one unit of rise or fall for so many horizontal units;

**"solid waste"** means all solid waste, including construction debris, hazardous waste, excess cement/ concrete, wrapping materials, timber, cans, drums, wire, nails, food and domestic waste (e.g. plastic packets and wrappers);

**"spoil"** means excavated material which is unsuitable for use as material in the construction works or is material which is surplus to the requirements of the construction works;

**"topsoil"** means a varying depth (up to 300 mm) of the soil profile irrespective of the fertility, appearance, structure, agricultural potential, fertility and composition of the soil; and

**"works"** means the works to be executed in terms of the Contract

## 2. ACRONYMS and ABBREVIATIONS

| | |
|---|---|
| **CA** | Competent Authority |
| **cEO** | Contractors Environmental Officer |
| **dEO** | Developer Environmental Officer |
| **DPM** | Developer Project Manager |
| **DSS** | Developer Site Supervisor |
| **EAR** | Environmental Audit Report |
| **ECA** | Environment Conservation Act No. 73 of 1989 |
| **ECO** | Environmental Control Officer |
| **EA** | Environmental Authorisation |
| **EIA** | Environmental Impact Assessment |
| **ERAP** | Emergency Response Action Plan |
| **EMPr** | Environmental Management Programme Report |
| **EAP** | Environmental Assessment Practitioner |
| **FPA** | Fire Protection Agency |
| **HCS** | Hazardous chemical Substance |
| **NEMA** | National Environmental Management Act, 1998 (Act No. 107 of 1998) |
| **NEMBA** | National Environmental Management: Biodiversity Act ,2004 (Act No. 10 of 2004) |
| **NEMWA** | National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) |
| **MSDS** | Material Safety Data Sheet |
| **RI&APs** | Registered interested and affected parties |

## 3. ROLES AND RESPONSIBILITIES FOR ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr) IMPLEMENTATION

The effective implementation of this generic EMPr is dependent on established and clear roles, responsibilities and reporting lines within an institutional framework. This section of the EMPr gives guidance to the various environmental roles and reporting lines, however, project specific requirements will ultimately determine the need for the appointment of specific person(s) to undertake specific roles and or responsibilities. As such, it must be noted that in the event that no specific person, for example, an environmental control officer (ECO) is appointed, the holder of the EA remains responsible for ensuring that the duties indicated in this document for action by the ECO are undertaken.

**Table 1:** *Guide to roles and responsibilities for implementation of an EMPr*

| Responsible Person (s) | Role and Responsibilities |
|---|---|
| Developer's Project Manager (DPM) | Role<br>The Project Developer is accountable for ensuring compliance with the EMPr and any conditions of approval from the competent authority (CA). Where required, an environmental control officer (ECO) must be contracted by the Project Developer to objectively monitor the implementation of the EMPr according to relevant environmental legislation, and the conditions of the environmental authorisation (EA). The Project Developer is further responsible for providing and giving mandate to enable the ECO to perform responsibilities, and he must ensure that the ECO is integrated as part of the project team while remaining independent.<br><br>Responsibilities<br>- Be fully conversant with the conditions of the EA;<br>- Ensure that all stipulations within the EMPr are communicated and adhered to by the Developer and its Contractor(s);<br>- Issuing of site instructions to the Contractor for corrective actions required;<br>- Monitor the implementation of the EMPr throughout the project by means of site inspections and meetings. Overall management of the project and EMPr implementation; and<br>- Ensure that periodic environmental performance audits are undertaken on the project implementation. |
| Developer Site Supervisor (DSS) | Role |

| Responsible Person (s) | Role and Responsibilities |
|---|---|
| | The DSS reports directly to the DPM, oversees site works, liaises with the contractor(s) and the ECO. The DSS is responsible for the day to day implementation of the EMPr and for ensuring the compliance of all contractors with the conditions and requirements stipulated in the EMPr.<br><u>Responsibilities</u><br>- Ensure that all contractors identify a contractor's Environmental Officer (cEO);<br>- Must be fully conversant with the conditions of the EA. Oversees site works, liaison with Contractor, DPM and ECO;<br>- Must ensure that all landowners have the relevant contact details of the site staff, ECO and cEO;<br>- Issuing of site instructions to the Contractor for corrective actions required;<br>- Will issue all non-compliances to contractors; and<br>- Ratify the Monthly Environmental Report. |
| Environmental Control Officer (ECO) | <u>Role</u><br>The ECO should have appropriate training and experience in the implementation of environmental management specifications. The primary role of the ECO is to act as an independent quality controller and monitoring agent regarding all environmental concerns and associated environmental impacts. In this respect, the ECO is to conduct periodic site inspections, attend regular site meetings, pre-empt problems and suggest mitigation and be available to advise on incidental issues that arise. The ECO is also required to conduct compliance audits, verifying the monitoring reports submitted by the cEO and dEO. The ECO provides feedback to the DSS and Project Manager regarding all environmental matters. The Contractor, cEO and dEO are answerable to the Environmental Control Officer for non- compliance with the Performance Specifications as set out in the EA and EMPr.<br><br>The ECO provides feedback to the DSS and Project Manager, who in turn reports back to the Contractor and potential and Registered Interested &Affected Parties (RI&APs), as required. Issues of non-compliance raised by the ECO must be taken up by the Project Manager, and resolved with the Contractor as per the conditions of his contract. Decisions regarding environmental procedures, specifications and requirements which have a cost implication (i.e. those that are deemed to be a |

| Responsible Person (s) | Role and Responsibilities |
|---|---|
| | variation, not allowed for in the Performance Specification) must be endorsed by the Project Manager. The ECO must also, as specified by the EA, report to the relevant CA as and when required.<br><u>Responsibilities</u><br>The responsibilities of the ECO will include the following:<br>- Be aware of the findings and conclusions of all EA related to the development;<br>- Be familiar with the recommendations and mitigation measures of this EMPr;<br>- Be conversant with relevant environmental legislation, policies and procedures, and ensure compliance with them;<br>- Undertake regular and comprehensive site inspections / audits of the construction site according to the generic EMPr and applicable licenses in order to monitor compliance as required;<br>- Educate the construction team about the management measures contained in the EMPr and environmental licenses;<br>- Compilation and administration of an environmental monitoring plan to ensure that the environmental management measures are implemented and are effective;<br>- Monitoring the performance of the Contractors and ensuring compliance with the EMPr and associated Method Statements;<br>- In consultation with the Developer Site Supervisor order the removal of person(s) and/or equipment which are in contravention of the specifications of the EMPr and/or environmental licenses;<br>- Liaison between the DPM, Contractors, authorities and other lead stakeholders on all environmental concerns;<br>- Compile a regular environmental audit report highlighting any non-compliance issues as well as satisfactory or exceptional compliance with the EMPr;<br>- Validating the regular site inspection reports, which are to be prepared by the contractor Environmental Officer (cEO);<br>- Checking the cEO's record of environmental incidents (spills, impacts, legal transgressions etc) as well as corrective and preventive actions taken; |

| Responsible Person (s) | Role and Responsibilities |
|---|---|
| | - Checking the cEO's public complaints register in which all complaints are recorded, as well as action taken;<br>- Assisting in the resolution of conflicts;<br>- Facilitate training for all personnel on the site – this may range from carrying out the training, to reviewing the training programmes of the Contractor;<br>- In case of non-compliances, the ECO must first communicate this to the Senior Site Supervisor, who has the power to ensure this matter is addressed. Should no action or insufficient action be taken, the ECO may report this matter to the authorities as non-compliance;<br>- Maintenance, update and review of the EMPr;<br>- Communication of all modifications to the EMPr to the relevant stakeholders. |
| developer Environmental Officer (dEO) | <u>Role</u><br>The dEOs will report to the Project Manager and are responsible for implementation of the EMPr, environmental monitoring and reporting, providing environmental input to the Project Manager and Contractor's Manager, liaising with contractors and the landowners as well as a range of environmental coordination responsibilities.<br><br><u>Responsibilities</u><br>- Be fully conversant with the EMPr;<br>- Be familiar with the recommendations and mitigation measures of this EMPr, and implement these measures;<br>- Ensure that all stipulations within the EMPr are communicated and adhered to by the Employees, Contractor(s) ;<br>- Confine the development site to the demarcated area;<br>- Conduct environmental internal audits with regards to EMPr and authorisation compliance (on cEO);<br>- Assist the contractors in addressing environmental challenges on site;<br>- Assist in incident management:<br>- Reporting environmental incidents to developer and ensuring that corrective action is taken, and lessons learnt shared; |

| Responsible Person (s) | Role and Responsibilities |
|---|---|
| | - Assist the contractor in investigating environmental incidents and compile investigation reports;<br>- Follow-up on pre-warnings, defects, non-conformance reports;<br>- Measure and communicate environmental performance to the Contractor;<br>- Conduct environmental awareness training on site together with ECO and cEO;<br>- Ensure that the necessary legal permits and / or licenses are in place and up to date;<br>- Acting as Developer's Environmental Representative on site and work together with the ECO and contractor; |
| Contractor | <u>Role</u><br>The Contractor appoints the cEO and has overall responsibility for ensuring that all work, activities, and actions linked to the delivery of the contract are in line with the EMPr and that Method Statements are implemented as described. External contractors must ensure compliance with this EMPr while performing the onsite activities as per their contract with the Project Developer. The contractors are required, where specified, to provide Method Statements setting out in detail how the impact management actions contained in the EMPr will be implemented during the development or expansion for overhead electricity transmission and distribution infrastructure activities.<br><br><u>Responsibilities</u><br>- project delivery and quality control for the development services as per appointment;<br>- employ a suitably qualified person to monitor and report to the Project Developer's appointed person on the daily activities on-site during the construction period;<br>- ensure that safe, environmentally acceptable working methods and practices are implemented and that equipment is properly operated and maintained, to facilitate proper access and enable any operation to be carried out safely;<br>- attend on site meeting(s) prior to the commencement of activities to confirm the procedure and designated activity zones;<br>- ensure that contractors' staff repair, at their own cost, any environmental damage as a result of a contravention of the specifications contained in EMPr, to the satisfaction of the ECO. |

| Responsible Person (s) | Role and Responsibilities |
|---|---|
| | |
| contractor Environmental Officer (cEO) | Role<br>Each Contractor affected by the EMPr should appoint a cEO, who is responsible for the on-site implementation of the EMPr (or relevant sections of the EMPr). The Contractor's representative can be the site agent; site engineer; a dedicated environmental officer; or an independent consultant. The Contractor must ensure that the Contractor's Representative is suitably qualified to perform the necessary tasks and is appointed at a level such that she/he can interact effectively with other site Contractors, labourers, the Environmental Control Officer and the public. As a minimum the cEO shall meet the following criteria:<br><br>Responsibilities<br>- Be on site throughout the duration of the project and be dedicated to the project;<br>- Ensure all their staff are aware of the environmental requirements, conditions and constraints with respect to all of their activities on site;<br>- Implementing the environmental conditions, guidelines and requirements as stipulated within the EA, EMPr and Method Statements;<br>- Attend the Environmental Site Meeting;<br>- Undertaking corrective actions where non-compliances are registered within the stipulated timeframes;<br>- Report back formally on the completion of corrective actions;<br>- Assist the ECO in maintaining all the site documentation;<br>- Prepare the site inspection reports and corrective action reports for submission to the ECO;<br>- Assist the ECO with the preparing of the monthly report; and<br>- Where more than one Contractor is undertaking work on site, each company appointed as a Contractor will appoint a cEO representing that company. |

## 4. ENVIRONMENTAL DOCUMENTATION REPORTING AND COMPLIANCE

To ensure accountable and demonstrated implementation of the EMPr, a number of reporting systems, documentation controls and compliance mechanisms must be in place for all overhead electricity transmission and distribution infrastructure projects as a minimum requirement.

### 4.1 Document control/Filing system

The holder of the EA is solely responsible for the upkeep and management of the EMPr file. At a minimum, all documentation detailed below will be stored in the EMPr file. A hard copy of all documentation shall be filed, while an electronic copy may be kept where relevant. A duplicate file will be maintained in the office of the DSS (where applicable). This duplicate file must remain current and up-to-date. The filing system must be updated and relevant documents added as required. The EMPr file must be made available at all times on request by the CA or other relevant authorities. The EMPr file will form part of any environmental audits undertaken as prescribed in the EIA Regulations.

### 4.2 Documentation to be available

At the outset of the project the following preliminary list of documents shall be placed in the filing system and be accessible at all times:

- Full copy of the signed EA from the CA in terms of NEMA, granting approval for the development or expansion;
- Copy of the generic and site specific EMPr as well as any amendments thereof;
- Copy of declaration of implementing generic EMPr and subsequent approval of site specific EMPr and amendments thereof;
- All method statements;
- Completed environmental checklists;
- Minutes and attendance register of environmental site meetings;
- An up-to-date environmental incident log;
- A copy of all instructions or directives issued;
- A copy of all corrective actions signed off. The corrective actions must be filed in such a way that a clear reference is made to the non-compliance record;
- Complaints register.

### 4.3 Weekly Environmental Checklist

The ECOs are required to complete a Weekly Environmental Checklist, the format of which is to be agreed prior to commencement of the activity. The ECOs are required to sign and date the checklist, retain a copy in the EMPr file and submit a copy of the completed checklist to the DSS on a weekly basis.

The checklists will form the basis for the Monthly Environmental Reports. Copies of all completed checklists will be attached as Annexures to the Environmental Audit Report as required in terms of the EIA Regulations.

4.4 Environmental site meetings

Minutes of the environmental site meetings shall be kept. The minutes must include an attendance register and will be attached to the Monthly Report that is distributed to attendees. Each set of minutes must clearly record "Matters for Attention" that will be reviewed at the next meeting.

4.5 Required Method Statements

The method statement will be done in such detail that the ECOs are enabled to assess whether the contractor's proposal is in accordance with the EMPr.

The method statement must cover applicable details with regard to:

- development procedures;
- materials and equipment to be used;
- getting the equipment to and from site;
- how the equipment/ material will be moved while on site;
- how and where material will be stored;
- the containment (or action to be taken if containment is not possible) of leaks or spills of any liquid or material that may occur;
- timing and location of activities;
- compliance/ non-compliance with the EMPr; and
- any other information deemed necessary by the ECOs.

Unless indicated otherwise by the Project Manager, the Contractor shall provide the following method statements to the Project Manager no less than 14 days prior to the commencement date of the activity:

- Site establishment – Camps, Lay-down or storage areas, satellite camps, infrastructure;
- Batch plants;
- Workshop or plant servicing;
- Handling, transport and storage of Hazardous Chemical Substances;
- Vegetation management – Protected, clearing, aliens, felling;
- Access management – Roads, gates, crossings etc.;
- Fire plan;
- Waste management – transport, storage, segregation, classification, disposal (all waste streams);
- Social interaction – complaints management, compensation claims, access to properties etc.;
- Water – use (source, abstraction and disposal), access and all related information, crossings and mitigation;
- Emergency preparedness – Spills, training, other environmental emergencies;
- Dust and noise management methodologies;
- Fauna interaction and risk management – only if the risk was identified – wildlife interaction especially on game farms; and
- Heritage and palaeontology management.

The ECOs shall monitor and ensure that the contractors perform in accordance with these method statements. Completed and agreed method statements between the holder of the EA and the contractor shall be captured in Appendix 1.

4.6 Environmental Incident Log (Diary)

The ECOs are required to maintain an up-to-date and current Environmental Incident Log (environmental diary). The Environmental Incident Log is a means to record all environmental incidents and/or all non-compliance notice would not be issued. An environmental incident is defined as:

- Any deviation from the listed impact management actions (listed in this EMPr) that may be addressed immediately by the ECOs. (For example a contractor's staff member littering or a drip tray that has not been emptied);
- Any environmental impact resulting from an action or activity by a contractor in contravention of the environmental stipulations and guidelines listed in the EMPr which as a single event would have a minor impact but which if cumulative and continuous would have a significant effect (for example no toilet paper available in the ablutions for an afternoon); and
- General environmental information such as road kills or injured wildlife.

The ECOs are to record all environmental incidents in the Environmental Incident Log. All incidents regardless of severity must be reported to the Developer. The Log is to be kept in the EMPr file and at a minimum the following will be recorded for each environmental incident:

- The date and time of the incident;
- Description of the incident;
- The name of the Contractor responsible;
- The incident must be listed as significant or minor;
- If the incident is listed as significant, a non-compliance notice must be issued, and recorded in the log;
- Remedial or corrective action taken to mitigate the incident; and
- Record of repeat minor offences by the same contractor or staff member.

The Environmental Incident Log will be captured in the EAR.

4.7 Non-compliance

A non-compliance notice will be issued to the responsible contractor by the ECOs via the DSS or Project Manager. The non-compliance notice will be issued in writing; a copy filed in the EMPr file and will at a minimum include the following:

- Time and date of the non-compliance;
- Name of the contractor responsible;
- Nature and description of the non-compliance;
- Recommended / required corrective action; and
- Date by which the corrective action to be completed.

- The contractors shall act immediately when a notice of non-compliance is received and correct whatever is the cause for the issuing of the notice. Complaints received regarding activities on the development site pertaining to the environment shall be recorded in a dedicated register and the response noted with the date and action taken. The ECO should be made aware of any complaints. Any non-compliance with the agreed procedures of the EMPr is a transgression of the various statutes and laws that define the manner by which the environment is managed. Failure to redress the cause shall be reported to the relevant CA for them to deal with the transgression, as it deems fit. The contractor is deemed not to have complied with the EMPr if, inter alia, There is a deviation from the environmental conditions, impact management outcomes and impact management actions , as approved in generic and site specific EMPr as relevant as set out in the EMPr, which deviation has, or may cause, an environmental impact.

4.8 Corrective action records

For each non-compliance notice issued, a documented corrective action must be recorded. On receiving a non-compliance notice from the DSS, the contractor's cEO will ensure that the corrective actions required take place within the stipulated timeframe. On completion of the corrective action the cEO is to issue a Corrective Action Report in writing to the ECOs. If satisfied that the corrective action has been completed, the ECOs are to sign-off on the Corrective Action Report, and attach the report to the non-compliance notice in the EMPr file. A corrective action is considered complete once the report has signed off by the ECOs.

4.9 Photographic record

A digital photographic record will be kept. The photographic record will be used to show before, during and post rehabilitation evidence of the project as well used in cases of damages claims if they arise. Each image must be dated and a brief description note attached.

The Contractor shall:

1. Allow the ECOs access to take photographs of all areas, activities and actions.

The ECOs shall keep an electronic database of photographic records which will include:

1. Pictures of all areas designated as work areas, camp areas, development sites and storage areas taken before these areas are set up;
2. All bunding and fencing;
3. Road conditions and road verges;
4. Condition of all farm fences;
5. Topsoil storage areas;
6. All areas to be cordoned off during construction;
7. Waste management sites;
8. Ablution facilities (inside and out);
9. Any non-conformances deemed to be "significant";
10. All completed corrective actions for non-compliances;
11. All required signage;

12. Photographic recordings of incidents;
13. All areas before, during and post rehabilitation; and
14. Include relevant photographs in the Final Environmental Audit Report.

4.10 Complaints register

The ECOs shall keep a current and up-to-date complaints register. The complaints register is to be a record of all complaints received from communities, stakeholders and individuals. The Complaints Record shall:

1. Record the name and contact details of the complainant;
2. Record the time and date of the complaint;
3. Contain a detailed description of the complaint;
4. Where relevant and appropriate, contain photographic evidence of the complaint or damage (ECOs to take relevant photographs); and
5. Contain a copy of the ECOs written response to each complaint received and keep a record of any further correspondence with the complainant. The ECO's written response will include a description of any corrective action to be taken and must be signed by the Contractor, ECO and affected party. Where a damage claim is issued by the complainant, the ECOs shall respond as described in (**section 4.11**) below.

4.11 Claims for damages

In the event that a Claim for Damages is submitted by a community, landowner or individual, the ECOs shall:

1. Record the full detail of the complaint as described in (**section 4.10**) above;
2. The DPM will evaluate the claim and associated damage and submit the evaluation to the Senior Site Representative for approval;
3. Following consideration by the DPM, the claim is to be resolved and settled immediately, or the reason for not accepting the claim communicated in writing to the claimant. Should the claimant not accept this, the ECO shall, in writing report the incident to the Developer's negotiator and legal department; and
4. A formal record of the response by the ECOs to the claimant as well as the rectification of the method of making payments not amount will be recorded in the EMPr file.

4.12 Interactions with affected parties

Open, transparent and good relations with affected landowners, communities and regional staff are an essential aspect to the successful management and mitigation of environmental impacts.

The ECOs shall:

1. Ensure that all queries, complaints and claims are dealt within an agreed timeframe;

2. Ensure that any or all agreements are documented, signed by all parties and a record of the agreement kept in the EMPr file;
3. Ensure that a complaints telephone numbers are made available to all landowners and affected parties; and
4. Ensure that contact with affected parties is courteous at all times;

4.13 Environmental audits

Internal environmental audits of the activity and implementation of the EMPr must be undertaken. The findings and outcomes must be included in the EMPr file and be submitted to the CA at intervals as indicated in the EA.

An Environmental Audit Report must be prepared monthly. The report will be tabled as the key point on the agenda of the Environmental Site Meeting. The Report is submitted for acceptance at the meeting and the final report will be circulated to the Project Manager and filed in the EMPr file. At a frequency determined by the EA, the ECOs shall submit the monthly reports to the CA. At a minimum the monthly report is to cover the following:

- Weekly Environmental Checklists;
- Deviations and non-compliances with the checklists;
- Non-compliances issued;
- Completed and reported corrective actions;
- Environmental Monitoring;
- General environmental findings and actions; and
- Minutes of the Bi-monthly Environmental Site Meetings.

4.14 Final environmental audits

On final completion of the rehabilitation and/or requirements of the EA a final EAR is to be prepared and submitted to the CA. The EAR must comply with Appendix 7 of the EIA Regulations.

**PART B: SECTION 1: Pre-approved generic EMPr template**

## 5. IMPACT MANAGEMENT OUTCOMES AND IMPACT MANAGEMENT ACTIONS

This section provides a pre-approved generic EMPr template with aspects that are common to the development of overhead electricity transmission and distribution infrastructure. There is a list of aspects identified for the development or expansion of overhead electricity transmission and distribution infrastructure, and for each aspect a set of prescribed impact management outcomes and associated impact management actions have been identified. Holders of EAs are responsible to ensure the implementation of these outcomes and actions for all projects as a minimum requirement, in order to mitigate the impact of such aspects identified for the development or expansion of overhead electricity transmission and distribution infrastructure.

The template provided below is to be completed by providing the information under each heading for each environmental impact management action.

The completed template must be signed and dated on each page by both the contractor and the holder of the EA prior to commencement of the activity. The method statements prepared and agreed to by the holder of the EA must be appended to the template as Appendix 1. Each method statement must also be duly signed and dated on each page by the contactor and the holder of the EA. This template, once signed and dated, is legally binding. The holder of the EA will remain responsible for its implementation.

### *5.1 Environmental awareness training*

**Impact management outcome:** All onsite staff are aware and understand the individual responsibilities in terms of this EMPr.

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – All staff must receive environmental awareness training prior to commencement of the activities; | ECO / cEO / dEO | Hold environmental awareness training workshops | Pre-construction Construction and Operations | ECO dEO | Monthly and as and when required | Attendance register and training minutes / notes for the record |
| – The Contractor must allow for sufficient sessions to train all personnel with no more than 20 personnel attending each course; | Contractor | Scheduling of sufficient sessions through consultation with the ECO / cEO / dEO | Pre-construction Construction | ECO dEO | Monthly and as and when required | Attendance register and training minutes / notes for the record |
| – Refresher environmental awareness training is available as and when required; | cEO / dEO in consultation with the ECO | Hold refresher environmental awareness training workshops | During the construction phase | ECO dEO | Monthly and as and when required | Attendance register and training minutes / notes for the record |
| – All staff are aware of the conditions and controls linked to the EA and within the EMPr and made aware of their individual roles and responsibilities in achieving compliance with the EA and EMPr; | cEO / dEO | Hold training workshops and ensure that the EA and EMPr is readily available | During the construction phase | ECO dEO | Monthly and as and when required | Attendance register and training minutes / notes for the record |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – The Contractor must erect and maintain information posters at key locations on site, and the posters must include the following information as a minimum:<br>a) Safety notifications; and<br>b) No littering. | Contractor | Develop and place appropriate posters at key locations | Pre-construction<br>Construction | ECO<br>dEO<br>cEO | Monthly | Photographic record |
| – Environmental awareness training must include as a minimum the following:<br>a) Description of significant environmental impacts, actual or potential, related to their work activities;<br>b) Mitigation measures to be implemented when carrying out specific activities;<br>c) Emergency preparedness and response procedures;<br>d) Emergency procedures;<br>e) Procedures to be followed when working near or within sensitive areas;<br>f) Wastewater management procedures;<br>g) Water usage and conservation;<br>h) Solid waste management procedures;<br>i) Sanitation procedures;<br>j) Fire prevention; and<br>k) Disease prevention. | cEO / dEO in consultation with the ECO | Develop environmental awareness training material which covers the minimum requirements | Pre-construction<br>Construction | ECO<br>dEO | Prior to the commencement of the environmental awareness training | Environmental awareness training material requirements checklist |
| – A record of all environmental awareness training courses undertaken as part of the EMPr must be available; | ECO / cEO / dEO | Filing system including all proof of training (i.e. attendance register and training minutes | During the construction phase | ECO<br>dEO | Monthly | Completed and up to date filing system with proof of training |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| | | / notes for the record) | | | | |
| – Educate workers on the dangers of open and/or unattended fires; | cEO / dEO in consultation with the ECO | Develop environmental awareness training material which covers the dangers of open and/or unattended fire | Pre-construction Construction | ECO<br>dEO | Prior to the commencement of the environmental awareness training | Environmental awareness training material requirements checklist |
| – A staff attendance register of all staff to have received environmental awareness training must be available. | ECO / cEO / dEO | Filing system including all proof of training (i.e. attendance register) | During the construction phase | ECO<br>dEO | Monthly | Completed and up to date filing system inclusive of all attendance registers |
| – Course material must be available and presented in appropriate languages that all staff can understand. | ECO / cEO / dEO | Develop environmental awareness training material in the required languages.<br>Training material must by readily available to all staff | During the construction phase | ECO<br>dEO | Monthly | Environmental awareness training material requirements checklist and the training register which must indicate the language of the training |

### *5.2 Site Establishment development*

**Impact management outcome:** Impacts on the environment are minimised during site establishment and the development footprint are kept to demarcated development area.

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – A method statement must be provided by the contractor prior to any onsite activity that includes the layout of the construction camp in the form of a plan showing the location of key infrastructure and services (where applicable), including but not limited to offices, overnight vehicle parking areas, stores, the workshop, stockpile and lay down areas, hazardous materials storage areas (including fuels), the batching plant (if one is located at the construction camp), designated access routes, equipment cleaning areas and the placement of staff accommodation, cooking and ablution facilities, waste and wastewater management; | Contractor | Development of an appropriate method statement | Pre-construction | ECO<br>dEO | Once, prior to construction | Availability of the method statement which complies with the minimum requirements listed |
| – Location of construction camps must be within approved area to ensure that the site does not impact on sensitive areas identified in the environmental assessment or site walk through; | DPM | Place construction camps outside of sensitive areas identified in the Basic Assessment Report | Pre-construction<br>Construction | ECO<br>dEO | Once, prior to construction | Availability of a layout and sensitivity map indicating avoidance of sensitive areas |
| – Sites must be located where possible on previously disturbed areas; | DPM | Place site outside of | Pre-construction | ECO<br>dEO | Once, prior to construction | Availability of a layout and |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| | | sensitive areas and within previously disturbed areas identified in the BA Report | | | | sensitivity map indicating avoidance of sensitive areas and placement within disturbed areas |
| – The camp must be fenced in accordance with ***Section 5.5: Fencing and gate installation***; and | DPM | Design and implementation of fencing as per the requirements of Section 5.5 of this EMPr | Pre-construction & Construction | ECO<br>dEO | Once, prior to construction and once during the construction of the fencing | The camp is fenced in accordance with Section 5.5 of this EMPr |
| – The use of existing accommodation for contractor staff, where possible, is encouraged. | DPM | Identify existing accommodation for contactor staff | Pre-construction & Construction | ECO<br>dEO | Once, prior to construction | Contractor staff are accommodated in existing accommodation |

### *5.3 Access restricted areas*

**Impact management outcome:** Access to restricted areas prevented.

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – Identification of access restricted areas is to be informed by the environmental assessment, site walk through and any additional areas identified during development; | dEO / cEO in consultation with the ECO | Spatially demarcate access restricted areas informed by the BA Report | Pre-construction | ECO | Once, prior to construction | Access restricted areas are identified and provided in a spatial format |
| – Erect, demarcate and maintain a temporary barrier with clear signage around the perimeter of any access restricted area, colour coding could be used if appropriate; and | dEO / cEO in consultation with the ECO | Erect appropriate temporary barriers around access restricted areas | At the commencement and for the duration of the construction phase | ECO | Monthly | Access restricted areas are closed-off through temporary barriers and barriers are maintained to a sufficient standard |
| – Unauthorised access and development related activity inside access restricted areas is prohibited. | Contractor / dEO / cEO | Erect appropriate temporary barriers around access restricted areas and provide clear signage of restricted status | During the construction phase | ECO | Monthly, and as and when required | Photographic evidence and notes of compliance that no unauthorised access or activities has taken place within the |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| | | | | | | access restricted areas |

### *5.4 Access roads*

**Impact management outcome:** Minimise impact to the environment through the planned and restricted movement of vehicles on site.

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| – Access to the servitude and tower positions must be negotiated with the relevant landowner and must fall within the assessed and authorised area; | DPM | Undertake negotiations for access to the servitude and tower positions with landowners affected by the power line | Pre-construction<br>Construction<br>Operation | dEO | Ongoing throughout construction and operation | Proof of negotiations with affected landowners and requirements for access to the servitude and tower positions in the form of written and signed agreements |
| – An access agreement must be formalised and signed by the DPM, Contractor and landowner before commencing with the activities; | DPM<br>Contractor | Develop access agreements with the affected landowners.<br>Ensure that | Pre-construction | dEO<br>ECO | Once, prior to construction | Availability of approved and signed negotiations |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| | | agreements are approved and signed | | | | |
| – The access roads to tower positions must be signposted after access has been negotiated and before the commencement of the activities; | Contractor | Develop and install signs to indicate access | Pre-construction | cEO / ECO | Once, prior to construction | Photographic record of signposted access roads and GPS co-ordinates of where these are placed |
| – All private roads used for access to the servitude must be maintained and upon completion of the works, be left in at least the original condition | Contractor | Undertake maintenance activities on private roads used for construction as degradation takes place | During the construction phase | cEO / ECO | Weekly | Photographic record of the pre-construction condition and degradation of roads, and records of the implementation and effectiveness of maintenance activities |
| – All contractors must be made aware of all the access routes. | dEO / cEO | Develop a map illustrating all access routes associated with the project and present and | Pre-construction Construction | ECO | Once, prior to construction | Access routes map readily available |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| | | provide the map to all contractors | | | | |
| – Any access route deviation from that in the written agreement must be closed and re-vegetated immediately, at the contractor's expense; | Contractor | All access routes developed that are not in-line with the access route agreements must be closed and re-habilitated to the pre-disturbance state | Construction and Rehabilitation | cEO ECO | Bi-weekly (every two weeks) | Photographic record of the closure of access roads and re-vegetation |
| – Maximum use of both existing servitudes and existing roads must be made to minimise further disturbance through the development of new roads; | Contractor | Existing access routes to be used must be specified and the development of new roads must be avoided as far as possible | Construction and operation | cEO Operation and maintenance team | Weekly | Implementation of the approved layout |
| – In circumstances where private roads must be used, the condition of the said roads must be recorded in accordance with section 4.9: photographic record; prior to use and the condition thereof agreed by the landowner, the DPM, and the contractor; | dEO / cEO | Record the conditions of private roads to be used (prior to use) as per the requirements of section 4.9 and | During the construction phase | ECO | Prior to the use of private roads | Photographic record and proof of the road conditions agreed upon with the relevant parties |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| | | agree on the required condition of the roads with the landowner, DPM and contractor | | | | |
| – Access roads in flattish areas must follow fence lines and tree belts to avoid fragmentation of vegetated areas or croplands; | DPM and Contractor | Design access roads to follow fence lines and avoid vegetated areas | Pre-construction | ECO | Once during the design and once prior to construction | Implementation of the approved layout |
| – Access roads must only be developed on pre-planned and approved roads. | Contractor | Construction of access roads only on pre-planned and approved access roads | During the construction phase | ECO once during the design dEO | Once during the design and weekly during the construction of access roads | Implementation of the approved layout |

### *5.5 Fencing and Gate installation*

**Impact management outcome:** Minimise impact to the environment and ensure safe and controlled access to the site through the erection of fencing and gates where required.

| **Impact Management Actions** | **Implementation** | | | **Monitoring** | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – Use existing gates provided to gain access to all parts of the area authorised for development, where possible; | Contractor | Identify and inform all relevant staff of the existing gates to be used | Pre-construction & Construction | dEO | Monthly | Existing gates are utilised on a frequent basis and only limited new access gates are developed |
| – Existing and new gates to be recorded and documented in accordance with section 4.9: photographic record; | ECO | Existing and new gates will be recorded and documented as per the requirements of section 4.9 | During the construction phase | ECO | Once, when the construction of all new gates have been completed | Photographic record of the existing and new gates as per the requirements of section4.9 |
| – All gates must be fitted with locks and be kept locked at all times during the development phase, unless otherwise agreed with the landowner; | Contractor | Ensure all relevant gates are fitted with locks and are always locked | Construction and Operation | ECO monthly, Operation and maintenance team and cEO | Bi-weekly (every second week) | All gates are locked and no complaints from landowners are received in this regard |
| – At points where the line crosses an existing fence in which there is no suitable gate within the extent of the | dEO | Install new gates where required with the | During the construction phase | ECO | Once, prior to construction and during the | New gates are installed where |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| line servitude, on the instruction of the DPM, a gate must be installed at the approval of the landowner; | | approval of the affected landowner | | | construction phase, as and when required | the power line crosses fences |
| – Care must be taken that the gates must be so erected that there is a gap of no more than 100 mm between the bottom of the gate and the ground; | Contractor | Install gates in a manner so that there is a gap of no more than 100mm between the bottom of the gate and the ground | During the construction phase | cEO | Once, during the erection of the gates during the construction phase | New gates installed as per the requirement |
| – Where gates are installed in jackal proof fencing, a suitable reinforced concrete sill must be provided beneath the gate; | Contractor | Implement a reinforced concrete sill beneath gates installed for jackal proofing | During the construction phase | cEO | Once, during the erection of the gates during the construction phase | New gates installed as per the requirement |
| – Original tension must be maintained in the fence wires; | Contractor | Maintain original tension of fences through required activities | During the construction phase | ECO | Monthly | No tension reduction on fence wires |
| – All gates installed in electrified fencing must be re-electrified; | Contractor | Electrify gates installed in electrified fencing | During the construction phase | ECO | Once, during the erection of the gates during the construction phase | Gates installed in electrified fencing is electrified |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – All demarcation fencing and barriers must be maintained in good working order for the duration of overhead transmission and distribution electricity infrastructure development activities; | Contractor | Undertake maintenance activities on fences and barriers | During the construction phase | ECO | Monthly | Photographic record of maintained fences and barriers |
| – Fencing must be erected around the camp, batching plants, hazardous storage areas, and all designated access restricted areas, where appropriate and would not cause harm to the sensitive flora; | Contractor | Fence construction camps, batching plants, hazardous storage areas and access restricted areas. Avoid sensitive flora | During the construction phase | ECO | Once during the erection of fencing | Photographic record of fences erected |
| – Any temporary fencing to restrict the movement of livestock must only be erected with the permission of the landowner. | dEO/ cEO Contractor | Obtain written approval from the relevant landowner where temporary fencing is required to restrict livestock movement | During the construction phase | ECO | To be monitored as temporary fencing is required | Written approval to be provided by the dEO |
| – All fencing must be developed of high quality material bearing the SABS mark; | Contractor | Make use of high quality materials approved by SABS | During the construction phase | cEO | To be monitored as fencing is erected during the construction phase | Use of high quality materials for fencing approved by SABS |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – The use of razor wire as fencing must be avoided as far as possible; | Contractor | Razor wire must not be sourced or used for the erection of fencing | During the construction phase | ECO | To be monitored as fencing is erected during the construction phase | Fences erected do not make use of razor wire |
| – Fenced areas with gate access must remain locked after hours, during weekends and on holidays if staff is away from site. Site security will be required at all times; | DSS and Contractor | Ensure fenced areas are locked as required through the implementation of a formalised process. Appoint a security company | During the construction phase | DPM and Contractor | DPM and Contractor | Fences are locked and no complaints from landowners are received. A security company is appointed |
| – On completion of the development phase all temporary fences are to be removed; | Contractor | Removal of all temporary fences | At the end of the Construction Phase | ECO dEO | Once, following the completion of the construction phase | No temporary fences associated with the project is present following the completion of the construction phase |
| – The contractor must ensure that all fence uprights are appropriately removed, ensuring that no uprights are cut at ground level but rather removed completely. | Contractor | Appropriate removal of all fence uprights | At the end of the Construction Phase | ECO dEO | Once, following the completion of the construction phase | No fence uprights associated with the project is present following the |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| | | | | | | completion of the construction phase |

### *5.6 Water Supply Management*

**Impact management outcome:** Undertake responsible water usage.

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – All abstraction points or bore holes must be registered with the DWS and suitable water meters installed to ensure that the abstracted volumes are measured on a daily basis; | DPM and Contractor | Obtaining relevant registrations from DWS and installation of water meters | Pre-construction | cEO | To be monitored with the installation of water meters and daily during construction and operation | Use of high quality water meters |
| – The Contractor must ensure the following:<br>a. The vehicle abstracting water from a river does not enter or cross it and does not operate from within the river;<br>b. No damage occurs to the river bed or banks and that the abstraction of water does not entail stream diversion activities; and | Not applicable - water will not be abstracted from a river | | | | | |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| c. All reasonable measures to limit pollution or sedimentation of the downstream watercourse are implemented. | | | | | | |
| – Ensure water conservation is being practiced by:<br>a. Minimising water use during cleaning of equipment;<br>b. Undertaking regular audits of water systems; and<br>c. Including a discussion on water usage and conservation during environmental awareness training.<br>d. The use of grey water is encouraged. | Contractor / dEO / cEO in consultation with the ECO | Implement the required water conservation measures throughout on-site construction processes | During the construction phase | ECO | Monthly, and as and when required | Successful implementation of water conservation |

### *5.7 Storm and waste water management*

| **Impact management outcome:** Impacts to the environment caused by stormwater and wastewater discharges during construction are avoided. | | | | | | |
|---|---|---|---|---|---|---|
| **Impact Management Actions** | **Implementation** | | | **Monitoring** | | |
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – Runoff from the cement/ concrete batching areas must be strictly controlled, and contaminated water must be collected, stored and either treated or disposed of off-site, at a location approved by the project manager; | Contractor | Implement measures for the control and management of runoff | During the construction phase | cEO | Weekly | No mismanagement of runoff or contaminated water due to the temporary concrete batching plant |
| – All spillage of oil onto concrete surfaces must be controlled by the use of an approved absorbent material and the used absorbent material disposed of at an appropriate waste disposal facility; | Contractor and cEO | Obtain approved absorbent material and make use of licensed waste disposal facilities for disposal of oil | During the Construction Phase | ECO | Monthly | Availability of approved absorbent material at the construction site and proof of disposal of oil at licensed disposal facilities |
| – Natural stormwater runoff not contaminated during the development and clean water can be discharged directly to watercourses and water bodies, subject to the Project Manager's approval and support by the ECO; | DPM in consultation with the ECO | Consultation between the DPM and the ECO to determine if water can be discharged directly into | During the construction phase | ECO | As and when the need arises to discharge natural stormwater runoff and clean water | Proof of consultation between the DPM and ECO and the outcomes thereof to be provided. Proof of water |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | water bodies (where present). The necessary water quality testing must be undertaken prior to discharge | | | | quality testing and the results thereof. |

### *5.8 Solid and hazardous waste management*

**Impact management outcome:** Waste is appropriately stored, handled and safely disposed of at a recognised waste facility.

| **Impact Management Actions** | **Implementation** | | | **Monitoring** | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – All measures regarding waste management must be undertaken using an integrated waste management approach; | Contractor | Develop and implement a waste management plan | During the construction phase | ECO | Monthly | Implementation of the waste management plan and proof of waste management through proof of responsible disposal |
| – Sufficient, covered waste collection bins (scavenger and weatherproof) must be provided; | Contractor | Provision of appropriate waste collection bins strategically placed | During the construction phase | cEO | Weekly | Appropriate waste collection bins are available throughout the site |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| | | throughout the site | | | | |
| – A suitably positioned and clearly demarcated waste collection site must be identified and provided; | DPM and Contractor | Identify an appropriate location for the waste collection site which must be clearly demarcated through signage and temporary fencing | Design and Construction Phase | ECO | Once, prior to the commencement of construction | A waste collection site is appropriately placed and demarcated |
| – The waste collection site must be maintained in a clean and orderly manner; | Contractor | Regular collection of waste and maintenance of the area must be undertaken as per the waste requirements for the project during construction | During the Construction Phase | cEO | Weekly | The waste collection site is maintained and clean |
| – Waste must be segregated into separate bins and clearly marked for each waste type for recycling and safe disposal; | Contractor | Provide separate and marked bins for the different waste types associated with | During the Construction Phase | cEO | Weekly | Separate waste bins are available on site and waste generated is separated into the relevant bins |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| | | the construction phase | | | | |
| – Staff must be trained in waste segregation; | cEO / dEO in consultation with the ECO | Include waste segregation as part of the environmental awareness training material. | Pre-construction Construction | ECO | Monthly, and as and when required | Environmental awareness training material requirements checklist |
| – Bins must be emptied regularly; | Contractor | Bins must be emptied before reaching total capacity and on a regular basis as required for the project | During the construction phase | ECO | Monthly | No mismanagement of bins. |
| – General waste produced onsite must be disposed of at registered waste disposal sites/ recycling company; | Contractor | Disposal of general waste at licensed waste disposal facilities must be undertaken as per the waste management plan | During the construction phase | ECO | Monthly | Disposal certificates of disposal at licensed facilities to be provided |
| – Hazardous waste must be disposed of at a registered waste disposal site; | Contractor | Disposal of hazardous waste at licensed waste disposal facilities must be undertaken as | During the construction phase | ECO | Monthly | Disposal certificates of disposal at licensed facilities to be provided |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| | | per the waste management plan | | | | |
| – Certificates of safe disposal for general, hazardous and recycled waste must be maintained. | Contractor | Obtain certificates for safe disposal of waste | During the construction phase | ECO | Monthly | Disposal certificates of disposal at licensed facilities to be provided and filed as part of the filing system |

### *5.9 Protection of watercourses*

**Impact management outcome:** Pollution and contamination of the watercourse environment and erosion are prevented.

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – All watercourses must be protected from direct or indirect spills of pollutants such as sewage, cement, oils, fuels, chemicals, aggregate tailings, wash and contaminated water or organic material resulting from the Contractor's activities; | Contractor | Contractor to undertake activities which can cause spills of pollutants outside of watercourses | During the construction phase | cEO | Weekly | No incidents reported of spillage of pollutants into watercourses |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – In the event of a spill, prompt action must be taken to clear the polluted or affected areas; | Contractor and cEO | Develop a management plan or process for implementation should a spill take place | During the construction phase | cEO | Weekly | Feedback must be provided by the contractor in terms of how the spill was handled and photographic evidence of the feedback must be provided and kept on record |
| – Where possible, no development equipment must traverse any seasonal or permanent wetland | Not applicable – no watercourse within project site | | | | | |
| – Development of permanent watercourse crossing must only be undertaken where no alternative access to tower position is available; | Not applicable – no watercourse within project site | | | | | |
| – There must not be any impact on the long-term morphological dynamics of watercourses; | Not applicable – no watercourse within project site | | | | | |
| – Upgrading of Existing crossing points must be favoured over the creation of new crossings (including temporary access)" | Not applicable – no watercourse within project site | | | | | |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – When working in or near any watercourse, the following environmental controls and consideration must be taken:<br>a) Water levels during the period of construction;<br>b) Unless authorised, there should be no altering of the bed, banks, course or characteristics of a watercourse<br>c) During the execution of the works, appropriate measures to prevent pollution and contamination of the riparian environment must be implemented e.g. including ensuring that construction equipment is well maintained;<br>d) Where earthwork is being undertaken in close proximity to any watercourse, slopes must be stabilised using suitable materials, i.e. sandbags or geotextile fabric, to prevent sand and rock from entering the channel; and<br>e) Appropriate rehabilitation and re-vegetation measures for the watercourse banks must be implemented timeously. In this regard, the banks should be appropriately and incrementally stabilised as soon as development allows. | Not applicable – no watercourse within project site | | | | | |

### *5.10 Vegetation clearing*

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|---|
| **Impact management outcome:** Vegetation clearing is restricted to the authorised development footprint of the proposed infrastructure. |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| **General:** | | | | | | |
| – Indigenous vegetation which does not interfere with the development must be left undisturbed; | cEO and contractor | Demarcate areas of indigenous vegetation to be avoided before clearance is undertaken | Construction and operation (i.e. for maintenance purposes) | ECO monthly, Operation and maintenance team weekly | Weekly, and as and when required | No unnecessary clearance of indigenous vegetation is undertaken |
| – Protected or endangered species may occur on or near the development site. Special care should be taken not to damage such species; | Contractor | Demarcate areas containing protected or endangered species to be avoided by construction activities | During the Construction Phase | ECO monthly and Operation and maintenance team weekly | Weekly, and as and when required | No clearance of protected or endangered species other than those permitted to be removed |
| – Search, rescue and replanting of all protected and endangered species likely to be damaged during project development must be identified by the relevant specialist and completed prior to any development or clearing; | Relevant specialist in consultation with the Contractor | Develop and implement a Plant Search and Rescue Plan | Pre-construction & Construction | cEO | Weekly, and as and when required | Implementation of the Plant Search and Rescue Plan and photographic evidence and notes of the implementation of the plan |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – Permits for removal must be obtained from the Department of Environment, Forestry and Fisheries (DEFF) prior to the cutting or clearing of the affected species, and they must be filed; and from the Department of Agriculture, Environmental Affairs, Rural Development and Land Reform for protected plants | DPM | Undertake the permitting process in order to obtain the relevant permits for the removal of protected species. Permits must be kept on file | Pre-construction | ECO | Once, prior to the commencement of the construction phase and removal of the protected species | DEFF permits on file |
| – The Environmental Audit Report must confirm that all identified species have been rescued and replanted and that the location of replanting is compliant with conditions of approvals; | ECO | Ensure that the audit report indicates all species rescued and replanted and provides feedback in terms of compliance with the conditions of permits for replanting | During the Construction Phase and following the completion of the Construction Phase | ECO | Once off or as and when required | ECO confirmed rescued and replanted programme implemented correctly. |
| – Trees felled due to construction must be documented and form part of the Environmental Audit Report; | ECO | Ensure that the audit report documents the details of trees felled | During the Construction Phase and following the completion of the Construction Phase | ECO | Once off or as and when required | ECO confirms documentation of trees felled |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – Rivers and watercourses must be kept clear of felled trees, vegetation cuttings and debris; | Contractor | Felled trees, vegetation cuttings and debris must be disposed of at a licensed waste disposal facility | During the Construction Phase | ECO | Monthly | No felled trees, vegetation cuttings and debris are dumped in inappropriate locations and disposal certificates are available as proof of responsible disposal |
| – Only a registered pest control operator may apply herbicides on a commercial basis and commercial application must be carried out under the supervision of a registered pest control operator that is appropriately trained; | DPM qnd Contractor | A suitably qualified pest control operator must be appointed | Construction and Operation | ECO | As and when the use of herbicides is required | Only registered pest control operators must be appointed and proof of their registration must be provided |
| – A daily register must be kept of all relevant details of herbicide usage; | Contractor | Develop a daily register for the documentation of the details of herbicide usage | During the construction phase | ECO | Monthly | Daily register provided by the pest control operator |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – All protected species and sensitive vegetation not removed must be clearly marked and such areas fenced off in accordance to **Section 5.3: Access restricted areas**. | Contractor in consultation with the cEO | Spatially demarcate protected species and sensitive vegetation and implement appropriate fencing where required as per section 5.3 | During the construction phase | ECO | Once, during the undertaking of the demarcation of the areas and the erection of the fencing | Demarcation and fencing is undertaken in-line with the requirements of section 5.3 |
| **Servitude:** | | | | | | |
| – Vegetation that does not grow high enough to cause interference with overhead transmission and distribution infrastructures, or cause a fire hazard to any plantation, must not be cut or trimmed unless it is growing in the road access area, and then only at the discretion of the Project Manager; | Contractor in consultation with the DPM | Identify areas of vegetation not to be trimmed. | Construction and Operation | ECO Operation and maintenance team | Monthly | An indication of the areas where vegetation has not been trimmed or where vegetation has been removed from access roads must be provided. |
| – Where clearing for access purposes is essential, the maximum width to be cleared within the servitude must be in accordance to distance as agreed between the landowner and the EA holder; | Contractor | Clearing for access must be undertaken as per the requirements provided by the | During the construction phase | ECO | Monthly, and as and when required | Proof must be provided that only agreed upon areas have been cleared |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| | | landowner and the EA holder | | | | |
| – Alien invasive vegetation must be removed according to a plan (in line with relevant municipal and provincial procedures, guidelines and recommendations) and disposed of at a recognised waste disposal facility; | Contractor | Undertake removal of alien invasive vegetation in accordance with the relevant guideline relevant and ensure the vegetation is disposed of at a licensed waste disposal facility | Construction and Operation | ECO Operation and maintenance team | Monthly, and as and when required | Proof must be provided that alien invasive vegetation has been cleared in accordance to the relevant guideline and that the vegetation was disposed of at a licensed waste disposal facility |
| – Vegetation must be trimmed where it is likely to intrude on the minimum vegetation clearance distance (MVCD) or will intrude on this distance before the next scheduled clearance. MVCD is determined from SANS 10280; | Contractor | Develop a procedure for the trimming of vegetation in terms of the listed requirements | Construction and operation | ECO Operation and maintenance team | Monthly, and as and when required | Proof must be provided that vegetation is trimmed in accordance with the listed requirements |
| – Debris resulting from clearing and pruning must be disposed of at a recognised waste disposal facility, unless the landowners wish to retain the cut vegetation; | Contractor | Dispose of the debris in accordance with the waste management plan | Construction and operation | ECO Operation and maintenance team | Monthly, and as and when required | Proof must be provided that the debris has been disposed of at a licensed |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| | | | | | | waste disposal facility |
| – In the case of the development of new overhead transmission and distribution infrastructures, a one metre "trace-line" must be cut through the vegetation for stringing purposes only and no vehicle access must be cleared along the "trace-line". Alternative methods of stringing that limit impact to the environment must always be considered. | Contractor | Develop a procedure for the cutting of vegetation for stringing purposes | Pre-construction & Construction | ECO | Once, prior to the commencement of construction | Proof of implementation of the procedure for the cutting of vegetation for stringing purposes |

### *5.11 Protection of fauna*

**Impact management outcome:** Minimise disturbance to fauna and avifauna.

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – No interference with livestock must occur without the landowner's written consent and with the landowner or a person representing the landowner being present; | dEO / cEO Contractor | Develop a procedure for dealing with livestock within the affected properties | Pre-construction and during the construction phase | ECO | Once, prior to the commencement of construction and as and when required during the construction phase | Written consent provided by the landowner and proof of representation of the landowner during interference |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – The breeding sites of raptors and other wild bird species must be taken into consideration during the planning of the development programme; | dEO / cEO in consultation with the Contractor | Ensure that the planning and development programme considers breeding sites for wild bird species | Pre-construction & Construction | ECO | Once, prior to the commencement of construction and as and when required | The planning and development programme includes the consideration of breeding sites for wild bird species |
| – Breeding sites must be kept intact and disturbance to breeding birds must be avoided. Special care must be taken where nestlings or fledglings are present; | dEO / cEO in consultation with the Contractor | Avoid breeding sites and ensure that special care is taken in the presence of nestlings and fledglings | During the Construction Phase Operation Phase | ECO monthly, cEO and Operation and maintenance team weekly | Weekly, and as an when required during the construction. Monthly, and as and when required during operation | Photographic record of intact breeding sites |
| – Nesting sites on existing parallel lines must be documented; | dEO / cEO in consultation with the ECO | Walk-downs of the existing lines located parallel to the project must be undertaken and nests and the details thereof documented | During the Construction Phase Operation Phase | ECO Operation and maintenance team | Quarterly, and as and when required | Details of walk-downs undertaken must be noted and kept on file and photographic records of nesting sites must be kept |
| – Special recommendations of the avian specialist must be adhered to at all times to prevent unnecessary disturbance of birds; | dEO / cEO in consultation with the Contractor | All mitigation measures recommended by the avifauna | During the Construction Phase Operation Phase | ECO Operation and maintenance team | Monthly during construction and monthly during operation | Photographic record of compliance and successful implementation |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| | | specialist must be implemented | | | | of the recommended measures |
| – Bird guards and diverters must be installed on the new line as per the recommendations of the specialist; | dEO / cEO in consultation with the Contractor | Recommendations made by the specialist for the installation of bird guards and diverters must be adhered to and implemented as appropriate.<br>Bird guards and diverters must be maintained | During the Construction Phase<br>Operation Phase | ECO<br>Operation and maintenance team | Monthly, and as and when required | Photographic record of implementation and maintenance of bird guards and diverters |
| – No poaching must be tolerated under any circumstances. All animal dens in close proximity to the works areas must be marked as Access restricted areas; | dEO / cEO in consultation with the Contractor | All site staff must be informed of this requirement during the Environmental Awareness Training and the consequences of not adhering to the requirement.<br>These areas must be demarcated as Access Restricted Areas | During the Construction Phase | ECO | Monthly, and as and when required | No instances of poaching is reported |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – No deliberate or intentional killing of fauna is allowed; | dEO / cEO in consultation with the Contractor | All site staff must be informed of this requirement during the Environmental Awareness Training and the consequences of not adhering to the requirement. These areas must be demarcated as Access Restricted Areas | During the Construction Phase | ECO | Monthly, and as and when required | No instances of deliberate or intentional killing is reported |
| – In areas where snakes are abundant, snake deterrents are to be deployed on the pylons to prevent snakes climbing up, being electrocuted and causing power outages; and | dEO / cEO in consultation with the Contractor | Implement and maintain snake deterrents on pylons in areas where snakes are abundant | During the Construction Phase Operation Phase | ECO Operation and maintenance team | Once, during the construction of the pylons and as and when required. Monthly during operation | Photographic record of the implementation and maintenance of snake deterrents |
| – No Threatened or Protected species (ToPs) and/or protected fauna as listed according NEMBA (Act No. 10 of 2004) and relevant provincial ordinances may be removed and/or relocated without appropriate authorisations/permits. | DPM in consultation with the dEO | Undertake a permitting process to obtain the required permits | Pre-construction | ECO | Once, prior to the commencement of construction and as and when required | Permits for removal and/relocation must be kept on file and be readily available |

### *5.12 Protection of heritage resources*

**Impact management outcome:** Minimise impact to heritage resources.

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – Identify, demarcate and prevent impact to all known sensitive heritage features on site in accordance with the No-Go procedure in Section 5.3: Access restricted areas; | DPM and a suitably qualified specialist<br><br>dEO / cEO in consultation with the Contractor and ECO | Spatially identify and demarcate areas of heritage significance as per the Heritage Impact Assessment and the Heritage Walk-through Report and as per the requirements of section 5.3 | Pre-construction | ECO | Once, prior to the commencement of construction | Proof of avoidance of sensitive heritage features through details of avoidance and photographic records |
| – Carry out general monitoring of excavations for potential fossils, artefacts and material of heritage importance; | dEO (in consultation with specialists if/as required). | Ensure construction staff are adequately informed (via environmental awareness training) to carry out monitoring of excavations | During the Construction Phase | ECO | Monthly, or as required | Environmental awareness training includes measures relating to monitoring for chance finds |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| | | for fossils, artefacts and important heritage material | | | | |
| – All work must cease immediately, if any human remains and/or other archaeological, palaeontological and historical material are uncovered. Such material, if exposed, must be reported to the nearest museum, archaeologist/ palaeontologist (or the South African Police Services), so that a systematic and professional investigation can be undertaken. Sufficient time must be allowed to remove/collect such material before development recommences. | dEO / cEO in consultation with the Contractor and ECO | Develop and implement procedures for situations where human remains, archaeological, palaeontolgoical or historical material are uncovered | During the Construction Phase | ECO | As and when required | Proof of work ceased and the required procedures followed in cases where material is discovered. |

### *5.13 Safety of the public*

**Impact management outcome:** All precautions are taken to minimise the risk of injury, harm or complaints.

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – Identify fire hazards, demarcate and restrict public access to these areas as well as notify the local authority of any potential threats e.g. large brush stockpiles, fuels etc.; | cEO in consultation with the Contractor | Develop an Emergency Preparedness, Response and | Pre-construction Construction | cEO | Once, prior to the commencement of construction | Compliance with the Emergency Preparedness, |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| | | Fire Management Plan specific to the project | | | and weekly during the construction phase | Response and Fire Management Plan |
| – All unattended open excavations must be adequately fenced or demarcated; | Contractor | Ensure that all excavations undertaken is fenced and demarcated within a reasonable timeframe and in instances where excavations will be open for long-periods of time | During the Construction Phase | cEO | Weekly | Excavations are fenced where required and photographic proof can be provided |
| – Adequate protective measures must be implemented to prevent unauthorised access to and climbing of partly constructed towers and protective scaffolding; | Contractor | All staff must be easily identifiable and the climbing of towers and scaffolding must only be undertaken by authorised personnel as managed by the Contractor | During the construction phase | ECO | Monthly, and as and when required | No incidents of unauthorised climbing is reported |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – Ensure structures vulnerable to high winds are secured; | Contractor | Ensure that sufficient stabilisation measures are implemented to secure structures vulnerable to high winds | During the construction phase | cEO | Weekly, and as and when required | No incidents of unstable structures due to high winds is reported |
| – Maintain an incidents and complaints register in which all incidents or complaints involving the public are logged. | cEO | Compile and regularly update as incidents and complaints are submitted from the public and indicate the actions taken to resolve the complaint | During the construction phase | ECO | Monthly, and as and when required | The incidents and complaints register is complete and provides all the required details |

### *5.14 Sanitation*

**Impact management outcome:** Clean and well-maintained toilet facilities are available to all staff in an effort to minimise the risk of disease and impact to the environment.

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – Mobile chemical toilets are installed onsite if no other ablution facilities are available; | Contractor | Mobile chemical toilets must be placed appropriately and in areas that avoid environmental sensitivities | During the Construction Phase | cEO | Weekly | Mobile toilets are installed and avoid environmental sensitivities |
| – The use of ablution facilities and or mobile toilets must be used at all times and no indiscriminate use of the veld for the purposes of ablutions must be permitted under any circumstances; | Contractor in consultation with the cEO | All site staff must be informed of this requirement during the Environmental Awareness Training and the consequences of not adhering to the requirement. | Pe-construction & Construction | ECO | Monthly, and as and when required | No evidence of non-compliance identified |
| – Where mobile chemical toilets are required, the following must be ensured:<br>a) Toilets are located no closer than 100 m to any watercourse or water body; | Contractor in consultation with the cEO | The installation of the toilets by the Contractor must be as per | During the Construction Phase | cEO | Weekly | No evidence of non-compliance identified |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| b) Toilets are secured to the ground to prevent them from toppling due to wind or any other cause;<br>c) No spillage occurs when the toilets are cleaned or emptied and the contents are managed in accordance with the EMPr;<br>d) Toilets have an external closing mechanism and are closed and secured from the outside when not in use to prevent toilet paper from being blown out;<br>e) Toilets are emptied before long weekends and workers holidays, and must be locked after working hours;<br>f) Toilets are serviced regularly and the ECO must inspect toilets to ensure compliance to health standards; | | the listed requirements | | | | |
| – A copy of the waste disposal certificates must be maintained. | Contractor | Certificates obtained from the licensed waste disposal facility with the emptying of the toilets must be kept on file | During the Construction Phase | ECO | Monthly, and as and when required | Certificates for waste disposal from the licensed waste disposal facility available on site |

### *5.15 Prevention of disease*

**Impact Management outcome:** All necessary precautions linked to the spread of disease are taken.

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – Undertake environmentally friendly pest control in the camp area; | Contractor | Only environmentally-friendly pest control must be used, when required | During the Construction Phase | ECO | As and when pest control is required for the project | Contractor to provide proof of pest control used being environmentally-friendly |
| – Ensure that the workforce is sensitised to the effects of sexually transmitted diseases, especially HIV/ AIDS; | cEO / Contractor in consultation with the ECO | The effects of sexually transmitted diseases and HIV/ AIDS must be covered in the Environmental Awareness Training | Pre-construction & Construction | ECO | Once, prior to the commencement of construction and monthly during construction | Environmental awareness training material requirements checklist |
| – The Contractor must ensure that information posters on HIV/ AIDS are displayed in the Contractor Camp area; | Contractor | Develop and place information posters on HIV/ AIDS | During the Construction Phase | cEO | Weekly | Photographic evidence of poster placement |
| – Information and education relating to sexually transmitted diseases to be made available to both | cEO / Contractor in | Information and education of sexually | Pre-construction & Construction | ECO | Monthly | Environmental awareness training material |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| construction workers and local community, where applicable; | consultation with the ECO | transmitted diseases must be covered in the Environmental Awareness Training. | | | | requirements checklist |
| – Free condoms must be made available to all staff on site at central points; | Contractor | Placement of free condoms in mobile toilets and at the construction camps | During the Construction Phase | ECO | Monthly | Proof of placement of free condoms by the contractor to be provided |
| – Medical support must be made available; | dEO / cEO in consultation with the Contractor | Ensure that designated personnel with first aid training are available on site and that first aid kits to provide medical support is readily available | Construction and Operations | ECO | Monthly | Check the availability of first aid trained personnel and medical kits (including if these are complete in terms of supplies) |
| – Provide access to Voluntary HIV Testing and Counselling Services. | Contractor | Compile a HIV testing schedule and provide counselling services where required | During the Construction Phase | ECO | Quarterly, and as and when required | Voluntary testing schedules and proof of counselling (where undertaken) |

### *5.16 Emergency procedures*

**Impact management outcome:** Emergency procedures are in place to enable a rapid and effective response to all types of environmental emergencies.

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – Compile an Emergency Response Action Plan (ERAP) prior to the commencement of the proposed project; | Contractor | Develop an Emergency Preparedness, Response and Fire Management Plan specific to the project | Pre-construction | ECO | Once, prior to the commencement of construction | Emergency Preparedness, Response and Fire Management Plan compiled |
| – The Emergency Plan must deal with accidents, potential spillages and fires in line with relevant legislation; | Contractor | Develop an Emergency Preparedness, Response and Fire Management Plan specific to the project which covers accidents, potential spillages and fires | Pre-construction | ECO | Once, prior to the commencement of construction | Emergency Preparedness, Response and Fire Management Plan includes required specifications |
| – All staff must be made aware of emergency procedures as part of environmental awareness training; | cEO / dEO in consultation with the ECO | Develop environmental awareness | Pre-construction | ECO | Prior to the commencement of the | Environmental awareness training material |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| | | training material which covers the relevant emergency procedures | | | environmental awareness training | requirements checklist |
| – The relevant local authority must be made aware of a fire as soon as it starts; | Contractor in consultation with the ECO | Develop and include a procedure in the Emergency Preparedness, Response and Fire Management Plan for the event of a fire and the procedure to be followed for informing the local authority | Construction | ECO | As and when a fire occurs | The local authority was informed as per the relevant procedure set out in the Emergency Preparedness, Response and Fire Management Plan |
| – In the event of emergency, necessary mitigation measures to contain the spill or leak must be implemented (see **Hazardous Substances section 5.17**). | Contractor | Implement the required mitigation measures in the event of a spill or leak as per the requirements of Section 5.17. | Construction and Operations | ECO | As and when a spill or leak occurs | The mitigation measures included under Section 5.17 have been adhered to |

### *5.17 Hazardous substances*

**Impact management outcome:** Safe storage, handling, use and disposal of hazardous substances.

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – The use and storage of hazardous substances to be minimised and non-hazardous and non-toxic alternatives substituted where possible; | cEO in consultation with the Contractor | Develop a strategy of how hazardous substances can be and should be minimised | Pre-construction & Construction | ECO | Once, prior to the commencement of construction and monthly during the construction phase | Contractor to provide evidence of substances used for proof of compliance |
| – All hazardous substances must be stored in suitable containers as defined in the Method Statement; | Contractor | Develop a Method Statement for the storage of hazardous substances in suitable containers | Pre-construction & Construction | ECO | Once, prior to the commencement of construction and monthly during the construction phase | Photographic proof that hazardous substances are stored in suitable containers as per the requirements of the relevant Method Statements |
| – Containers must be clearly marked to indicate contents, quantities and safety requirements; | Contractor | Where hazardous waste is stored these must be clearly marked | During the Construction Phase | ECO | Monthly | Photographic proof that containers are marked as per the requirements |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| | | indicating the required details of the contents | | | | |
| – All storage areas must be bunded. The bunded area must be of sufficient capacity to contain a spill / leak from the stored containers; | Contractor | Ensure that storage areas are sufficiently bunded which are of sufficient capacity to contain a spill / leak from the stored containers | During the Construction Phase | ECO | Monthly during the Construction Phase | Photographic proof that storage areas are bunded and proof that the bund areas are of sufficient capacity to contain a spill / leak from the stored containers |
| – Bunded areas to be suitably lined with a SABS approved liner; | Contractor | Ensure that bunded storage areas are suitably lined | During the Construction Phase | ECO | Once, during the Construction Phase | Photographic proof that bunded storage areas are suitably lined |
| – An Alphabetical Hazardous Chemical Substance (HCS) control sheet must be drawn up and kept up to date on a continuous basis; | cEO / Contractor | Compile and update an Alphabetical Hazardous Chemical Substance (HCS) control sheet specific to the project | During the Construction Phase | ECO | Monthly, and as and when required | Complete and up to date control sheet provided by the Contractor |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – All hazardous chemicals that will be used on site must have Material Safety Data Sheets (MSDS); | cEO / Contractor | Keep a record of all hazardous chemicals and the respective MSDS | During the Construction Phase | ECO | Monthly, and as and when required | Record of hazardous chemicals and the respective MSDS |
| – All employees working with HCS must be trained in the safe use of the substance and according to the safety data sheet; | cEO / Contractor | Provide training for personnel working with HCS | Pre-construction | ECO | Once, prior to the commencement of construction and as and when required | Record of training provided to personnel working with HCS |
| – Employees handling hazardous substances / materials must be aware of the potential impacts and follow appropriate safety measures. Appropriate personal protective equipment must be made available; | cEO / Contractor | Develop environmental awareness training material which covers the relevant impacts and safety measures.<br><br>Provide appropriate training and personal protective equipment for the relevant personnel handling hazardous | Pre-construction & Construction | ECO | Prior to the commencement of the environmental awareness training and monthly during the construction phase for personal protective equipment | Environmental awareness training material requirements checklist and all relevant personnel have undergone appropriate training and have access to personal protective equipment |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| | | substances and materials | | | | |
| – The Contractor must ensure that diesel and other liquid fuel, oil and hydraulic fluid is stored in appropriate storage tanks or in bowsers; | Contractor | Appropriate storage facilities must be constructed or obtained for the storing of diesel, other liquid fuel, oil and hydraulic fluid | During the Construction Phase | ECO | Monthly, and as and when required | Storage tanks for the project are appropriate and no incidents are reported in this regard |
| – The tanks/ bowsers must be situated on a smooth impermeable surface (concrete) with a permanent bund. The impermeable lining must extend to the crest of the bund and the volume inside the bund must be 130% of the total capacity of all the storage tanks/ bowsers (110% statutory requirement plus an allowance for rainfall); | Contractor | Appropriate storage facilities must be constructed or obtained for tanks as per the requirements listed | During the Construction Phase | ECO | Monthly, and as and when required | Storage areas for the tanks/ bowsers for the project are appropriate and no incidents are reported in this regard |
| – The floor of the bund must be sloped, draining to an oil separator; | Contractor | Appropriate storage facilities must be constructed as per the requirements listed | During the Construction Phase | ECO | Once, during construction | Bunded storage areas are constructed according to the requirements |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – Provision must be made for refuelling at the storage area by protecting the soil with an impermeable groundcover. Where dispensing equipment is used, a drip tray must be used to ensure small spills are contained; | Contractor | Appropriately constructed refuelling facility must be developed as per the requirements. Drip trays must be provided for use | During the Construction Phase | ECO<br>cEO | Monthly<br>Weekly | Soils at the refuelling facility are protected as required and drip trays are provided and used |
| – All empty externally dirty drums must be stored on a drip tray or within a bunded area; | Contractor | Ensure that empty dirty drums are stored appropriately as per the requirements | During the Construction Phase | ECO<br>cEO | Monthly<br>Weekly | Drip trays or bunded areas are used for the storage of dirty drums |
| – No unauthorised access into the hazardous substances storage areas must be permitted; | Contractor | Ensure through the implementation of procedures that no unauthorised access is undertaken into the storage areas | During the Construction Phase | ECO | Monthly | Proof of the implementation of the relevant procedure must be provided by the contractor |
| – No smoking must be allowed within the vicinity of the hazardous storage areas; | Contractor | Inform all employees of the requirement and develop | During the Construction Phase | ECO<br>cEO | Monthly<br>Weekly | Photographic record of the signage placed |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| | | and place relevant signage in the relevant areas | | | | must be provided |
| – Adequate fire-fighting equipment must be made available at all hazardous storage areas; | Contractor | Hazardous storage areas must be fitted with adequate fire-fighting equipment | During the Construction Phase | ECO | Monthly | Adequate fire-fighting equipment is available and has been serviced |
| – Where refuelling away from the dedicated refuelling station is required, a mobile refuelling unit must be used. Appropriate ground protection such as drip trays must be used; | Contractor | Provide a mobile refuelling unit as well as suitable ground protection, where required | During the Construction Phase | ECO | Monthly, and as and when required | A mobile refuelling unit and suitable ground protection is available for use |
| – An appropriately sized spill kit kept onsite relevant to the scale of the activity/s involving the use of hazardous substance must be available at all times; | Contractor | Provide an appropriate spill kit for the project for the use of hazardous substances | During the Construction Phase | ECO | Monthly, and as and when required | Appropriate spill kits are available for use |
| – The responsible operator must have the required training to make use of the spill kit in emergency situations; | cEO and Contractor | Provide training on the use of spill kits to the relevant employees | Pre-construction | ECO | Once, prior to the commencement of construction | Proof of training to be provided by the contractor |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – An appropriate number of spill kits must be available and must be located in all areas where activities are being undertaken; | cEO and Contractor | Provide an appropriate number of spill kits in relevant areas | During the Construction Phase | ECO | Monthly | Proof of appropriate number of spill kits in appropriate areas to be provided by the contractor |
| – In the event of a spill, contaminated soil must be collected in containers and stored in a central location and disposed of according to the National Environmental Management: Waste Act 59 of 2008. Refer to Section 5.7 for procedures concerning storm and waste water management and 5.8 for solid and hazardous waste management. | cEO and Contractor | Storage and disposal of contaminated soil must be in accordance with the National Environmental Management: Waste Act and sections 5.7 and 5.8 of this EMPr | During the Construction Phase | ECO | Monthly, and as and when required | Proof of storage and disposal in terms of the National Environmental Management: Waste Act must be provided.<br><br>Certificates of disposal at licensed waste disposal facilities must be provided |

### *5.18 Workshop, equipment maintenance and storage*

**Impact management outcome:** Soil, surface water and groundwater contamination is minimised.

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – Where possible and practical all maintenance of vehicles and equipment must take place in the workshop area; | Contractor | Demarcate specific areas for the maintenance of vehicles and equipment | During the Construction Phase | ECO | Monthly | A dedicated area for the maintenance of vehicles and machinery is used. |
| – During servicing of vehicles or equipment, especially where emergency repairs are effected outside the workshop area, a suitable drip tray must be used to prevent spills onto the soil. | Contractor | Ensure that a drip tray is available for an emergency repairs required | During the Construction Phase | ECO | Monthly | Contractor to provide evidence of drip tray use for emergency repairs |
| – Leaking equipment must be repaired immediately or be removed from site to facilitate repair; | Contractor | Ensure that where leaking equipment is identified it is repaired immediately or removed from site for repairs | During the Construction Phase | ECO | Monthly | Contractor to provide details of equipment repaired or removed from site |
| – Workshop areas must be monitored for oil and fuel spills; | cEO | Undertake regular inspections of the workshop | During the Construction Phase | ECO | Monthly | Register of inspection |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| | | areas for oil and fuel spills and keep an updated register of inspection on site | | | | |
| – Appropriately sized spill kit kept onsite relevant to the scale of the activity taking place must be available; | Contractor | Provide an appropriate spill kit for the project | During the Construction Phase | ECO | Monthly, and as and when required | Appropriate spill kits are available for use |
| – The workshop area must have a bunded concrete slab that is sloped to facilitate runoff into a collection sump or suitable oil / water separator where maintenance work on vehicles and equipment can be performed; | Contractor | Ensure that the workshop area is sufficiently bunded in accordance with the required specification | During the Construction Phase | ECO | Once, during the Construction Phase and as and when required | Workshop area is bunded in accordance with the required specification |
| – Water drainage from the workshop must be contained and managed in accordance with Section 5.7: storm and waste water management. | Contractor | Ensure that water drainage from workshop area is managed as per the requirements of section 5.7 | During the Construction Phase | ECO | Monthly | Workshop drainage is managed in accordance with the requirements |

### *5.19 Batching plants*

**Impact management outcome:** Minimise spillages and contamination of soil, surface water and groundwater.

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – Concrete mixing must be carried out on an impermeable surface; | Contractor | Provide impermeable surface for the mixing of concrete | During the Construction Phase | cEO | Weekly | No concrete mixing is undertaken on open ground |
| – Batching plants areas must be fitted with a containment facility for the collection of cement laden water. | Contractor | Implement measures for the control and management of cement laden water | During the construction phase | cEO | Weekly | No mismanagement of laden water due to the temporary concrete batching plant |
| – Dirty water from the batching plant must be contained to prevent soil and groundwater contamination | Contractor | Implement measures for the control and management of dirty water to prevent soil and groundwater contamination | During the construction phase | cEO | Weekly | No mismanagement of dirty water due to the temporary concrete batching plant and no/minimal soil and groundwater contamination |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – Bagged cement must be stored in an appropriate facility and at least 10 m away from any water courses, gullies and drains; | Contractor | Demarcate and provide a storage area for bagged cement in-line with the listed requirements | During the Construction Phase | cEO | Weekly | Photographic proof of bagged cement stored within the demarcated area |
| – A washout facility must be provided for washing of concrete associated equipment. Water used for washing must be restricted; | Contractor | Provide a washout facility for the washing of associated equipment. Enforce limitations on water use for washing of equipment | During the Construction Phase | cEO | Weekly | No cement laden water is released into the environment. Only minimal water is used for washing |
| – Hardened concrete from the washout facility or concrete mixer can either be reused or disposed of at an appropriate licensed disposal facility; | Contractor | Make use of hardened concrete where possible or dispose of concrete in a suitable manner | During the Construction Phase | ECO | Monthly | Certificates of disposal of concrete at licensed waste disposal facility |
| – Empty cement bags must be secured with adequate binding material if these will be temporarily stored on site; | Contractor | Bind empty cement bags and temporarily store it in an appropriate area on site | During the Construction Phase | ECO | Monthly | Proof of binding of empty cement bags and storage in an appropriate are on site to be |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| | | | | | | provided by the Contractor |
| – Sand and aggregates containing cement must be kept damp to prevent the generation of dust (Refer to Section 5.20: Dust emissions) | Contractor | Ensure that sand and aggregates are kept damp or otherwise protected from dust generation | During the Construction Phase | ECO | Monthly | Proof of damping (or alternative dust suppression) of sand and aggregates must be provided by the Contractor |
| – Any excess sand, stone and cement must be removed or reused from site on completion of construction period and disposed at a registered disposal facility; | Contractor | Ensure that all excess sand, stone and cement is removed or reused | At the completion of the Construction Phase | ECO | Once, with the completion of construction | Certificates for the disposal of sand, stone and cement at licensed waste disposal facilities or proof of reuse must be provided |
| – Temporary fencing must be erected around batching plants in accordance with Section 5.5: Fencing and gate installation. | Contractor | Erect Temporary fencing | During the construction phase | cEO | Weekly | Temporary fencing around batching plants |

### *5.20 Dust emissions*

**Impact management outcome:** Dust prevention measures are applied to minimise the generation of dust.

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – Take all reasonable measures to minimise the generation of dust as a result of project development activities to the satisfaction of the ECO; | Contractor | Apply appropriate dust suppressant | During the Construction Phase | cEO | Weekly | Contractor to provide proof of use of appropriate dust suppressants |
| – Removal of vegetation must be avoided until such time as soil stripping is required and similarly exposed surfaces must be re- vegetated or stabilised as soon as is practically possible; | Contractor | Proper planning for vegetation removal must be undertaken as well as for the associated rehabilitation | During the Construction Phase and Rehabilitation | cEO | Weekly | Plan for implementation must be provided by the Contractor |
| – Excavation, handling and transport of erodible materials must be avoided under high wind conditions or when a visible dust plume is present; | Contractor | Ensure that specific limitations are placed on the transport and handling of erodible materials during high wind conditions or when a visible | During the Construction Phase | cEO | Bi-weekly (every second week) | No complaints submitted in this regard |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| | | dust plume is present | | | | |
| – During high wind conditions, the ECO must evaluate the situation and make recommendations as to whether dust-damping measures are adequate, or whether working will cease altogether until the wind speed drops to an acceptable level; | ECO | ECO to provide adequate recommendations | During the Construction Phase | Not Applicable | | |
| – Where possible, soil stockpiles must be located in sheltered areas where they are not exposed to the erosive effects of the wind; | Contractor | Place soil stockpiles in areas less affected by wind | During the Construction Phase | cEO and<br><br>ECO | Bi-weekly (every second week)<br><br>Monthly | Soil stockpiles are not exposed to wind and have not been eroded |
| – Where erosion of stockpiles becomes a problem, erosion control measures must be implemented at the discretion of the ECO; | Contractor in consultation with the ECO | Contractor to implement erosion control measures as recommended and agreed with the ECO | During the Construction Phase | cEO | Weekly, until erosion is no longer a problem | Recommendations made by the ECO have been implemented by the Contractor |
| – Vehicle speeds must not exceed 40 km/h along dust roads or 20 km/h when traversing unconsolidated and non-vegetated areas; | cEO / dEO / contractor | Inform all drivers of speed limits and place appropriate signage along the relevant roads | During the Construction Phase<br>Operation Phase | ECO<br>Operation and Maintenance team | Monthly | No complaints from community members are submitted |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – Straw stabilisation must be applied at a rate of one bale/10 m² and harrowed into the top 100 mm of top material, for all completed earthworks; | Contractor | Ensure that straw stabilisation is undertaken as per the listed requirements | During the Construction Phase | ECO | Monthly | Photographic record of all straw stabilisation undertaken |
| – For significant areas of excavation or exposed ground, dust suppression measures must be used to minimise the spread of dust. | Contractor | Appropriate dust suppressant measures are implemented | During the Construction Phase | cEO | Weekly | Photographic record of measures being implemented and the results thereof |

### *5.21 Blasting*

**Impact management outcome:** Impact to the environment is minimised through a safe blasting practice.

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| – Any blasting activity must be conducted by a suitably licensed blasting contractor; and | cEO / dEO / contractor | Ensure the contractor is suitably licensed with all necessary credentials and certifications | Pre-Construction Phase | ECO/EO | Once off, before blasting activities commence. | ECO/EO to check all valid credentials and certifications on hand. |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| – Notification of surrounding landowners, emergency services site personnel of blasting activity 24 hours prior to such activity taking place on Site. | cEO / dEO / contractor | Ensure all responsible personnel have been notified of blasting activities 24 hours in advance and keep records of notifications. | Pre-Construction Phase | ECO/EO | Once off, before blasting activities commence. | ECO/EO to confirm all necessary personnel have been notified. Notification records to be provided. |

### *5.22 Noise*

**Impact Management outcome:** Unnecessary noise is prevented by ensuring that noise from construction activities is mitigated.

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – The Contractor must keep noise level within acceptable limits. Restrict the use of sound amplification equipment for communication and emergency only; | Contractor | Ensure that noise limits do not exceed acceptable limits and avoid the use of amplification communication | During the Construction Phase | ECO | Monthly, and as and when required | No complaints registered in this regard. No amplification equipment is used. |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – All vehicles and machinery must be fitted with appropriate silencing technology and must be properly maintained; | Contractor | Provide and implement silencing technology | During the Construction Phase | ECO | Monthly, and as and when required | No complaints registered in this regard. Silencing technology is utilised. |
| – Any complaints received by the Contractor regarding noise must be recorded and communicated. Where possible or applicable, provide transport to and from the site on a daily basis for construction workers; | cEO | Update complaints register. Provide daily transport to and from site for employees | During the Construction Phase | ECO | Monthly, and as and when required | Complaints register provided by the cEO and proof of transportation services provided |
| – Develop a Code of Conduct for the construction phase in terms of behaviour of construction staff. Operating hours as determined by the environmental authorisation are adhered to during the development phase. Where not defined, it must be ensured that development activities must still meet the impact management outcome related to noise management. | cEO and Contractor in consultation with the ECO | Compile a Code of Conduct for staff. Appropriate operating hours must be identified for the project. | Pre-construction and Construction | ECO | Once, prior to the commencement of construction | No complaints registered in this regard. |

### *5.23 Fire prevention*

**Impact management outcome:** Prevention of uncontrollable fires.

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – Designate smoking areas where the fire hazard could be regarded as insignificant; | c | Identify and demarcate through signage designated smoking areas | Pre-construction & Construction | ECO | Monthly | Photographic record of designated smoking area |
| – Firefighting equipment must be available on all vehicles located on site; | cEO / dEO in consultation with the Contractor | Provide all vehicles with firefighting equipment | Construction | ECO | Monthly | All vehicles are fitted with firefighting equipment and the details thereof are provided by the cEO |
| – The local Fire Protection Agency (FPA) must be informed of construction activities; | cEO in consultation with the ECO | Undertake formal consultation to inform the local FPA of the associated construction activities | Pre-construction | ECO | Once, during the commencement of the Construction Phase | Proof of consultation with the FPA |
| – Contact numbers for the FPA and emergency services must be communicated in environmental awareness training and displayed at a central location on site; | dEO / cEO / Contractor in | Develop environmental awareness | Pre-construction & Construction | ECO | Prior to the commencement of the | Environmental awareness training material |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| | consultation with the ECO | training material which covers the contact numbers for the FPA and emergency services.<br><br>Place the contact numbers for the FPA and emergency services at a visible and central location | | | environmental awareness training and once during the construction phase | requirements checklist and photographic record of contact numbers on display |
| – Two-way swop of contact details between ECO and FPA. | ECO | Consultation between the ECO and FPA to exchange contact details | Pre-construction | Not Applicable | | |

### *5.24 Stockpiling and stockpile areas*

**Impact management outcome:** Erosion and sedimentation as a result of stockpiling are reduced.

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – All material that is excavated during the project development phase (either during piling (if required) or earthworks) must be stored appropriately on site in order to minimise impacts to watercourses, wetlands and water bodies; | Contractor | Identify and demarcate an appropriate location for the storage of excavated materials | Pre-construction & Construction | ECO | Monthly | Excavated material is not stored within sensitive environmental areas |
| – All stockpiled material must be maintained and kept clear of weeds and alien vegetation growth by undertaking regular weeding and control methods; | Contractor | Implement appropriate and sufficient maintenance on stockpiled material regularly | During the Construction Phase | cEO<br><br>ECO | Bi-weekly (every second month)<br><br>Monthly | Stockpiled material is maintained sufficiently and is clear of weeds and alien vegetation |
| – Topsoil stockpiles must not exceed 2 m in height; | Contractor | Enforce limitations for the height of topsoil stockpiles | During the Construction Phase | cEO<br><br>ECO | Bi-weekly (every second month)<br><br>Monthly | Topsoil stockpiles do not exceed 2m in height |
| – During periods of strong winds and heavy rain, the stockpiles must be covered with appropriate material (e.g. cloth, tarpaulin etc.); | Contractor | Appropriate material must be provided in order to cover stockpiles when required | During the Construction Phase | ECO | Monthly | Contractor to provide proof of availability of appropriate material to |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| | | | | | | cover stockpiles when required |
| – Where possible, sandbags (or similar) must be placed at the bases of the stockpiled material in order to prevent erosion of the material. | Contractor | Sandbags must be provided in order to prevent erosion of stockpiled materials | During the Construction Phase | ECO | Monthly | Contractor to provide proof of availability of sandbags to prevent erosion of stockpiled materials |

### *5.25 Finalising tower positions*

**Impact management outcome:** No environmental degradation occurs as a result of the survey and pegging operations.

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – No vegetation clearing must occur during survey and pegging operations; | Contractor | Implement restrictions in terms of vegetation clearing during the survey and pegging operations | Pre-construction | cEO | Weekly | Contractor to provide photographic proof that no vegetation has been cleared |
| – No new access roads must be developed to facilitate access for survey and pegging purposes; | Contractor | Restrict the development of | Pre-construction | cEO | Weekly | Contractor to provide |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| | | new access roads for survey and pegging purposes | | | | photographic proof that no new roads have been developed |
| – Project manager, botanical specialist and contractor to agree on final tower positions based on survey within assessed and approved areas; | DPM, Suitably Qualified Specialist and Contractor | Undertake consultation between the relevant responsible people and finalise the tower positions for the power line | Pre-construction | ECO | Once the final tower positions have been finalised and agreed upon | Provision of final tower positions to the ECO |
| – The surveyor is to demarcate (peg) access roads/tracks in consultation with ECO. No deviations will be allowed without the prior written consent from the ECO. | Surveyor in consultation with the ECO | Undertake consultation between the surveyor and the ECO | Pre-construction | cEO | Weekly | Consultation with the ECO regarding the distribution of pegs. |

### *5.26 Excavation and Installation of foundations*

**Impact management outcome:** No environmental degradation occurs as a result of excavation or installation of foundations.

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – All excess spoil generated during foundation excavation must be disposed of in an appropriate manner and at a recognised disposal site, if not used for backfilling purposes; | Contractor | Use a licensed waste disposal facility for the disposal of excess spoil | During the Construction Phase | ECO | Monthly | Certificates obtained for the disposal of excess spoil at a licensed waste disposal facility |
| – Spoil can however be used for landscaping purposes and must be covered with a layer of 150 mm topsoil for rehabilitation purposes; | Contractor | Spoil used for landscaping must be applied as per the listed requirements | Construction and Rehabilitation | ECO | Monthly | Photographic record of spoil used for landscaping purposes as well as feedback from the contractor |
| – Management of equipment for excavation purposes must be undertaken in accordance with Section 5.18: Workshop equipment maintenance and storage; and | Contractor | Undertake the management of equipment for excavation as per the requirements of section 5.18 | During the Construction Phase | ECO | Monthly | Management of equipment is undertaken in line with the requirements of section 5.18 |
| – Hazardous substances spills from equipment must be managed in accordance with Section 5.17: Hazardous substances. | Contractor | Undertake the management of hazardous | During the Construction Phase | ECO | Monthly | Management of hazardous substances spills |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| | | substances spills from equipment as per the requirements of section 5.17 | | | | from equipment is undertaken in line with the requirements of section 5.17 |
| – Batching of cement to be undertaken in accordance with Section 5.19: Batching plants; | Contractor | Ensure correct batching of cement | During the construction phase | cEO | Weekly | Measures in place to ensure the batching of cement is done in accordance with Section 5.19: Batching plants |
| – Residual cement must be disposed of in accordance with Section 5.8: Solid and hazardous waste management. | Contractor | Undertake the disposal of residual cement as per the requirements of section 5.8 | During the Construction Phase | ECO | Monthly | The disposal of residual cement is undertaken in line with section 5.8. |

### *5.27 Assembly and erecting towers*

**Impact management outcome:** No environmental degradation occurs as a result of assembly and erecting of towers.

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – Prior to erection, assembled towers and tower sections must be stored on elevated surfaces (suggest wooden blocks) to minimise damage to the underlying vegetation; | Contractor | Provide the necessary materials for the elevated surface, where towers are to be placed on indigenous vegetation | During the Construction Phase | cEO | Weekly | Implementation of elevated surface and photographic record thereof |
| – In sensitive areas, tower assembly must take place off-site or away from sensitive positions; | Contractor in consultation with the cEO and the ECO | Identify sensitive areas to be avoided by tower assembly and ensure that the areas are not infringed upon | Pre-construction & Construction | cEO | Weekly | Tower assembly is undertaken outside of sensitive areas |
| – The crane used for tower assembly must be operated in a manner which minimises impact to the environment; | Contractor in consultation with the cEO and the ECO | Ensure that no impact to the environment is imposed during the operation of the crane | Pre-construction & Construction | cEO | Weekly | No environmental damages incurred as a result of the crane. |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – The number of crane trips to each site must be minimised; | Contractor in consultation with the cEO and the ECO | Ensure that the utilisation of the crane is maximised when on site. | Pre-construction & Construction | cEO | Weekly | Few crane trips to each site observed. |
| – Wheeled cranes must be utilised in preference to tracked cranes. However, Rocky terrain may require tracked cranes in the project site. | Contractor | Ensure wheeled cranes are utilised, where practical. | Pre-construction & Construction | cEO | Weekly | Wheeled cranes observed on site. |
| – Consideration must be given to erecting towers by helicopter or by hand where it is warranted to limit the extent of environmental impact; | Contractor | Contractor to undertake erecting of towers in an environmentally acceptable manner | During the Construction Phase | ECO | Monthly | No unacceptable environmental impacts occur with the erecting of the towers |
| – Access to tower positions to be undertaken in accordance with access requirements specified in **Section 5.4: Access Roads**; | Contractor | Undertake access to tower positions as per the requirements of section 5.4 | During the Construction Phase | ECO | Monthly | Access to tower positions are undertaken as per the requirements of section 5.4 |
| – Vegetation clearance to be undertaken in accordance with general vegetation clearance requirements specified in **Section 5.10: Vegetation clearing**; | Contractor | Undertake vegetation clearance as per the requirements of section 5.10 | During the Construction Phase | cEO | Weekly | Vegetation clearance is undertaken as per the requirements of section 5.10 |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – No levelling at tower sites must be permitted unless approved by the Development Project Manager or Developer Site Supervisor; | Contractor in consultation with the DPM and DSS | Written permission for levelling at tower sites, if required, must be obtained from the DPM and DSS prior to the undertaking of any levelling activities | During the Construction Phase | ECO | Monthly, and as and when required | Written permission from the DPM and DSS provided to the Contractor |
| – Topsoil must be removed separately from subsoil material and stored for later use during rehabilitation of such tower sites; | Contractor | Implement appropriate measures to ensure that topsoil is removed from subsoil material | Construction and Rehabilitation | cEO | Weekly, and as and when required | Proof of appropriate measures implemented must be provided by the Contractor |
| – Topsoil must be stored in heaps not higher than 2m to prevent destruction of the seed bank within the topsoil; | Contractor | Implement the listed requirements for the storage of topsoil | During the Construction Phase | cEO | Weekly | Topsoil is stored as per the listed requirements |
| – Excavated slopes must be no greater that 1:3, but where this is unavoidable, appropriate measures must be undertaken to stabilise the slopes; | Contractor | Implement the listed requirements for the excavation of slopes | During the Construction Phase | cEO | Weekly | Excavation of slopes is undertaken as per the listed requirements |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – Fly rock from blasting activity must be minimised and any pieces greater than 150 mm falling beyond the Working Area, must be collected and removed; | cEO / dEO / contractor | Ensure all pieces greater than 150 mm falling beyond the Working Area, are collected and removed and implement measures to try and minimise fly rock from blasting activity | Pre-Construction Phase | ECO/EO | During blasting activities | ECO/EO to confirm necessary measures have been undertaken to minimise fly rock from blasting activity and that no pieces greater than 150 mm are beyond the working area. |
| – Only existing disturbed areas are utilised as spoil areas; | Contractor in consultation with the ECO | Identify, demarcate and use existing disturbed areas for spoil areas | Pre-construction & Construction | cEO | Weekly | Only identified disturbed areas are used as spoil areas |
| – Drainage is provided to control groundwater exit gradient with the spill areas such that migration of fines is kept to a minimum; | Not Applicable | | | | | |
| – Surface water runoff is appropriately channelled through or around spoil areas; | DPM and Contractor | Design and implement appropriate surface runoff measures for spoil areas | Pre-construction & Construction | ECO | Once, during the construction of the surface runoff measures | Implementation of surface runoff measures through and/or around spoil areas |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – During backfilling operations, care must be taken not to dump the topsoil at the bottom of the foundation and then put spoil on top of that; | Contractor | Develop and implement backfilling procedures which ensures that topsoil is not placed at the bottom of foundations. | Pre-construction & Construction | cEO | Weekly | Backfilling operations are undertaken as per the procedures developed |
| – The surface of the spoil is appropriately rehabilitated in accordance with the requirements specified in Section 5.29: Landscaping and rehabilitation; | Contractor | Rehabilitation of the surface spoil must be undertaken in accordance with the requirements of section 5.29 | Rehabilitation | cEO | Weekly | Rehabilitation of the surface spoil is undertaken as per the requirements of section 5.29 |
| – The retained topsoil must be spread evenly over areas to be rehabilitated and suitably compacted to effect re-vegetation of such areas to prevent erosion as soon as construction activities on the site is complete. Spreading of topsoil must not be undertaken, where possible, at the beginning of the dry season. | Contractor | Ensure that topsoil is spread evenly and compacted appropriately. This must be undertaken outside of the start of the dry season, where possible | Rehabilitation | cEO | Weekly | Proof that topsoil has been spread evenly and compacted correctly must be provided by the Contractor/ cEO. Proof that the activities were undertaken outside of the start of the dry |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| | | | | | | season (or motivation as to why this was not possible) must be provided by the Contractor |

### *5.28 Stringing*

**Impact management outcome:** No environmental degradation occurs as a result of stringing.

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – Where possible, previously disturbed areas must be used for the siting of winch and tensioner stations. In all other instances, the siting of the winch and tensioner must avoid Access restricted areas and other sensitive areas; | Contractor in consultation with the ECO | Identify and demarcate areas appropriate for the siting of winch and tensioner stations which does not infringe on access restricted areas or | Pre-construction & Construction | cEO | Weekly | Winch and tensioner stations are located are located outside of identified sensitive areas |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| | | environmentally sensitive areas | | | | |
| – The winch and tensioner station must be equipped with drip trays in order to contain any fuel, hydraulic fuel or oil spills and leaks; | Contractor | Provide sufficient drip trays | During the Construction Phase | cEO | Weekly | Sufficient drip trays are available for the winch and tensioner stations and no spills occur |
| – Refuelling of the winch and tensioner stations must be undertaken in accordance with **Section 5.17: Hazardous substances;** | Contractor | The refuelling of winch and tensioner stations must be undertaken as per the requirements of section 5.17 | During the Construction Phase | ECO | Monthly | The refuelling of winch and tensioner stations is undertaken as per the requirements of section 5.17 |
| – In the case of the development of overhead transmission and distribution infrastructure, a one metre "trace-line" may be cut through the vegetation for stringing purposes only and no vehicle access must be cleared along "trace-lines". Vegetation clearing must be undertaken by hand, using chainsaws and handheld implements, with vegetation being cut off at ground level. No tracked or wheeled mechanised equipment must be used; | Contractor | Develop and implement procedures for implementation for vegetation clearing during stringing in line with the specification. | Pre-construction & Construction | ECO and cEO weekly during stringing | Once, prior to the commencement of construction and weekly during stringing | Implementation of the procedures put in place and proof thereof from the Contractor |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – Alternative methods of stringing which limit impact to the environment must always be considered e.g. by hand or by using a helicopter; | Contractor | Identify and implement the stringing method with the least environmental impact | During the Construction Phase | cEO | Weekly | Implementation of identified method of stringing with the least environmental impact |
| – Where the stringing operation crosses a public or private road or railway line, the necessary scaffolding/ protection measures must be installed to facilitate access. If, for any reason, such access has to be closed for any period(s) during development, the persons affected must be given reasonable notice, in writing; | Contractor | Identify prior to construction areas where protection measures will be required during stringing. Where access is to be restricted timeous written notice must be provided to the affected parties | Pre-construction & Construction | ECO | Monthly, and as and when required | Proof of implementation of protection measures and proof of written notice to affected parties must be provided by the Contractor |
| – No services (electrical distribution lines, telephone lines, roads, railways lines, pipelines fences etc.) must be damaged because of stringing operations. Where disruption to services is unavoidable, persons affected must be given reasonable notice, in writing; | Contractor in consultation with the cEO, DPM and dEO | Avoid the damaging or disturbance of existing services. Where services will be disrupted timeous notice must be provided to the affected parties | During the Construction Phase | ECO | Monthly, and as and when required | No disruption of services occurs. Where disruption occurs proof of written notice to affected parties must be provided by the Contractor |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – Where stringing operations cross cultivated land, damage to crops is restricted to the minimum required to conduct stringing operations, and reasonable notice (10 work days minimum), in writing, must be provided to the landowner; | Not Applicable | | | | | |
| – Necessary scaffolding protection measures must be installed to prevent damage to the structures supporting certain high value agricultural areas such as vineyards, orchards, nurseries. | Not Applicable | | | | | |

### *5.29 Socio-economic*

**Impact management outcome:** Socio-economic development is enhanced.

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – Develop and implement communication strategies to facilitate public participation; | dEO / cEO | Identify and implement appropriate strategies for communication with the communities through consideration of | Pre-construction & Construction | ECO | Once, prior to the commencement of construction and monthly during the construction | Communication is undertaken as per the identified strategies and no complaints are submitted regarding communication |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| | | the community needs | | | | |
| – Develop and implement a collaborative and constructive approach to conflict resolution as part of the external stakeholder engagement process; | Contractor | Development and implement a Grievance Mechanism which considers the community needs and provides procedures for conflict resolution | Pre-construction & Construction | ECO | Once, prior to the commencement of construction and monthly during the construction phase | Conflict resolution is undertaken in line with the requirements of the Grievance Mechanism. No complaints on conflict resolution is submitted by the community |
| – Sustain continuous communication and liaison with neighbouring owners and residents | Contractor | Development and implement a Grievance Mechanism that provides procedures for communication / liaison with neighbouring landowners and residents | Pre-construction & Construction | ECO | Once, prior to the commencement of construction and monthly during the construction phase | Communication / liaison with neighbouring landowners and residents are undertaken in line with the requirements of the Grievance Mechanism. No complaints on communication with neighbouring landowners and |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| | | | | | | residents is submitted |
| – Create work and training opportunities for local stakeholders; and | Contractor | Develop and implement a "locals first" policy for the provision of employment opportunities | Pre-construction & Construction | ECO | Once, prior to the commencement of construction and monthly during the construction phase | The "locals first" policy is considered in terms of the employment and training opportunities |
| – Where feasible, no workers, with the exception of security personnel, must be permitted to stay over-night on the site. This would reduce the risk to local farmers. | Contractor | Ensure no workers are permitted to stay over night on the site | Construction | ECO | Throughout construction | No workers remaining on site over night |

### *5.30 Temporary closure of site*

**Impact management outcome:** Minimise the risk of environmental impact during periods of site closure greater than five days.

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – Bunds must be emptied (where applicable) and need to be undertaken in accordance with the impact management actions included in **sections 5.17:** | Contractor | Regular emptying of the bunds must be undertaken. This | During the Construction Phase | ECO | Prior to site closure for more than 05 days | Bunds are emptied as per the requirements listed under |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| **management of hazardous substances** and **5.18 workshop, equipment maintenance and storage**; | | must be undertaken as per the requirements listed in sections 5.17 and 5.18 | | | | sections 5.17 and 5.18 |
| – Hazardous storage areas must be well ventilated; | Contractor | Install appropriate ventilation in all hazardous storage areas | During the construction phase | ECO | Prior to site closure for more than 05 days | Effective ventilation is installed in hazardous storage areas |
| – Fire extinguishers must be serviced and accessible. Service records to be filed and audited at last service; | Contractor / cEO | Ensure fire extinguishers are serviced, as required and are easily accessible with appropriate signage indicating location. Ensure service records are kept up to date and filed | During the Construction Phase | ECO | Prior to site closure for more than 05 days | Signage placed indicating location of fire extinguishers and service records |
| – Emergency and contact details must be displayed; | Contractor / cEO | Place emergency and contact details which are readily available and easily accessible | During the Construction Phase | ECO | Prior to site closure for more than 05 days | Photographic proof of contact details on display |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – Security personnel must be briefed and have the facilities to contact or be contacted by relevant management and emergency personnel; | Contractor in consultation with the ECO | Hold a workshop with all security personnel to provide a brief of the project and security requirements. Provide facilities in order to contact management and emergency personnel | Pre-construction & construction | ECO | Prior to site closure for more than 05 days | Proof of the workshop held must be kept on file by the contractor. |
| – Night hazards such as reflectors, lighting, traffic signage etc. must have been checked; | Contractor | Regular checks of night hazards must be undertaken | During the Construction Phase | ECO | Prior to site closure for more than 05 days | Proof of checks of night hazards must be provided by the contractor |
| – Fire hazards identified and the local authority must have been notified of any potential threats e.g. large brush stockpiles, fuels etc.; | cEO / Contractor in consultation with the ECO | Identify any potential fire hazards and notify the relevant local authority | During the Construction Phase | ECO | Prior to site closure for more than 05 days | Proof of notification of the fire hazards to the local authority must be provided by the Contractor |
| – Structures vulnerable to high winds must be secured; | Contractor | Ensure structures vulnerable to wind are secure prior to site closure | During the Construction Phase | ECO | Prior to site closure for more than 05 days | Structures vulnerable to wind are secured prior to site closure |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – Wind and dust mitigation must be implemented; | Contractor | Implement wind and dust mitigation prior to site closure | During the Construction Phase | ECO | Prior to site closure for more than 05 days | Wind and dust mitigation is implemented prior to site closure |
| – Cement and materials stores must have been secured; | Contractor | Ensure cement and material stores are secured prior to site closure | During the Construction Phase | ECO | Prior to site closure for more than 05 days | Cement and material stores are secured prior to site closure |
| – Toilets must have been emptied and secured; | Contractor | Ensure toilets are emptied and secured prior to site closure | During the Construction Phase | ECO | Prior to site closure for more than 05 days | Toilets are emptied and secured prior to site closure |
| – Refuse bins must have been emptied and secured; | Contractor | Ensure refuse bins are emptied and secured prior to site closure | During the Construction Phase | ECO | Prior to site closure for more than 05 days | refuse bins are emptied and secured prior to site closure |
| – Drip trays must have been emptied and secured. | Contractor | Ensure drip trays are emptied and secured prior to site closure | During the Construction Phase | ECO | Prior to site closure for more than 05 days | Drip trays are emptied and secured prior to site closure |

### *5.31 Landscaping and rehabilitation*

**Impact management outcome:** Areas disturbed during the development phase are returned to a state that approximates the original condition.

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – All areas disturbed by construction activities must be subject to landscaping and rehabilitation; All spoil and waste must be disposed to a registered waste site and certificates of disposal provided; | Contractor | Develop and implement a rehabilitation plan for the rehabilitation of all disturbed areas.<br><br>Dispose of all spoil and waste at a licensed waste disposal facility | Pre-construction & Rehabilitation | cEO | Weekly | Rehabilitation of the disturbed areas is undertaken as per the rehabilitation plan. All certificates of waste disposal at licensed facilities are available. |
| – All slopes must be assessed for contouring, and to contour only when the need is identified in accordance with the Conservation of Agricultural Resources Act, No 43 of 1983 | Contractor in consultation with the ECO | Assess all slopes and determine whether contouring is required | Rehabilitation | cEO | Weekly | All slopes are assessed and contoured as required |
| – All slopes must be assessed for terracing, and to terrace only when the need is identified in accordance with the Conservation of Agricultural Resources Act, No 43 of 1983; | Contractor in consultation with the ECO | Assess all slopes and determine whether terracing is required | Rehabilitation | cEO | Weekly | All slopes are assessed and terraced as required |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – Berms that have been created must have a slope of 1:4 and be replanted with indigenous species and grasses that approximates the original condition; | Contractor | Ensure all berms have a slope of 1:4 and is replanted with indigenous species and grasses | Rehabilitation | cEO | Weekly | All berms have a slope of 1:4 and is replanted with indigenous species and grasses |
| – Where new access roads have crossed cultivated farmlands, that lands must be rehabilitated by ripping which must be agreed to by the holder of the EA and the landowners; | Not applicable | | | | | |
| – Rehabilitation of tower sites and access roads outside of farmland; | Not applicable | | | | | |
| – Indigenous species must be used for with species and/grasses to where it compliments or approximates the original condition; | Contractor | Make use of indigenous species for rehabilitation | Rehabilitation | cEO | Weekly | Indigenous species are used for rehabilitation |
| – Stockpiled topsoil must be used for rehabilitation (refer to **Section 5.24: Stockpiling and stockpiled areas**); | Contractor | Ensure stockpiled topsoil is used as per the requirements listed under section 5.24 | Rehabilitation | cEO | Weekly | Stockpiled topsoil is used as per the requirements listed under section 5.24 |
| – Stockpiled topsoil must be evenly spread so as to facilitate seeding and minimise loss of soil due to erosion; | Contractor | Ensure that topsoil is spread evenly | Rehabilitation | cEO | Weekly | Topsoil is spread evenly |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| – Before placing topsoil, all visible weeds from the placement area and from the topsoil must be removed; | Contractor | Remove all visible weeds from placement area and topsoil before spreading the topsoil | Rehabilitation | cEO | Weekly | No weeds are visible in the placement area or the topsoil |
| – Subsoil must be ripped before topsoil is placed; | Contractor | Undertake the ripping of subsoil prior to the spreading of topsoil | Rehabilitation | cEO | Weekly | Subsoil is ripped before topsoil is placed |
| – The rehabilitation must be timed so that rehabilitation can take place at the optimal time for vegetation establishment; | Contractor | Plan the timeframe for rehabilitation in order to undertake vegetation planting during the optimal time for vegetation establishment | Rehabilitation | ECO | At the start of rehabilitation to confirm correct timeframe | Rehabilitation is undertaken during the optimal time |
| – Where impacted through construction related activity, all sloped areas must be stabilised to ensure proper rehabilitation is effected and erosion is controlled; | Contractor | All disturbed slope areas must be stabilised | Rehabilitation | cEO | Weekly | Disturbed slopes are stabilised sufficiently |
| – Sloped areas stabilised using design structures or vegetation as specified in the design to prevent erosion of embankments. The contract design | Contractor | Stabilise slopes as per the design specifications | Pre-construction & Rehabilitation | cEO | Weekly | Slopes are stabilised as per the design specifications |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|---|---|---|
| | **Responsible person** | **Method of implementation** | **Timeframe for implementation** | **Responsible person** | **Frequency** | **Evidence of compliance** |
| specifications must be adhered to and implemented strictly; | | | | | | |
| – Spoil can be used for backfilling or landscaping as long as it is covered by a minimum of 150 mm of topsoil. | Contractor | Spoil used for landscaping must be applied as per the listed requirements | Rehabilitation | cEO | Weekly | Photographic record of spoil used for landscaping purposes as well as feedback from the contractor |
| – Where required, re-vegetation including hydro-seeding can be enhanced using a vegetation seed mixture as described below. A mixture of seed can be used provided the mixture is carefully selected to ensure the following:<br>a) Annual and perennial plants are chosen;<br>b) Pioneer species are included;<br>c) Species chosen must be indigenous to the area with the seeds used coming from the area;<br>d) Root systems must have a binding effect on the soil;<br>e) The final product must not cause an ecological imbalance in the area | Contractor in consultation with a suitably qualified specialist | Make use of a suitable vegetation seed mixture should enhancement be required | Rehabilitation | ECO | As and when required | Use of a suitable vegetation seed mixture if required |

## 6 ACCESS TO THE GENERIC EMPr

Once completed and signed, to allow the public access to the generic EMPr, the holder of the EA must make the EMPr available to the public in accordance with the requirements of regulation 26(h) of the EIA Regulations.

**PART B: SECTION 2**

## 7 SITE SPECIFIC INFORMATION AND DECLARATION

### 7.1 Sub-section 1: contact details and description of the project

#### 7.1.1 Details of the applicant:

Name of applicant: Emoyeni Renewable Energy Farm (Pty) Ltd
Tel No: +27 83 689 3063
Fax No: Not supplied
Postal Address: POSTNET SUITE 216
Private Bag X26
Tokai
Cape Town
Physical Address: Unit 3, Denmar Square
45 Bell Crescent Road
Westlake, Cape Town
7945

#### 7.1.2 Details and expertise of the EAP:

Name of EAP: Jo-Anne Thomas
Tel No: 011-656-3237
Fax No: 086-684-0547
E-mail address: joanne@savannahsa.com
Expertise of the EAP (Curriculum Vitae included): Refer to Appendix 2 of this EMPr for a CV of the EAP

**7.1.3 Project name:** Ummbila Emoyeni EGI, Mpumalanga Province

#### 7.1.4 Description of the project:

Emoyeni Renewable Energy Farm (Pty) Ltd is proposing the development of grid connection infrastructure on a site located ~6km south-east of Bethal and 1km east of Morgenzon, within the Mpumalanga Province. The project site is located across the Govan Mbeki and Lekwa Local Municipalities within the Gert Sibande District on the following properties:

| Parent Farm Number | Farm Portions |
|---|---|
| Farm 261 – Naudesfontein | 15 R/E, 21 |
| Farm 264 – Geluksplaats | 0, 1, 3, 4, 5, 6 R/E, 8 R/E, 9R/E, 10, 11, 12 |
| Farm 268 – Brak Fontein Settlement | 6,7,10,11,12 |
| Farm 420 – Rietfontein | 8,9,10,11,12,15 R/E,16,18,19,22,32 |
| Farm 421 - Sukkelaar | 2, 2, 7, 9, 9 10, 10 11, 11 12, 12, 22 ,25 R/E, 34, 35, 36, 37, 37, 38, 39, 40, 42, 42 |
| Farm 422 – Klipfontein | 0, 2 R/E, 3 R/E, 4, 5, 6, 7, 8 R/E, 9, 10, 12, 13 R/E, 14 R/E, 16, 17, 18, 19, 20, 21, 22, 23 |

| Parent Farm Number | Farm Portions |
|---|---|
| Farm 423 – Bekkerust | 0 R/E, 1, 2 R/E, 4, 5 R/E, 6, 10, 11, 12, 13 14, 15, 17, 19 R/E, 20, 22, 23, 24,25 |
| Farm 454 – Oshoek | 4 R/E, 13, 18 |
| Farm 455 – Ebenhaezer | 0, 1, 2, 3 |
| Farm 456 – Vaalbank | 1, 2, 3, 4, 7, 8, 13, 15, 16, 17, 18, 19 |
| Farm 457 – Roodekrans | 0, 1, 4, 5, 7, 22, 23, 23 |
| Farm 458 – Goedgedacht | 0, 2, 3, 4, 4, 5, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 21, 22, 23, 25, 26 R/E, 27, 28, 29, 31, 32, 33, 34, 35, 36, 37, 39, 41, 42, 43 |
| Farm 467 – Twee Fontein | 0 R/E, 1 R/E, 4 R/E, 5, 6, 7 R/E, 8, 10 |
| Farm 469 – Klipkraal | 5 R/E, 6, 7, 8 |
| Farm 548 – Durabel | 0 |
| Farm 470 – Dorpsplaats | 85 |
| Farm 451 - Drinkwater | 4, 22 |
| Farm 452 - Brakfontein | 5 |

A project site considered to be suitable for the development of grid connection infrastructure, with an extent of ~27 819ha, was identified by the project developer. The project site is the area under assessment in the EIA process. It is within the identified project site that a footprint has been identified by the developer through consideration of the sensitive environmental features and buffers identified during the Scoping Phase.

The grid connection infrastructure will include:

- A new 400/132 kV Main Transmission Substation (MTS), to be located adjacent to the Camden SOL Overhead Lines (OHLs).
- New collector stations: each will comprise several incoming 132 kV feeder bays connecting OHLs from the MTS, a 132kV bus bar and outgoing feeder bays to remote switching stations.
- Two 400kV loop-in loop-out OHLs to the existing Camden-Sol 400kV transmission line.
- On-site switching stations (132kV in capacity) at each renewable energy facility.
- 132kV power lines from the switching stations to the collector substations and ultimately to a new MTS.
- On-site IPP substations where the generated power will be transformed from 33 kV to 132 kV so it can be evacuated to the switching stations and from there to the Collector station and MTS
- Access roads up to 8m wide.

The 400/132kV MTS will serve as the main point of connection to which the internal 132kV power lines of the proposed Ummbila Emoyeni Wind and Solar Energy facilities will connect. The connection of the proposed 400/132kVkV MTS to the national grid will be via a new loop-in loop-out 400kV power line that will connect into the existing Camden-Sol 400kV transmission line.

## 7.2 Sub-section 2: Development footprint site map

This sub-section must include a map of the site sensitivity overlaid with the preliminary infrastructure layout. The sensitivity map must be prepared from the national web based environmental screening tool, when available for compulsory use at: https://screening.environment.gov.za/screeningtool. The sensitivity map shall identify the nature of each sensitive feature e.g. raptor nest, threatened plant species, archaeological site, etc. Sensitivity maps shall identify features both within the planned working area and any known sensitive features in the surrounding landscape. The overhead transmission and distribution profile shall be illustrated at an appropriate resolution to enable fine scale interrogation. It is recommended that <20 km of overhead transmission and distribution length is illustrated per page in A3 landscape format. Where considered appropriate, photographs of sensitive features in the context of tower positions shall be used.

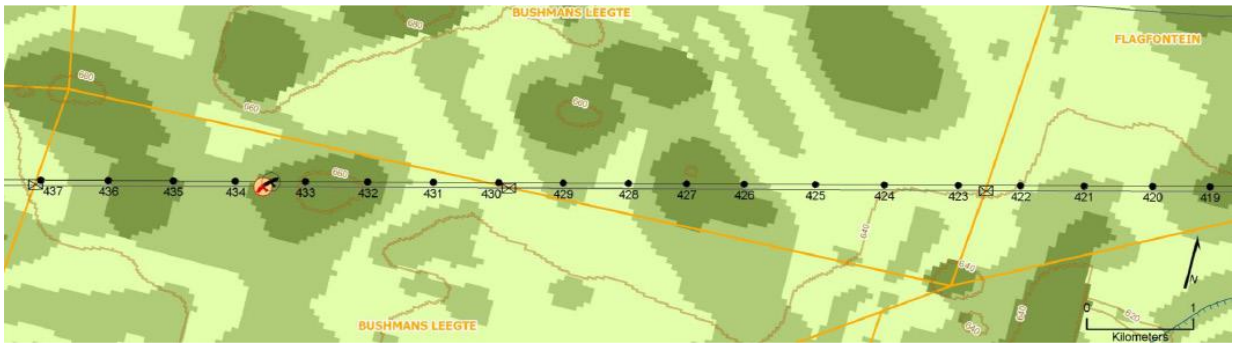


Figure 1: Example of an environmental sensitivity map in the context of a final overhead transmission and distribution profile

**The maps provided below have been compiled based on verified site sensitivities through specialist studies, and relate to the EGI which the substations are associated with. The DFFE screening tool report for the project site is included in Appendix 3 of this EMPr.**

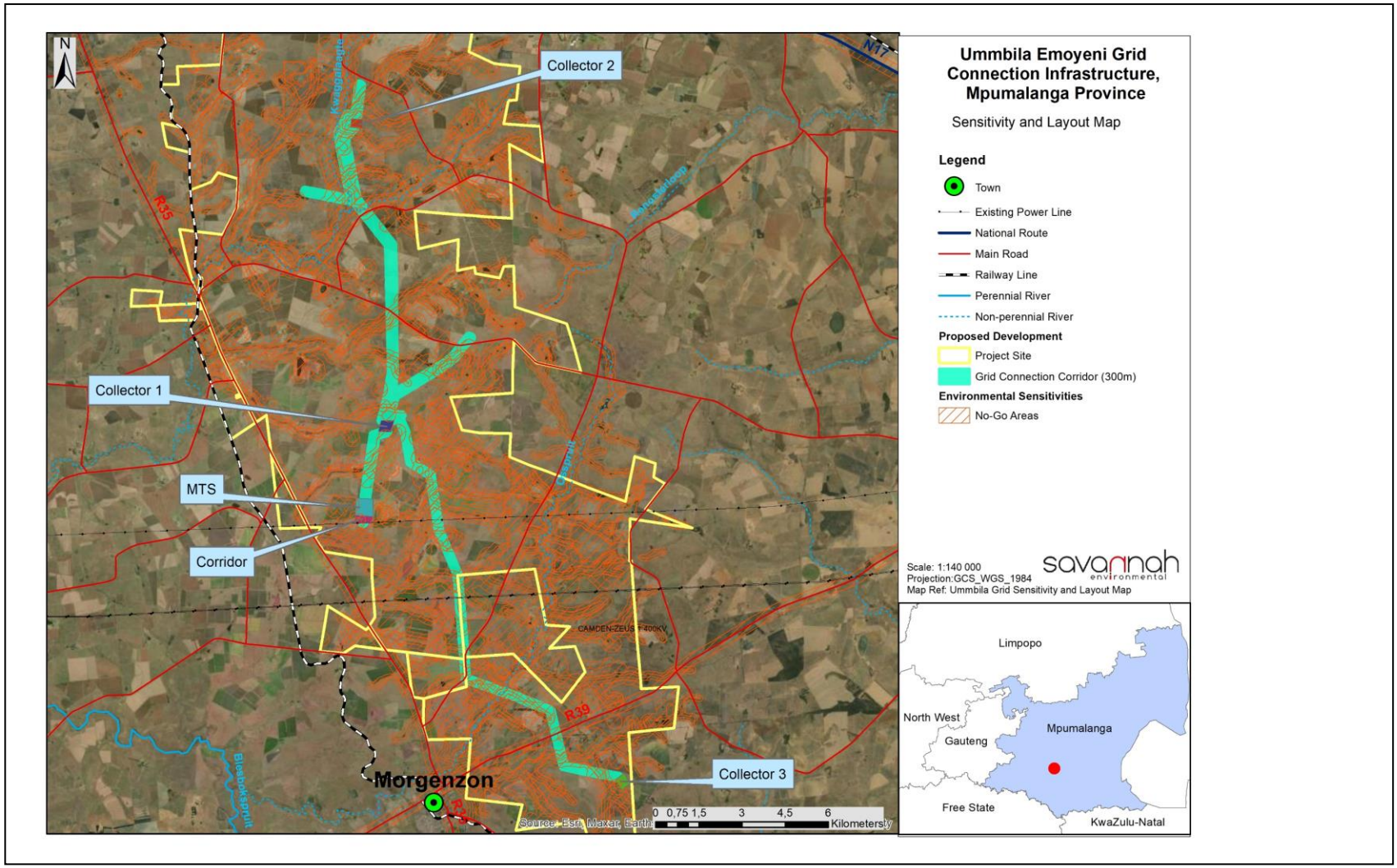


**Figure 2:** Environmental sensitivity map of the Ummbila Emoyeni EGI, including all infrastructure

### 7.3 Sub-section 3: Declaration

The proponent/applicant or holder of the EA affirms that he/she will abide and comply with the prescribed impact management outcomes and impact management actions as stipulated in part B: section 1 of the generic EMPr and have the understanding that the impact management outcomes and impact management actions are legally binding. The proponent/applicant or holder of the EA affirms that he/she will provide written notice to the CA 14 days prior to the date on which the activity will commence of commencement of construction to facilitate compliance inspections.

Signature Proponent/applicant/ holder of EA Date: 14 October 2022

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### 7.4 Sub-section 4: amendments to site specific information (Part B; section 2)

Should the EA be transferred to a new holder, Part B: Section 2 must be completed by the new holder and submitted with the application for an amendment of the EA in terms of Regulations 29 or 31 of the EIA Regulations, whichever applies. The information submitted for an amendment to an environmental authorisation will be considered to be incomplete should a signed copy of Part B: Section 2 not be submitted. Once approved, Part B: Section 2 forms part of the EMPr for the development and the EMPr becomes legally binding to the new EA holder.

**PART C**

## 8 SITE SPECIFIC ENVIRONMENTAL ATTRIBUTES

If any specific environmental sensitivities/attributes are present on the site which require more specific impact management outcomes and impact management actions, not included in the pre-approved generic EMPr template, to manage impacts, those impact management outcomes and actions must be included in this section. These specific management controls must be referenced spatially and must include impact management outcomes and impact management actions. The management controls including impact management outcomes and impact management actions must be presented in the format of the pre-approved generic EMPr template. This applies only to additional impact management outcomes and impact management actions that are necessary.

If Part C is applicable to the development as authorised in the EA, it is required to be submitted to the CA together with the BAR or EIAR, for consideration of, and decision on, the application for EA. The information in this section must be prepared by an EAP and the name and expertise of the EAP, including the curriculum vitae are to be included. Once approved, Part C forms part of the EMPr for the site and is legally binding.

This section will **not be required** should the site contain no specific environmental sensitivities or attributes.

**OBJECTIVE 1: To ensure that the design of the facility responds to the identified environmental constraints and opportunities**

| | |
|---|---|
| **Project component/s** | » Power lines;<br>» Access roads; and<br>» Associated infrastructure. |
| **Potential Impact** | » Design fails to respond optimally to the identified environmental considerations. |
| **Activities/risk sources** | » Positioning of power line towers.<br>» Positioning of laydown areas |
| **Mitigation: Target/Objective** | » To ensure that the design responds to the identified environmental constraints and opportunities, including the constraints identified through the EIA process.<br>» To ensure that pre-construction activities are undertaken in an environmentally friendly manner by e.g. avoiding identified sensitive areas. |

| Mitigation: Action/control | Responsibility | Timeframe |
|---|---|---|
| Plan and conduct pre-construction activities in an environmentally responsible manner and in a manner that does not lead to unnecessary impacts and disturbance. | Developer<br>EPC Contractor | Pre-construction |
| Consider design level mitigation measures recommended by the specialists, as detailed within the EIA report and relevant appendices. | Developer<br>EPC Contractor | Design phase |
| Ensure that laydown areas, construction camps and other temporary use areas are located in areas of low and medium sensitivity and are properly fenced or demarcated as appropriate and practically possible. | Developer<br>EPC Contractor | Design phase |
| The following buffer areas are recommended, and should be implemented for maintaining the freshwater resource features REC (Recommended Ecological Category) allowing the persistence of the current present ecological status as well as their functions and services.<br><br>» All small, endorheic seepages and depressions with a High Ecological Importance: 50m buffers from the outer edge of the freshwater resource features.<br>» All larger interconnected wetland features with Very Ecological Importance: 100m buffers from the outer edge of the freshwater resource features.<br>» All freshwater features with their buffer areas have been classified as either Very High- or High sensitive and should be regarded as "No-Go" areas apart from the following activities and infrastructure which may be allowed (although restricted to an absolute minimum footprint):<br>* only activities relating to the route access and cabling: | Developer<br>EPC Contractor | Design phase |

| Mitigation: Action/control | Responsibility | Timeframe |
|---|---|---|
| * the use/upgrade of existing roads and watercourse crossings are the preferred options;<br>* Where no suitable existing roads and watercourse crossings exist, the construction of new access roads and watercourse crossings can be allowed, however this should be deemed as a last resort.<br>* All underground cabling should be laid either within access roads or next to access roads (as close as possible). | | |
| Infrastructure to avoid avifauna Very High Sensitivity areas, linear infrastructure (including roads) permitted. | Developer<br>EPC Contractor | Design phase |
| The footprint within avifauna Medium Sensitivity areas should be minimised and avoided wherever possible. | Developer<br>EPC Contractor | Design phase |
| The minimum footprint areas of infrastructure should be used wherever possible. | Developer<br>EPC Contractor | Design phase |
| No placement of infrastructure (except roads) within 200m of key habitat features specifically including tree clumps, buildings, dams/wetlands, and rivers/streams. | Developer<br>EPC Contractor | Design phase |
| Avoid all high agricultural production land and other actively cultivated areas. Where avoidance is not feasible, stakeholder engagement should occur to compensate affected landowners | Developer<br>EPC Contractor | Design phase |
| » A 500m no development buffer should be implemented on either side of the N17, R35 and R39.<br>» A 200m no development buffer should be implemented on either side of the secondary routes that run through the development area.<br>» A 500m no development buffer must be implemented around the identified farm werfs. | Developer<br>EPC Contractor | Design phase |
| A 50m no-go development buffer is implemented around all burial ground sites including Observations 001, 005, 006, 008, 012 and 013. A Management Plan for the ongoing conservation of these burials is developed prior to construction, along with a Guide on how to identify marked and unmarked burials and how to proceed should previously unidentified burials be uncovered during the construction process. | Developer<br>EPC Contractor | Design phase |
| The historic farm werf cluster as defined in the Heritage Impact Assessment must not be impacted by the development. | Developer<br>EPC Contractor | Design phase |
| A 500m no development buffer must be implemented around the identified farm werfs. | Developer<br>EPC Contractor | Design phase |

| | |
|---|---|
| **Performance Indicator** | » Design meets the objectives and does not degrade the environment. |

| | |
|---|---|
| | » Design and layouts respond to the mitigation measures and recommendations in the EIA report. |
| **Monitoring** | » Ensure that the design implemented meets the objectives and mitigation measures in the EIA report through review of the facility design by the Project Manager and ECO prior to the commencement of construction. |

**OBJECTIVE 2: Protection of avifauna**

| | |
|---|---|
| **Project component/s** | » Power lines |
| **Potential Impact** | » Disturbance of birds (e.g. destruction of habitat).<br>» Displacement of birds.<br>» Collision with project components.<br>» Traffic to and from site. |
| **Activity/risk source** | » Site preparation and earthworks.<br>» Foundations or plant equipment installation.<br>» Mobile construction equipment movement on site. |
| **Mitigation: Target/Objective** | » To minimise footprints of habitat destruction.<br>» To minimise disturbance to resident and visitor avifaunal species. |

| Mitigation: Action/control | Responsibility | Timeframe |
|---|---|---|
| The extent of clearing and disturbance to the vegetation must be kept to a minimum so that impact on avifauna and their habitats is restricted. | Contractor | Construction |
| Construction camps should be lit with as little light as practically possible, with the lights directed downwards where appropriate | Contractor | Construction |
| The movement of construction personnel should be restricted to the construction areas on the project site. | Contractor | Construction |
| No dogs or cats other than those of the landowners should be allowed on site. | Contractor | Construction |
| The appointed Environmental Officer must be trained to identify the potential Red Data species as well as the signs that indicate possible breeding by these species. | Contractor<br>EO | Construction |
| The Environmental Officer must, during audits/site visits, make a concerted effort to look out for such breeding activities of SCCs (e.g. cranes, Secretarybird), and such efforts may include the training of construction staff (e.g. in Toolbox talks) to identify Red Data species, followed by regular questioning of staff as to the regular whereabouts on site of these species. | Contractor | Construction |
| If any avifaunal SCCs are confirmed to be breeding (e.g. if a nest site is found), construction activities within 500 m of the breeding site must cease, and an avifaunal specialist is to be contacted immediately for further assessment of the situation and instruction on how to proceed. | Contractor | Construction |
| Any holes dug should not be left open for extended periods of time to prevent entrapment by ground dwelling avifauna or their young and only be dug when required and filled in soon thereafter. | Contractor | Construction |
| Temporary fencing must be suitably constructed, e.g. if double layers of fencing are required for security purposes they should be | Contractor | Construction |

| Mitigation: Action/control | Responsibility | Timeframe |
|---|---|---|
| positioned at least 2 m apart to reduce the probability of entrapment by larger bodied species that may find themselves between the two fences. | | |
| An operational monitoring programme for any novel overhead power lines must be implemented to locate potential collision fatalities. | Developer Specialist | Operation phase |
| If one or more avifaunal SCC carcasses are located and determined likely to have resulted from collisions with infrastructure in any sensitivity area over the lifespan of the facility the fatality is to be appropriately recorded and reported to an avifaunal specialist to determine the most appropriate action. | Developer Specialist | Operation phase |

| | |
|---|---|
| **Performance Indicator** | » No disturbance outside of designated work areas.<br>» Minimised clearing of existing/natural vegetation and habitats for avifauna.<br>» Limited impacts on avifaunal species (i.e. noted/recorded fatalities), especially those of conservation concern. |
| **Monitoring and Reporting** | » Observation of vegetation clearing activities by the EO throughout construction phase.<br>» Supervision of all clearing and earthworks by the EO. |

**APPENDIX 1: METHOD STATEMENTS**

To be prepared by the contractor prior to commencement of the activity. The method statements are **not required** to be submitted to the CA.

**APPENDIX 2: CV OF THE EAP**

savannah environmental

1st Floor, Block 2, 5 Woodlands Drive Office Park
Woodlands Drive, Woodmead
Johannesburg, South Africa

Email: joanne@savannahsa.com
Tel: +27 (11) 656 3237

# CURRICULUM VITAE OF JO-ANNE THOMAS

| | |
|---|---|
| **Profession:** | Environmental Management and Compliance Consultant; Environmental Assessment Practitioner |
| **Specialisation:** | Environmental Management; Strategic environmental advice; Environmental compliance advice & monitoring; Environmental Impact Assessments; Policy, strategy & guideline formulation; Project Management; General Ecology |
| **Work experience:** | Twenty four (24) years in the environmental field |

## VOCATIONAL EXPERIENCE

Provide technical input for projects in the environmental management field, specialising in Strategic Environmental Advice, Environmental Impact Assessment studies, environmental auditing and monitoring, environmental permitting, public participation, Environmental Management Plans and Programmes, environmental policy, strategy and guideline formulation, and integrated environmental management. Key focus on integration of the specialist environmental studies and findings into larger engineering-based projects, strategic assessment, and providing practical and achievable environmental management solutions and mitigation measures. Responsibilities for environmental studies include project management (including client and authority liaison and management of specialist teams); review and manipulation of data; identification and assessment of potential negative environmental impacts and benefits; review of specialist studies; and the identification of mitigation measures. Compilation of the reports for environmental studies is in accordance with all relevant environmental legislation.

Undertaking of numerous environmental management studies has resulted in a good working knowledge of environmental legislation and policy requirements. Recent projects have been undertaken for both the public- and private-sector, including compliance advice and monitoring, electricity generation and transmission projects, various types of linear developments (such as National Road, local roads and power lines), waste management projects (landfills), mining rights and permits, policy, strategy and guideline development, as well as general environmental planning, development and management.

## SKILLS BASE AND CORE COMPETENCIES

- Project management for a range of projects
- Identification and assessment of potential negative environmental impacts and benefits through the review and manipulation of data and specialist studies
- Identification of practical and achievable mitigation and management measures and the development of appropriate management plans
- Compilation of environmental reports in accordance with relevant environmental legislative requirements
- External and peer review of environmental reports & compliance advice and monitoring
- Formulation of environmental policies, strategies and guidelines
- Strategic and regional assessments; pre-feasibility & site selection
- Public participation processes for a variety of projects
- Strategic environmental advice to a wide variety of clients both in the public and private sectors
- Working knowledge of environmental planning processes, policies, regulatory frameworks and legislation

## EDUCATION AND PROFESSIONAL STATUS

**Degrees:**

- B.Sc Earth Sciences, University of the Witwatersrand, Johannesburg (1993)
- B.Sc Honours in Botany, University of the Witwatersrand, Johannesburg (1994)
- M.Sc in Botany, University of the Witwatersrand, Johannesburg (1996)

**Short Courses:**

- Environmental Impact Assessment, Potchefstroom University (1998)
- Environmental Law, Morgan University (2001)
- Environmental Legislation, IMBEWU (2017)
- Mining Legislation, Cameron Cross & Associates (2013)
- Environmental and Social Risk Management (ESRM), International Finance Corporation (2018)

**Professional Society Affiliations:**

- Registered EAP with the Environmental Assessment Practitioners Association of South Africa (EAPASA) (2019/726)
- Registered with the South African Council for Natural Scientific Professions as a Professional Natural Scientist: Environmental Scientist (400024/00)
- Registered with the International Associated for Impact Assessment South Africa (IAIAsa): 5601
- Member of the South African Wind Energy Association (SAWEA)

## EMPLOYMENT

| Date | Company | Roles and Responsibilities |
|---|---|---|
| **January 2006 - Current:** | Savannah Environmental (Pty) Ltd | Director<br>Project manager<br>Independent specialist environmental consultant, Environmental Assessment Practitioner (EAP) and advisor. |
| **1997 – 2005:** | Bohlweki Environmental (Pty) Ltd | Senior Environmental Scientist at. Environmental Management and Project Management |
| **January – July 1997:** | Sutherland High School, Pretoria | Junior Science Teacher |

## PROJECT EXPERIENCE

Project experience includes large infrastructure projects, including electricity generation and transmission, wastewater treatment facilities, mining and prospecting activities, property development, and national roads, as well as strategy and guidelines development.

**RENEWABLE POWER GENERATION PROJECTS: PHOTOVOLTAIC SOLAR ENERGY FACILITIES**

**Environmental Impact Assessments and Environmental Management Programmes**

| Project Name & Location | Client Name | Role |
|---|---|---|
| Christiana PV 2 SEF, North West | Solar Reserve South Africa | Project Manager & EAP |
| De Aar PV facility, Northern Cape | iNca Energy | Project Manager & EAP |
| Everest SEF near Hennenman, Free State | FRV Energy South Africa | Project Manager & EAP |
| Graafwater PV SEF, Western Cape | iNca Energy | Project Manager & EAP |
| Grootkop SEF near Allanridge, Free State | FRV Energy South Africa | Project Manager & EAP |
| Hertzogville PV 2 SEF with 2 phases, Free State | SunCorp / Solar Reserve | Project Manager & EAP |

| Project Name & Location | Client Name | Role |
|---|---|---|
| Karoshoek CPV facility on site 2 as part of the larger Karoshoek Solar Valley Development East of Upington, Northern Cape | FG Emvelo | Project Manager & EAP |
| Kgabalatsane SEF North-East for Brits, North West | Built Environment African Energy Services | Project Manager & EAP |
| Kleinbegin PV SEF West of Groblershoop, Northern Cape | MedEnergy Global | Project Manager & EAP |
| Lethabo Power Station PV Installation, Free State | Eskom Holdings SoC Limited | Project Manager & EAP |
| Majuba Power Station PV Installation, Mpumalanga | Eskom Holdings SoC Limited | Project Manager & EAP |
| Merapi PV SEF Phase 1 – 4 South-East of Excelsior, Free State | SolaireDirect Southern Africa | Project Manager & EAP |
| Sannaspos Solar Park, Free State | SolaireDirect Southern Africa | Project Manager & EAP |
| Ofir-Zx PV Plant near Keimoes, Northern Cape | S28 Degrees Energy | Project Manager & EAP |
| Oryx SEF near Virginia, Free State | FRV Energy South Africa | Project Manager & EAP |
| Project Blue SEF North of Kleinsee, Northern Cape | WWK Development | Project Manager & EAP |
| S-Kol PV Plant near Keimoes, Northern Cape | S28 Degrees Energy | Project Manager & EAP |
| Sonnenberg PV Plant near Keimoes, Northern Cape | S28 Degrees Energy | Project Manager & EAP |
| Tutuka Power Station PV Installation, Mpumalanga | Eskom Transmission | Project Manager & EAP |
| Two PV sites within the Northern Cape | MedEnergy Global | Project Manager & EAP |
| Two PV sites within the Western & Northern Cape | iNca Energy | Project Manager & EAP |
| Upington PV SEF, Northern Cape | MedEnergy Global | Project Manager & EAP |
| Vredendal PV facility, Western Cape | iNca Energy | Project Manager & EAP |
| Waterberg PV plant, Limpopo | Thupela Energy | Project Manager & EAP |
| Watershed Phase I & II SEF near Litchtenburg, North West | FRV Energy South Africa | Project Manager & EAP |
| Alldays PV & CPV SEF Phase 1, Limpopo | BioTherm Energy | Project Manager & EAP |
| Hyperion PV Solar Development 1, 2, 3, 4, 5 & 6, Northern Cape | Building Energy | Project Manager & EAP |
| Vrede & Rondavel PV, Free State | Mainstream Renewable Energy Developments | Project Manager & EAP |

**Basic Assessments**

| Project Name & Location | Client Name | Role |
|---|---|---|
| Aberdeen PV SEF, Eastern Cape | BioTherm Energy | Project Manager & EAP |
| Christiana PV 1 SEF on Hartebeestpan Farm, North-West | Solar Reserve South Africa | Project Manager & EAP |
| Heuningspruit PV1 & PV 2 facilities near Koppies, Free State | Sun Mechanics | Project Manager & EAP |
| Kakamas PV Facility, Northern Cape | iNca Energy | Project Manager & EAP |
| Kakamas II PV Facility, Northern Cape | iNca Energy | Project Manager & EAP |
| Machadodorp 1 PV SEF, Mpumalanga | Solar To Benefit Africa | Project Manager & EAP |
| PV site within the Northern Cape | iNca Energy | Project Manager & EAP |
| PV sites within 4 ACSA airports within South Africa, National | Airports Company South Africa (ACSA) | Project Manager & EAP |
| RustMo1 PV Plant near Buffelspoort, North West | Momentous Energy | Project Manager & EAP |
| RustMo2 PV Plant near Buffelspoort, North West | Momentous Energy | Project Manager & EAP |
| RustMo3 PV Plant near Buffelspoort, North West | Momentous Energy | Project Manager & EAP |
| RustMo4 PV Plant near Buffelspoort, North West | Momentous Energy | Project Manager & EAP |

| Project Name & Location | Client Name | Role |
|---|---|---|
| Sannaspos PV SEF Phase 2 near Bloemfontein, Free State | SolaireDirect Southern Africa | Project Manager & EAP |
| Solar Park Expansion within the Rooiwal Power Station, Gauteng | AFRKO Energy | Project Manager & EAP |
| Steynsrus SEF, Free State | SunCorp | Project Manager & EAP |
| Sirius Solar PV Project Three and Sirius Solar PV Project Four (BA in terms of REDZ regulations), Northern Cape | SOLA Future Energy | Project Manager & EAP |
| Northam PV, Limpopo Province | Northam Platinum | Project Manager & EAP |
| Kolkies PV Suite (x 6 projects) and Sadawa PV Suite (x 4 projects), Western Cape | Mainstream Renewable Energy Developments | Project Manager & EAP |

**Screening Studies**

| Project Name & Location | Client Name | Role |
|---|---|---|
| Allemans Fontein SEF near Noupoort, Northern Cape | Fusion Energy | Project Manager & EAP |
| Amandel SEF near Thabazimbi, Limpopo | iNca Energy | Project Manager & EAP |
| Arola/Doornplaat SEF near Ventersdorp, North West | FRV & iNca Energy | Project Manager & EAP |
| Bloemfontein Airport PV Installation, Free State | The Power Company | Project Manager & EAP |
| Brakspruit SEF near Klerksorp, North West | FRV & iNca Energy | Project Manager & EAP |
| Carolus Poort SEF near Noupoort, Northern Cape | Fusion Energy | Project Manager & EAP |
| Damfontein SEF near Noupoort, Northern Cape | Fusion Energy | Project Manager & EAP |
| Everest SEF near Welkom, Free State | FRV & iNca Energy | Project Manager & EAP |
| Gillmer SEF near Noupoort, Northern Cape | Fusion Energy | Project Manager & EAP |
| Grootkop SEF near Allansridge, Free State | FRV & iNca Energy | Project Manager & EAP |
| Heuningspruit PV1 & PV 2 near Koppies, Free State | Cronimat | Project Manager & EAP |
| Kimberley Airport PV Installation, Northern Cape | The Power Company | Project Manager & EAP |
| Kolonnade Mall Rooftop PV Installation in Tshwane, Gauteng | Momentous Energy | Project Manager & EAP |
| Loskop SEF near Groblersdal, Limpopo | S&P Power Unit | Project Manager & EAP |
| Marble SEF near Marble Hall, Limpopo | S&P Power Unit | Project Manager & EAP |
| Morgenson PV1 SEF South-West of Windsorton, Northern Cape | Solar Reserve South Africa | Project Manager & EAP |
| OR Tambo Airport PV Installation, Gauteng | The Power Company | Project Manager & EAP |
| Oryx SEF near Virginia, Free State | FRV & iNca Energy | Project Manager & EAP |
| Rhino SEF near Vaalwater, Limpopo | S&P Power Unit | Project Manager & EAP |
| Rustmo2 PV Plant near Buffelspoort, North West | Momentous Energy | Project Manager & EAP |
| Spitskop SEF near Northam, Limpopo | FRV & iNca Energy | Project Manager & EAP |
| Steynsrus PV, Free State | Suncorp | Project Manager & EAP |
| Tabor SEF near Polokwane, Limpopo | FRV & iNca Energy | Project Manager & EAP |
| UpingtonAirport PV Installation, Northern Cape | The Power Company | Project Manager & EAP |
| Valeria SEF near Hartebeestpoort Dam, North West | Solar to Benefit Africa | Project Manager & EAP |
| Watershed SEF near Lichtenburg, North West | FRV & iNca Energy | Project Manager & EAP |
| Witkop SEF near Polokwane, Limpopo | FRV & iNca Energy | Project Manager & EAP |
| Woodmead Retail Park Rooftop PV Installation, Gauteng | Momentous Energy | Project Manager & EAP |

**Environmental Compliance, Auditing and ECO**

| Project Name & Location | Client Name | Role |
|---|---|---|
| ECO and bi-monthly auditing for the construction of the Adams Solar PV Project Two South of Hotazel, | Enel Green Power | Project Manager |

| Project Name & Location | Client Name | Role |
|---|---|---|
| Northern Cape | | |
| ECO for the construction of the Kathu PV Facility, Northern Cape | REISA | Project Manager |
| ECO and bi-monthly auditing for the construction of the Pulida PV Facility, Free State | Enel Green Power | Project Manager |
| ECO for the construction of the RustMo1 SEF, North West | Momentous Energy | Project Manager |
| ECO for the construction of the Sishen SEF, Northern Cape | Windfall 59 Properties | Project Manager |
| ECO for the construction of the Upington Airport PV Facility, Northern Cape | Sublanary Trading | Project Manager |
| Quarterly compliance monitoring of compliance with all environmental licenses for the operation activities at the Kathu PV facility, Northern Cape | REISA | Project Manager |
| ECO for the construction of the Konkoonsies II PV SEF and associated infrastructure, Northern Cape | BioTherm Energy | Project Manager |
| ECO for the construction of the Aggeneys PV SEF and associated infrastructure, Northern Cape | BioTherm Energy | Project Manager |

**Compliance Advice and ESAP Reporting**

| Project Name & Location | Client Name | Role |
|---|---|---|
| Aggeneys Solar Farm, Northern Cape | BioTherm Energy | Environmental Advisor |
| Airies II PV Facility SW of Kenhardt, Northern Cape | BioTherm Energy | Environmental Advisor |
| Kalahari SEF Phase II in Kathu, Northern Cape | Engie | Environmental Advisor |
| Kathu PV Facility, Northern Cape | Building Energy | Environmental Advisor |
| Kenhardt PV Facility, Northern Cape | BioTherm Energy | Environmental Advisor |
| Kleinbegin PV SEF West of Groblershoop, Northern Cape | MedEnergy | Environmental Advisor |
| Konkoonises II SEF near Pofadder, Northern Cape | BioTherm Energy | Environmental Advisor |
| Konkoonsies Solar Farm, Northern Cape | BioTherm Energy | Environmental Advisor |
| Lephalale SEF, Limpopo | Exxaro | Environmental Advisor |
| Pixley ka Seme PV Park, South-East of De Aar, Northern Cape | African Clean Energy Developments (ACED) | Environmental Advisor |
| RustMo1 PV Plant near Buffelspoort, North West | Momentous Energy | Environmental Advisor |
| Scuitdrift 1 SEF & Scuitdrift 2 SEF, Limpopo | Building Energy | Environmental Advisor |
| Sirius PV Plants, Northern Cape | Aurora Power Solutions | Environmental Advisor |
| Upington Airport PV Power Project, Northern Cape | Sublunary Trading | Environmental Advisor |
| Upington SEF, Northern Cape | Abengoa Solar | Environmental Advisor |
| Ofir-ZX PV SEF near Keimoes, Northern Cape | Networx S28 Energy | Environmental Advisor |
| Environmental Permitting for the Steynsrus PV1 & PV2 SEF's, Northern Cape | Cronimet Power Solutions | Environmental Advisor |
| Environmental Permitting for the Heuningspruit PV SEF, Northern Cape | Cronimet Power Solutions | Environmental Advisor |

**Due Diligence Reporting**

| Project Name & Location | Client Name | Role |
|---|---|---|
| 5 PV SEF projects in Lephalale, Limpopo | iNca Energy | Environmental Advisor |
| Prieska PV Plant, Northern Cape | SunEdison Energy India | Environmental Advisor |
| Sirius Phase One PV Facility near Upington, Northern Cape | Aurora Power Solutions | Environmental Advisor |

**Environmental Permitting, S53, Water Use Licence (WUL), Waste Management Licence (WML) & Other Applications**

| Project Name & Location | Client Name | Role |
|---|---|---|
| Biodiversity Permit & WULA for the Aggeneys SEF near Aggeneys, Northern Cape | BioTherm Energy | Project Manager & EAP |
| Biodiversity Permit for the Konkoonises II SEF near Pofadder, Northern Cape | BioTherm Energy | Project Manager & EAP |
| Biodiversity Permitting for the Lephalale SEF, Limpopo | Exxaro Resources | Project Manager & EAP |
| Environmental Permitting for the Kleinbegin PV SEF West of Groblershoop, Northern Cape | MedEnergy | Project Manager & EAP |
| Environmental Permitting for the Upington SEF, Northern Cape | Abengoa Solar | Project Manager & EAP |
| Environmental Permitting for the Kathu PV Facility, Northern Cape | Building Energy | Project Manager & EAP |
| Environmental Permitting for the Konkoonsies Solar Farm, Northern Cape | BioTherm Energy | Project Manager & EAP |
| Environmental Permitting for the Lephalale SEF, Limpopo | Exxaro Resources | Project Manager & EAP |
| Environmental Permitting for the Scuitdrift 1 SEF & Scuitdrift 2 SEF, Limpopo | Building Energy | Project Manager & EAP |
| Environmental Permitting for the Sirius PV Plant, Northern Cape | Aurora Power Solutions | Project Manager & EAP |
| Environmental Permitting for the Steynsrus PV1 & PV2 SEF's, Northern Cape | Cronimet Power Solutions | Project Manager & EAP |
| Environmental Permitting for the Heuningspruit PV SEF, Northern Cape | Cronimet Power Solutions | Project Manager & EAP |
| Permits for the Kleinbegin and UAP PV Plants, Northern Cape | MedEnergy Global | Project Manager & EAP |
| S53 Application for Arriesfontein Solar Park Phase 1 – 3 near Danielskuil, Northern Cape | Solar Reserve / SunCorp | Project Manager & EAP |
| S53 Application for Hertzogville PV1 & PV 2 SEFs, Free State | Solar Reserve / SunCorp | Project Manager & EAP |
| S53 Application for the Bloemfontein Airport PV Facility, Free State | Sublunary Trading | Project Manager & EAP |
| S53 Application for the Kimberley Airport PV Facility, Northern Cape | Sublunary Trading | Project Manager & EAP |
| S53 Application for the Project Blue SEF, Northern Cape | WWK Developments | Project Manager & EAP |
| S53 Application for the Upington Airport PV Facility, Free State | Sublunary Trading | Project Manager & EAP |
| WULA for the Kalahari SEF Phase II in Kathu, Northern Cape | Engie | Project Manager & EAP |

**RENEWABLE POWER GENERATION PROJECTS: CONCENTRATED SOLAR FACILITIES (CSP)**

**Environmental Impact Assessments and Environmental Management Programmes**

| Project Name & Location | Client Name | Role |
|---|---|---|
| Ilanga CSP 2, 3, 4, 5, 7 & 9 Facilities near Upington, Northern Cape | Emvelo Holdings | Project Manager & EAP |
| Ilanga CSP near Upington, Northern Cape | Ilangethu Energy | Project Manager & EAP |

| Project Name & Location | Client Name | Role |
|---|---|---|
| Ilanga Tower 1 Facility near Upington, Northern Cape | Emvelo Holdings | Project Manager & EAP |
| Karoshoek CPVPD 1-4 facilities on site 2 as part of the larger Karoshoek Solar Valley Development East of Upington, Northern Cape | FG Emvelo | Project Manager & EAP |
| Karoshoek CSP facilities on sites 1.4; 4 & 5 as part of the larger Karoshoek Solar Valley Development East of Upington, Northern Cape | FG Emvelo | Project Manager & EAP |
| Karoshoek Linear Fresnel 1 Facility on site 1.1 as part of the larger Karoshoek Solar Valley Development East of Upington, Northern Cape | FG Emvelo | Project Manager & EAP |

**Environmental Compliance, Auditing and ECO**

| Project Name & Location | Client Name | Role |
|---|---|---|
| ECO for the construction of the !Khi CSP Facility, Northern Cape | Abengoa Solar | Project Manager |
| ECO for the construction of the Ilanga CSP 1 Facility near Upington, Northern Cape | Karoshoek Solar One | Project Manager |
| ECO for the construction of the folar Park, Northern Cape | Kathu Solar | Project Manager |
| ECO for the construction of the KaXu! CSP Facility, Northern Cape | Abengoa Solar | Project Manager |
| Internal audit of compliance with the conditions of the IWUL issued to the Karoshoek Solar One CSP Facility, Northern Cape | Karoshoek Solar One | Project Manager |

**Screening Studies**

| Project Name & Location | Client Name | Role |
|---|---|---|
| Upington CSP (Tower) Plant near Kanoneiland, Northern Cape | iNca Energy and FRV | Project Manager & EAP |

**Compliance Advice and ESAP reporting**

| Project Name & Location | Client Name | Role |
|---|---|---|
| Ilanga CSP Facility near Upington, Northern Cape | Ilangethu Energy | Environmental Advisor |
| Ilangalethu CSP 2, Northern Cape | FG Emvelo | Environmental Advisor |
| Kathu CSP Facility, Northern Cape | GDF Suez | Environmental Advisor |
| Lephalale SEF, Limpopo | Cennergi | Environmental Advisor |
| Solis I CSP Facility, Northern Cape | Brightsource | Environmental Advisor |

**Environmental Permitting, S53, Water Use Licence (WUL), Waste Management Licence (WML) & Other Applications**

| Project Name & Location | Client Name | Role |
|---|---|---|
| Environmental Permitting for the Ilanga CSP Facility near Upington, Northern Cape | Ilangethu Energy | Project Manager & EAP |
| Environmental Permitting for the Kathu CSP, Northern Cape | GDF Suez | Project Manager & EAP |
| WULA for the Solis I CSP Facility, Northern Cape | Brightsource | Project Manager & EAP |

**RENEWABLE POWER GENERATION PROJECTS: WIND ENERGY FACILITIES**

**Environmental Impact Assessments and Environmental Management Programmes**

| Project Name & Location | Client Name | Role |
|---|---|---|
| Sere WEF, Western Cape | Eskom Holdings SoC Limited | EAP |
| Aberdeen WEF, Eastern Cape | Eskom Holdings SoC Limited | Project Manager & EAP |
| Amakhala Emoyeni WEF, Eastern Cape | Windlab Developments | Project Manager & EAP |
| EXXARO West Coast WEF, Western Cape | EXXARO Resources | Project Manager & EAP |
| Goereesoe Wind Farm near Swellendam, Western Cape | iNca Energy | Project Manager & EAP |
| Hartneest WEF, Western Cape | Juwi Renewable Energies | Project Manager & EAP |
| Hopefield WEF, Western Cape | Umoya Energy | EAP |
| Kleinsee WEF, Northern Cape | Eskom Holdings SoC Limited | Project Manager & EAP |
| Klipheuwel/Dassiesfontein WEF within the Overberg area, Western Cape | BioTherm Energy | Project Manager & EAP |
| Moorreesburg WEF, Western Cape | iNca Energy | Project Manager & EAP |
| Oyster Bay WEF, Eastern Cape | Renewable Energy Resources Southern Africa | Project Manager & EAP |
| Project Blue WEF, Northern Cape | Windy World | Project Manager & EAP |
| Rheboksfontein WEF, Western Cape | Moyeng Energy | Project Manager & EAP |
| Spitskop East WEF near Riebeeck East, Eastern Cape | Renewable Energy Resources Southern Africa | Project Manager & EAP |
| Suurplaat WEF, Western Cape | Moyeng Energy | Project Manager & EAP |
| Swellendam WEF, Western Cape | IE Swellendam | Project Manager & EAP |
| Tsitsikamma WEF, Eastern Cape | Exxarro | Project Manager & EAP |
| West Coast One WEF, Western Cape | Moyeng Energy | Project Manager & EAP |

**Basic Assessments**

| Project Name & Location | Client Name | Role |
|---|---|---|
| Amakhala Emoyeni Wind Monitoring Masts, Eastern Cape | Windlab Developments | Project Manager & EAP |
| Beaufort West Wind Monitoring Masts, Western Cape | Umoya Energy | Project Manager & EAP |
| Hopefield Community Wind Farm near Hopefield, Western Cape | Umoya Energy | Project Manager & EAP |
| Koekenaap Wind Monitoring Masts, Western Cape | EXXARO Resources | Project Manager & EAP |
| Koingnaas WEF, Northern Cape | Just Palm Tree Power | Project Manager & EAP |
| Laingsburg Area Wind Monitoring Masts, Western Cape | Umoya Energy | Project Manager & EAP |
| Overberg Area Wind Monitoring Masts, Western Cape | BioTherm Energy | Project Manager & EAP |
| Oyster Bay Wind Monitoring Masts, Eastern Cape | Renewable Energy Systems Southern Africa (RES) | Project Manager & EAP |
| Wind Garden & Fronteer WEFs, Eastern Cape | Wind Relc | Project Manager & EAP |

**Screening Studies**

| Project Name & Location | Client Name | Role |
|---|---|---|
| Albertinia WEF, Western Cape | BioTherm Energy | Project Manager & EAP |
| Koingnaas WEF, Northern Cape | Just Pal Tree Power | Project Manager & EAP |
| Napier Region WEF Developments, Western Cape | BioTherm Energy | Project Manager & EAP |
| Tsitsikamma WEF, Eastern Cape | Exxarro Resources | Project Manager & EAP |

| Project Name & Location | Client Name | Role |
|---|---|---|
| Various WEFs within an identified area in the Overberg area, Western Cape | BioTherm Energy | Project Manager & EAP |
| Various WEFs within an identified area on the West Coast, Western Cape | Investec Bank Limited | Project Manager & EAP |
| Various WEFs within an identified area on the West Coast, Western Cape | Eskom Holdings Limited | Project Manager & EAP |
| Various WEFs within the Western Cape | Western Cape Department of Environmental Affairs and Development Planning | Project Manager & EAP |
| Velddrift WEF, Western Cape | VentuSA Energy | Project Manager & EAP |
| Wind 1000 Project | Thabo Consulting on behalf of Eskom Holdings | Project Manager & EAP |
| Wittekleibosch, Snylip & Doriskraal WEFs, Eastern Cape | Exxarro Resources | Project Manager & EAP |

**Environmental Compliance, Auditing and ECO**

| Project Name & Location | Client Name | Role |
|---|---|---|
| ECO for the construction of the West Coast One WEF, Western Cape | Aurora Wind Power | Project Manager |
| ECO for the construction of the Gouda WEF, Western Cape | Blue Falcon | Project Manager |
| EO for the Dassiesklip Wind Energy Facility, Western Cape | Group 5 | Project Manager |
| Quarterly compliance monitoring of compliance with all environmental licenses for the operation activities at the Gouda Wind Energy facility near Gouda, Western Cape | Blue Falcon | Project Manager |
| Annual auditing of compliance with all environmental licenses for the operation activities at the West Coast One Wind Energy facility near Vredenburg, Western Cape | Aurora Wind Power | Project Manager |
| External environmental and social audit for the Amakhala Wind Farm, Eastern Cape | Cennergi | Project Manager |
| External environmental and social audit for the Tsitsikamma Wind Farm, Eastern Cape | Cennergi | Project Manager |
| ECO for the construction of the Excelsior Wind Farm and associated infrastructure, Northern Cape | BioTherm Energy | Project Manager |
| External compliance audit of the Dassiesklip Wind Energy Facility, Western Cape | BioTherm Energy | Project Manager |

**Compliance Advice**

| Project Name & Location | Client Name | Role |
|---|---|---|
| Amakhala Phase 1 WEF, Eastern Cape | Cennergi | Environmental Advisor |
| Dassiesfontein WEF within the Overberg area, Western Cape | BioTherm Energy | Environmental Advisor |
| Excelsior Wind Farm, Western Cape | BioTherm Energy | Environmental Advisor |
| Great Karoo Wind Farm, Northern Cape | African Clean Energy Developments (ACED) | Environmental Advisor |
| Hopefield Community WEF, Western Cape | African Clean Energy Developments (ACED) | Environmental Advisor |

| | | |
|---|---|---|
| Rheboksfontein WEF, Western Cape | Moyeng Energy | Environmental Advisor |
| Tiqua WEF, Western Cape | Cennergi | Environmental Advisor |
| Tsitsikamma WEF, Eastern Cape | Cennergi | Environmental Advisor |
| West Coast One WEF, Western Cape | Moyeng Energy | Environmental Advisor |

**Due Diligence Reporting**

| Project Name & Location | Client Name | Role |
|---|---|---|
| Witteberg WEF, Western Cape | EDPR Renewables | Environmental Advisor |
| IPD Vredenburg WEF within the Saldanha Bay area, Western Cape | IL&FS Energy Development Company | Environmental Advisor |

**Environmental Permitting, S53, Water Use Licence (WUL), Waste Management Licence (WML) & Other Applications**

| Project Name & Location | Client Name | Role |
|---|---|---|
| Biodiversity Permitting for the Power Line between the Tsitikamma Community WEF & the Diep River Substation, Eastern Cape | Cennergi | Project Manager & EAP |
| Biodiversity Permitting for the West Coast One WEF, Western Cape | Aurora Wind Power | Project Manager & EAP |
| Environmental Permitting for the Excelsior WEF, Western Cape | BioTherm Energy | Project Manager & EAP |
| Plant Permits & WULA for the Tsitsikamma Community WEF, Eastern Cape | Cennergi | Project Manager & EAP |
| S24G and WULA for the Rectification for the commencement of unlawful activities on Ruimsig AH in Honeydew, Gauteng | Hossam Soror | Project Manager & EAP |
| S24G Application for the Rheboksfontein WEF, Western Cape | Ormonde - Theo Basson | Project Manager & EAP |
| S53 Application & WULA for Suurplaat and Gemini WEFs, Northern Cape | Engie | Project Manager & EAP |
| S53 Application for the Hopefield Community Wind Farm near Hopefield, Western Cape | Umoya Energy | Project Manager & EAP |
| S53 Application for the Project Blue WEF, Northern Cape | WWK Developments | Project Manager & EAP |
| S53 for the Oyster Bay WEF, Eastern Cape | RES | Project Manager & EAP |
| WULA for the Great Karoo Wind Farm, Northern Cape | African Clean Energy Developments (ACED) | Project Manager & EAP |

**CONVENTIONAL POWER GENERATION PROJECTS (COAL)**

**Environmental Impact Assessments and Environmental Management Programmes**

| Project Name & Location | Client Name | Role |
|---|---|---|
| Mutsho Power Station near Makhado, Limpopo | Mutsho Consortium | Project Manager & EAP |
| Coal-fired Power Station near Ogies, Mpumalanga | Ruukki SA | Project Manager & EAP |
| Thabametsi IPP Coal-fired Power Station, near Lephalale, Limpopo | Axia | Project Manager & EAP |
| Transalloys Coal-fired Power Station, Mpumalanga | Transalloys | Project Manager & EAP |
| Tshivasho IPP Coal-fired Power Station (with WML), near Lephalale, Limpopo | Cennergi | Project Manager & EAP |
| Umbani Coal-fired Power Station, near Kriel, Mpumalanga | ISS Global Mining | Project Manager & EAP |

| Project Name & Location | Client Name | Role |
|---|---|---|
| Waterberg IPP Coal-Fired Power Station near Lephalale, Limpopo | Exxaro Resources | Project Manager & EAP |

**Basic Assessments**

| Project Name & Location | Client Name | Role |
|---|---|---|
| Coal Stockyard on Medupi Ash Dump Site, Limpopo | Eskom Holdings | Project Manager & EAP |
| Biomass Co-Firing Demonstration Facility at Arnot Power Station East of Middleburg, Mpumlanaga | Eskom Holdings | Project Manager & EAP |

**Screening Studies**

| Project Name & Location | Client Name | Role |
|---|---|---|
| Baseload Power Station near Lephalale, Limpopo | Cennergi | Project Manager & EAP |
| Coal-Fired Power Plant near Delmas, Mpumalanga | Exxaro Resources | Project Manager & EAP |
| Makhado Power Station, Limpopo | Mutsho Consortium, Limpopo | Project Manager & EAP |

**Environmental Compliance, Auditing and ECO**

| Project Name & Location | Client Name | Role |
|---|---|---|
| ECO for the Camden Power Station, Mpumalanga | Eskom Holdings | Project Manager |

**Compliance Advice**

| Project Name & Location | Client Name | Role |
|---|---|---|
| Thabametsi IPP Coal-fired Power Station, near Lephalale, Limpopo | Axia | Environmental Advisor |

**Environmental Permitting, S53, Water Use Licence (WUL), Waste Management Licence (WML) & Other Applications**

| Project Name & Location | Client Name | Role |
|---|---|---|
| Permit application for the Thabametsi Bulk Water Pipeline, near Lephalale, Limpopo | Axia | Project Manager & EAP |
| S53 & WULA for the Waterberg IPP Coal-Fired Power Station near Lephalale, Limpopo | Exxaro Resources | Project Manager & EAP |
| S53 Application for the Tshivasho Coal-fired Power Station near Lephalale, Limpopo | Cennergi | Project Manager & EAP |

**CONVENTIONAL POWER GENERATION PROJECTS (GAS)**

**Environmental Impact Assessments and Environmental Management Programmes**

| Project Name & Location | Client Name | Role |
|---|---|---|
| Ankerlig OCGT to CCGT Conversion project &400 kV transmission power line between Ankerlig and the Omega Substation, Western Cape | Eskom Holdings SoC Limited | Project Manager & EAP |
| Gourikwa OCGT to CCGT Conversion project & 400kV transmission power line between Gourikwa & Proteus Substation, Western Cape | Eskom Holdings SoC Limited | Project Manager & EAP |
| Richards Bay Gas to Power Combined Cycle Power Station, KwaZulu-Natal | Eskom Holdings SoC Limited | Project Manager & EAP |
| Richards Bay Gas to Power Plant, KwaZulu-Natal | Richards Bay Gas Power 2 | Project Manager & EAP |
| Decommissioning & Recommissioning of 3 Gas Turbine Units at Acacia Power Station & 1 Gas Turbine Unit at Port Rex Power Station to the existing | Eskom Holdings | Project Manager & EAP |

| Project Name & Location | Client Name | Role |
|---|---|---|
| Ankerlig Power Station in Atlantis Industria, Western Cape | | |
| 320MW gas-to-power station in Richards Bay, KwaZulu-Natal | Phinda Power Projects | Project Manager & EAP |

**Screening Studies**

| Project Name & Location | Client Name | Role |
|---|---|---|
| Fatal Flaw Analysis for 3 area identified for the establishment of a 500MW CCGT Power Station | Globeleq Advisors Limited | Project Manager & EAP |
| Richards Bay Gas to Power Combined Cycle Power Station, KwaZulu-Natal | Eskom Holdings SoC Limited | Project Manager & EAP |

**GRID INFRASTRUCTURE PROJECTS**

**Environmental Impact Assessments and Environmental Management Programmes**

| Project Name & Location | Client Name | Role |
|---|---|---|
| Aggeneis-Oranjemond Transmission Line & Substation Upgrade, Northern Cape | Eskom Transmission | Project Manager & EAP |
| Ankerlig-Omega Transmission Power Lines, Western Cape | Eskom Transmission | Project Manager & EAP |
| Karoshoek Grid Integration project as part of the Karoshoek Solar Valley Development East of Upington, Northern Cape | FG Emvelo | Project Manager & EAP |
| Koeberg-Omega Transmission Power Lines,, Western Cape | Eskom Transmission | Project Manager & EAP |
| Koeberg-Stikland Transmission Power Lines, Western Cape | Eskom Transmission | Project Manager & EAP |
| Kyalami Strengthening Project, Gauteng | Eskom Transmission | Project Manager & EAP |
| Mokopane Integration Project, Limpopo | Eskom Transmission | Project Manager & EAP |
| Saldanha Bay Strengthening Project, Western Cape | Eskom Transmission | Project Manager & EAP |
| Steelpoort Integration Project, Limpopo | Eskom Transmission | Project Manager & EAP |
| Transmission Lines from the Koeberg-2 Nuclear Power Station site, Western Cape | Eskom Transmission | Project Manager & EAP |
| Tshwane Strengthening Project, Phase 1, Gauteng | Eskom Transmission | Project Manager & EAP |
| Main Transmission Substation (MTS) associated with the Choje Wind Farm cluster, Eastern Cape | Wind Relic | Project Manager & EAP |

**Basic Assessments**

| Project Name & Location | Client Name | Role |
|---|---|---|
| Dassenberg-Koeberg Power Line Deviation from the Koeberg to the Ankerlig Power Station, Western Cape | Eskom Holdings | Project Manager & EAP |
| Golden Valley II WEF Power Line & Substation near Cookhouse, Eastern Cape | BioTherm Energy | Project Manager & EAP |
| Golden Valley WEF Power Line near Cookhouse, Eastern Cape | BioTherm Energy | Project Manager & EAP |
| Karoshoek Grid Integration project as part of the Karoshoek Solar Valley Development East of Upington, Northern Cape | FG Emvelo | Project Manager & EAP |

| Project Name & Location | Client Name | Role |
|---|---|---|
| Konkoonsies II PV SEF Power Line to the Paulputs Substation near Pofadder, Northern Cape | BioTherm Energy | Project Manager & EAP |
| Perdekraal West WEF Powerline to the Eskom Kappa Substation, Westnern Cape | BioTherm Energy | Project Manager & EAP |
| Rheboksfontein WEF Powerline to the Aurora Substation, Western Cape | Moyeng Energy | Project Manager & EAP |
| Soetwater Switching Station near Sutherland, Northern Cape | African Clean Energy Developments (ACED) | Project Manager & EAP |
| Solis Power I Power Line & Switchyard Station near Upington, Northern Cape | Brightsource | Project Manager & EAP |
| Stormwater Canal System for the Ilanga CSP near Upington, Northern Cape | Karoshoek Solar One | Project Manager & EAP |
| Tsitsikamma Community WEF Powerline to the Diep River Substation, Eastern Cape | Eskom Holdings | Project Manager & EAP |
| Two 132kV Chickadee Lines to the new Zonnebloem Switching Station, Mpumalanga | Eskom Holdings | Project Manager & EAP |
| Electrical Grid Infrastructure for the Kolkies and Sadawa PV clusters, Western Cape | Mainstream Renewable Energy Developments | Project Manager & EAP |
| Sadawa Collector substation, Western Cape | Mainstream Renewable Energy Developments | Project Manager & EAP |
| Electrical Grid Infrastructure for the Vrede and Rondavel PV facilities, Free State | Mainstream Renewable Energy Developments | Project Manager & EAP |

**Environmental Compliance, Auditing and ECO**

| Project Name & Location | Client Name | Role |
|---|---|---|
| ECO for the construction of the Ferrum-Mookodi Transmission Line, Northern Cape and North West | Trans-Africa Projects on behalf of Eskom | Project Manager |
| EO for the construction of the Gamma-Kappa Section A Transmission Line, Western Cape | Trans-Africa Projects on behalf of Eskom | Project Manager |
| EO for the construction of the Gamma-Kappa Section B Transmission Line, Western Cape | Trans-Africa Projects on behalf of Eskom | Project Manager |
| EO for the construction of the Hydra IPP Integration project, Northern Cape | Trans-Africa Projects on behalf of Eskom | Project Manager |
| EO for the construction of the Kappa-Sterrekus Section C Transmission Line, Western Cape | Trans-Africa Projects on behalf of Eskom | Project Manager |
| EO for the construction of the Namaqualand Strengthening project in Port Nolloth, Western Cape | Trans-Africa Projects on behalf of Eskom | Project Manager |
| ECO for the construction of the Neptune Substation Soil Erosion Mitigation Project, Eastern Cape | Eskom | Project Manager |
| ECO for the construction of the Ilanga-Gordonia 132kV power line, Northern Cape | Karoshoek Solar One | Project Manager |

**Environmental Permitting, S53, Water Use Licence (WUL), Waste Management Licence (WML) & Other Applications**

| Project Name & Location | Client Name | Role |
|---|---|---|
| Environmental Permitting and WULA for the Rockdale B Substation & Loop in Power Lines, | Eskom Holdings | Project Manager & EAP |
| Environmental Permitting and WULA for the Steelpoort Integration project, Limpopo | Eskom Holdings | Project Manager & EAP |
| Environmental Permitting for Solis CSP near Upington, Northern Cape | Brightsource | Project Manager & EAP |

**MINING SECTOR PROJECTS**

**Environmental Impact Assessments and Environmental Management Programmes**

| Project Name & Location | Client Name | Role |
|---|---|---|
| Elitheni Coal Mine near Indwe, Eastern Cape | Elitheni Coal | Project Manager & EAP |
| Groot Letaba River Development Project Borrow Pits | liso | Project Manager & EAP |
| Grootegeluk Coal Mine for coal transportation infrastructure between the mine and Medupi Power Station (EMPr amendment) , Limpopo | Eskom Holdings | Project Manager & EAP |
| Waterberg Coal Mine (EMPr amendment), Limpopo | Seskoko Resources | Project Manager & EAP |
| Aluminium Plant WML & AEL, Gauteng | GfE-MIR Alloys & Minerals | Project Manager & EAP |

**Basic Assessments**

| Project Name & Location | Client Name | Role |
|---|---|---|
| Rare Earth Separation Plant in Vredendal, Western Cape | Rareco | Project Manager & EAP |
| Decommissioning and Demolition of Kilns 5 & 6 at the Slurry Plant, Kwa-Zulu Natal | PPC | Project Manager & EAP |

**Environmental Compliance, Auditing and ECO**

| Project Name & Location | Client Name | Role |
|---|---|---|
| ECO for the construction of the Duhva Mine Water Recovery Project, Mpumalanga | Eskom Holdings SoC Limited | Project Manager |
| External compliance audit of Palesa Coal Mine's Integrated Water Use License (IWUL), near KwaMhlanga, Mpumalanga | HCI Coal | Project Manager |
| External compliance audit of Palesa Coal Mine's Waste Management License (WML) and EMP, near KwaMhlanga, Mpumalanga | HCI Coal | Project Manager |
| External compliance audit of Mbali Coal Mine's Integrated Water Use License (IWUL), near Ogies, Mpumalanga | HCI Coal | Project Manager |
| Independent External Compliance Audit of Water Use License (WUL) for the Tronox Namakwa Sands (TNS) Mining Operations (Brand se Baai), Western Cape | Tronox Namakwa Sands | Project Manager |
| Independent External Compliance Audit of Water Use License (WUL) for the Tronox Namakwa Sands (TNS) Mineral Separation Plant (MSP), Western Cape | Tronox Namakwa Sands | Project Manager |
| Independent External Compliance Audit of Water Use License (WUL) for the Tronox Namakwa Sands (TNS) Smelter Operations (Saldanha), Western Cape | Tronox Namakwa Sands | Project Manager |
| Compliance Auditing of the Waste Management Licence for the PetroSA Landfill Site at the GTL Refinery, Western Cape | PetroSA | Project Manager |

**Environmental Permitting, S53, Water Use Licence (WUL), Waste Management Licence (WML) & Other Applications**

| Project Name & Location | Client Name | Role |
|---|---|---|
| Waste Licence Application for the Rare Earth Separation Plant in Vredendal, Western Cape | Rareco | Project Manager & EAP |

| | | |
|---|---|---|
| WULA for the Expansion of the Landfill site at Exxaro's Namakwa Sands Mineral Separation Plant, Western Cape | Exxaro Resources | Project Manager & EAP |
| S24G & WML for an Aluminium Plant, Gauteng | GfE-MIR Alloys & Minerals | Project Manager & EAP |

**INFRASTRUCTURE DEVELOPMENT PROJECTS (BRIDGES, PIPELINES, ROADS, WATER RESOURCES, STORAGE, ETC)**

**Environmental Impact Assessments and Environmental Management Programmes**

| Project Name & Location | Client Name | Role |
|---|---|---|
| Bridge across the Ngotwane River, on the border of South Africa and Botswana | Eskom Holdings | Project Manager & EAP |
| Chemical Storage Tanks, Metallurgical Plant Upgrade & Backfill Plant upgrade at South Deep Gold Mine, near Westornaria, Gauteng | Goldfields | Project Manager & EAP |
| Expansion of the existing Welgedacht Water Care Works, Gauteng | ERWAT | Project Manager & EAP |
| Golden Valley WEF Access Road near Cookhouse, Eastern Cape | BioTherm Energy | Project Manager & EAP |
| Great Fish River Wind Farm Access Roads and Watercourse Crossings near Cookhouse, Eastern Cape | African Clean Energy Developments (ACED) | Project Manager & EAP |
| Ilanga CSP Facility Watercourse Crossings near Upington, Northern Cape | Karoshoek Solar one | Project Manager & EAP |
| Modification of the existing Hartebeestfontein Water Care Works, Gautng | ERWAT | Project Manager & EAP |
| N10 Road Realignment for the Ilanga CSP Facility, East of Upington, Northern Cape | SANRAL | Project Manager & EAP |
| Nxuba (Bedford) Wind Farm Watercourse Crossings near Cookhouse, Eastern Cape | African Clean Energy Developments (ACED) | Project Manager & EAP |
| Pollution Control Dams at the Medupi Power Station Ash Dump & Coal Stockyard, Limpopo | Eskom | Project Manager & EAP |
| Qoboshane borrow pits (EMPr only), Eastern Cape | Emalahleni Local Municipality | Project Manager & EAP |
| Tsitsikamma Community WEF Watercourse Crossings, Eastern Cape | Cennergi | Project Manager & EAP |
| Clayville Central Steam Plant, Gauteng | Bellmall Energy | Project Manager & EAP |
| Msenge Emoyeni Wind Farm Watercourse Crossings and Roads, Eastern Cape | Windlab | Project Manager & EAP |

**Basic Assessments**

| Project Name & Location | Client Name | Role |
|---|---|---|
| Harmony Gold WWTW at Doornkop Mine, Gauteng | Harmony Doornkop Plant | Project Manager & EAP |
| Ofir-ZX Watercourse Crossing for the Solar PV Facility, near Keimoes, Northern Cape | Networx S28 Energy | Project Manager & EAP |
| Qoboshane bridge & access roads, Eastern Cape | Emalahleni Local Municipality | Project Manager & EAP |
| Relocation of the Assay Laboratory near Carletonville, Gauteng | Sibanye Gold | Project Manager & EAP |
| Richards Bay Harbour Staging Area, KwaZulu-Natal | Eskom Holdings | Project Manager & EAP |
| S-Kol Watercourse Crossing for the Solar PV Facility, East of Keimoes, Northern Cape | Networx S28 Energy | Project Manager & EAP |
| Sonnenberg Watercourse Crossing for the Solar PV Facility, West Keimoes, Northern Cape | Networx S28 Energy | Project Manager & EAP |

| Project Name & Location | Client Name | Role |
|---|---|---|
| Kruisvallei Hydroelectric Power Generation Scheme, Free State | Building Energy | Project Manager & EAP |
| Masetjaba Water Reservoir, Pump Station and Bulk Supply Pipeline near Nigel, Gauteng | Naidu Consulting Engineers | Project Manager & EAP |
| Access Road for the Dwarsug Wind Farm, Northern Cape Province | South Africa Mainsteam Renewable Power | Project Manager & EAP |

**Screening Studies**

| Project Name & Location | Client Name | Role |
|---|---|---|
| Roodepoort Open Space Optimisation Programme (OSOP) Precinct, Gauteng | TIMAC Engineering Projects | Project Manager & EAP |
| Vegetable Oil Plant and Associated Pipeline, Kwa-Zulu Natal | Wilmar Oils and Fats Africa | Project Manager & EAP |

**Environmental Compliance, Auditing and ECO**

| Project Name & Location | Client Name | Role |
|---|---|---|
| ECO and bi-monthly auditing for the construction of the Olifants River Water Resources Development Project (ORWRDP) Phase 2A: De Hoop Dam, R555 realignment and housing infrastructure | Department of Water and Sanitation | Project Manager Auditor |
| ECO for the Rehabilitation of the Blaaupan & Storm Water Channel, Gauteng | Airports Company of South Africa (ACSA) | Project Manager |
| Due Diligence reporting for the Better Fuel Pyrolysis Facility, Gauteng | Better Fuels | Project Manager |
| ECO for the Construction of the Water Pipeline from Kendal Power Station to Kendal Pump Station, Mpumalanga | Transnet | Project Manager |
| ECO for the Replacement of Low-Level Bridge, Demolition and Removal of Artificial Pong, and Reinforcement the Banks of the Crocodile River at the Construction at Walter Sisulu National Botanical Gardens, Gauteng Province | South African National Biodiversity Institute (SANBI) | Project Manager |
| External Compliance Audit of the Air Emission Licence (AEL) for a depot in Bloemfontein, Free State Province and in Tzaneen, Mpumalanga Province | PetroSA | Project Manager |

**Environmental Permitting, S53, Water Use Licence (WUL), Waste Management Licence (WML) & Other Applications**

| Project Name & Location | Client Name | Role |
|---|---|---|
| WULA for the Izubulo Private Nature Reserve, Limpopo | Kjell Bismeyer, Jann Bader, Laurence Saad | Project Manager & EAP |
| WULA for the Masodini Private Game Lode, Limpopo | Masodini Private Game Lodge | Environmental Advisor |
| WULA for the Ezulwini Private Nature Reserve, Limpopo | Ezulwini Investments | Project Manager & EAP |
| WULA for the Masodini Private Game Lode, Limpopo | Masodini Private Game Lodge | Project Manager & EAP |
| WULA for the N10 Realignment at the Ilanga SEF, Northern Cape | Karoshoek Solar One | Project Manager & EAP |
| WULA for the Kruisvallei Hydroelectric Power Generation Scheme, Free State | Building Energy | Project Manager & EAP |

| Project Name & Location | Client Name | Role |
|---|---|---|
| S24G and WULA for the Ilegal construction of structures within a watercourse on EFF 24 Ruimsig Agricultural Holdings, Gauteng | Sorror Language Services | Project Manager & EAP |

**HOUSING AND URBAN PROJECTS**

**Basic Assessments**

| Project Name & Location | Client Name | Role |
|---|---|---|
| Postmasburg Housing Development, Northern Cape | Transnet | Project Manager & EAP |

**Compliance Advice and reporting**

| Project Name & Location | Client Name | Role |
|---|---|---|
| Kampi ya Thude at the Olifants West Game Reserve, Limpopo | Nick Elliot | Environmental Advisor |
| External Compliance Audit of WUL for the Johannesburg Country Club, Gauteng | Johannesburg Country Club | Project Manager |

**Environmental Compliance, Auditing and ECO**

| Project Name & Location | Client Name | Role |
|---|---|---|
| Due Diligence Audit for the Due Diligence Audit Report, Gauteng | Delta BEC (on behalf of Johannesburg Development Agency (JDA)) | Project Manager |

**ENVIRONMENTAL MANAGEMENT TOOLS**

| Project Name & Location | Client Name | Role |
|---|---|---|
| Development of the 3rd Edition Environmental Implementation Plan (EIP) | Gauteng Department of Agriculture and Rural Development (GDARD) | Project Manager & EAP |
| Development of Provincial Guidelines on 4x4 routes, Western Cape | Western Cape Department of Environmental Affairs and Development Planning | EAP |
| Compilation of Construction and Operation EMP for the Braamhoek Transmission Integration Project, Kwazulu-Natal | Eskom Holdings | Project Manager & EAP |
| Compilation of EMP for the Wholesale Trade of Petroleum Products, Gauteng | Munaca Technologies | Project Manager & EAP |
| Operational Environmental Management Programme (OEMP) for Medupi Power Station, Limpopo | Eskom Holdings | Project Manager & EAP |
| Operational Environmental Management Programme (OEMP) for the Dube TradePort Site Wide Precinct | Dube TradePort Corporation | Project Manager & EAP |
| Operational Environmental Management Programme (OEMP) for the Kusile Power Station, Mpumalanga | Eskom Holdings | Project Manager & EAP |
| Review of Basic Assessment Process for the Wittekleibosch Wind Monitoring Mast, Eastern Cape | Exxaro Resources | Project Manager & EAP |
| Revision of the EMPr for the Sirius Solar PV | Aurora Power Solutions | Project Manager & EAP |

| Project Name & Location | Client Name | Role |
|---|---|---|
| State of the Environment (SoE) for Emalahleni Local Municipality, Mpumalanga | Simo Consulting on behalf of Emalahleni Local Municipality | Project Manager & EAP |
| Aspects and Impacts Register for Salberg Concrete Products operations | Salberg Concrete Products | EAP |
| First State of Waste Report for South Africa | Golder on behalf of the Department of Environmental Affairs | Project Manager & EAP |
| Responsibilities Matrix and Gap Analysis for the Kruisvallei Hydroelectric Power Generation Scheme, Free State Province | Building Energy | Project Manager |
| Responsibilities Matrix and Gap Analysis for the Roggeveld Wind Farm, Northern & Western Cape Provinces | Building Energy | Project Manager |

**PROJECTS OUTSIDE OF SOUTH AFRICA**

| Project Name & Location | Client Name | Role |
|---|---|---|
| Advisory Services for the Zizabona Transmission Project, Zambia, Zimbabwe, Botswana & Namibia | PHD Capital | Advisor |
| EIA for the Semonkong WEF, Lesotho | MOSCET | Project Manager & EAP |
| EMP for the Kuvaninga Energia Gas Fired Power Project, Mozambique | ADC (Pty) Ltd | Project Manager & EAP |
| Environmental Screening Report for the SEF near Thabana Morena, Lesotho | Building Energy | EAP |
| EPBs for the Kawambwa, Mansa, Mwense and Nchelenge SEFs in Luapula Province, Zambia | Building Energy | Project Manager & EAP |
| ESG Due Diligence for the Hilton Garden Inn Development in Windhoek, Namibia | Vatange Capital | Project Manager |
| Mandahill Mall Rooftop PV SEF EPB, Lusaka, Zambia | Building Energy | Project Manager & EAP |
| Monthly ECO for the PV Power Plant for the Mocuba Power Station | Scatec | Project Manager |

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Tel: +27 (11) 656 3237

# CURRICULUM VITAE OF CHANTELLE GEYER

Comprehensive CV

**Profession :** Junior Environmental Consultant

**Specialisation:** Environmental Management; Project-related GIS mapping; Public Participation Administration; General Geology and Geochemistry.

**Work Experience:** Six (6) months in the environmental field.

## VOCATIONAL EXPERIENCE

Chantelle is a conscientious and ambitious junior Environmental Consultant who holds a BSc(Hons) degree in Environmental Geology. She recently graduated from the North-West University where she consistently stayed in the top 3 of her class. She joined a group of passionate academic peers in her third year to create the first North-West University Geoscience Society to teach young earth scientists about the environment and introduce them to professional mentors, thus bridging the gap between university and a professional career. She was appointed as project manager for this society for two consecutive terms and organized career talks, academic game shows, alumni talks, clean-up initiatives, and numerous team-building events.

She has special interests in geological formations, geochemistry, minerals, contamination studies, rehabilitation and restoration of disturbed areas, as well as hydrology. However, she found her passion for Environmental Management during an environmental internship where she gained experience in:

- Environmental Impact Assessments
- Project-related GIS mapping
- Water use licences
- Public participation processes

Chantelle is a loyal and enthusiastic individual who is dedicated to further her studies in Environmental Management, Environmental Legislation, GIS-mapping, and studies on the renewable energy sector of South Africa. Her goal is to gain knowledge in the processes of Basic Assessments, EIAs, Environmental Compliance, public participation, screening assessments, and environmental authorisation applications. She aims to use this knowledge to strategically consult clients and undertaking projects efficiently and to the highest standard.

## SKILLS BASE AND CORE COMPETENCIES

- Great organisational skills
- Good at time management
- Passionate about the environment
- Compilation of Basic Assessment Reports in compliance with environmental legislation.
- Project management for environmental-related events and projects.
- Water Use Licences
- Aiding with public participation processes.
- Experience with South African environmental legislation.

## EDUCATION AND PROFESSIONAL STATUS

**Degrees:**

- BSc Environmental Sciences, North-West University, Potchefstroom (2021)
- BSc Honours Environmental Geology, North-West University, Potchefstroom (2022)

**Short Courses:**

- Advanced Microsoft Excel Qualification, Lead Academy (2020)

**Professional Society Affiliations:**

- Registered with the International Association for Impact Assessment South Africa (IAIAsa)

## EMPLOYMENT

| Date | Company | Roles and Responsibilities |
|---|---|---|
| **July 2022 - Current:** | Savannah Environmental (Pty) Ltd | *Junior Environmental Consultant*<br>Tasks include:<br>*Environmental Assessment Practitioner (EAP); Specialising in project-related GIS mapping.*<br>*Performing Basic Assessment Reports and Environmental Impact Assessments,*<br>*Assisting on administrative public participation documents.* |
| **September 2021 – November 2021** | Prescali Environmental (Pty) | *Environmental Intern*<br>Tasks included:<br>Liaising with senior management on environmental concerns,<br>Preparing Water Use Licence (WUL) audits,<br>Taking minutes during meetings,<br>Public Participation tasks. |

## PROJECT EXPERIENCE

Project experience includes renewable energy projects, grid connection infrastructure, and access roads.

**RENEWABLE POWER GENERATION PROJECTS: SOLAR ENERGY FACILITIES**

***Environmental Impact Assessments and Environmental Management Programmes***

| ***Project Name & Location*** | ***Client Name*** | ***Role*** |
|---|---|---|
| *Mutsho Solar PV (4x100MW projects, Limpopo)* | *Cri-Eagle* | *Junior EAP & GIS Specialist* |
| *Harmony One Plant Solar PV Facility (30MW), Free State* | *ENGP* | *Junior EAP & GIS Specialist* |
| *Harmony Target Solar PV Facility (30MW), Free State* | *ENGP* | *Junior EAP & GIS Specialist* |
| *Harmony Joel Solar PV Facility (18MW), Free State* | *ENGP* | *Junior EAP & GIS Specialist* |
| *Ummbila Emoyeni SEF (150MW), Mpumalanga* | *Windlab Developments South Africa (Pty) Ltd* | *Junior EAP & GIS Specialist* |

***Basic Assessments***

| ***Project Name & Location*** | ***Client Name*** | ***Role*** |
|---|---|---|
| *Harmony Central Plant Solar PV Facility (14MW), Free State* | *ENGP* | *Junior EAP & GIS Specialist* |
| *Harmony Moab Khotsong Solar PV Facility (100MW), Free State* | *ENGP* | *Junior EAP & GIS Specialist* |
| *Highveld Solar PV Facility (150MW), North West* | *WKN Windcurrent* | *Junior EAP & GIS Specialist* |
| *Komsberg Solar PV Facility (200MW), Western and Northern Cape* | *Salika SA* | *Junior EAP & GIS Specialist* |
| *Klipfontein Solar PV Facility (500MW), Western and Northern Cape* | *Salika SA* | *Junior EAP & GIS Specialist* |

**RENEWABLE POWER GENERATION PROJECTS: WIND ENERGY FACILITIES**

***Environmental Impact Assessments and Environmental Management Programmes***

| ***Project Name & Location*** | ***Client Name*** | ***Role*** |
|---|---|---|
| *Ummbila Emoyeni WEF (666MW), Mpumalanga* | *Windlab Developments South Africa (Pty) Ltd* | *Junior EAP & GIS Specialist* |

**GRID INFRASTRUCTURE PROJECTS**

***Environmental Impact Assessments and Environmental Management Programmes***

| ***Project Name & Location*** | ***Client Name*** | ***Role*** |
|---|---|---|
| *Ummbila Emoyeni EGI, Mpumalanga* | *Windlab Developments South Africa (Pty) Ltd* | *Junior EAP & GIS Specialist* |

***Basic Assessments***

| ***Project Name & Location*** | ***Client Name*** | ***Role*** |
|---|---|---|
| *Mutsho Solar Grid Connection, Limpopo* | *Cri-Eagle* | *Junior EAP & GIS Specialist* |
| *Highveld Grid Connection, North West* | *WKN Windcurrent* | *Junior EAP & GIS Specialist* |
| *Komsberg Grid Connection, Western and Northern Cape* | *Salika SA* | *Junior EAP & GIS Specialist* |
| *Klipfontein Grid Connection, Western and Northern Cape* | *Salika SA* | *Junior EAP & GIS Specialist* |

**INFRASTRUCTURE DEVELOPMENT PROJECTS (BRIDGES, PIPELINES, ROADS, WATER RESOURCES, STORAGE, ETC)**

***Basic Assessments***

| ***Project Name & Location*** | ***Client Name*** | ***Role*** |
|---|---|---|
| *Witberg WEF Access Road, Western Cape* | *Red Rocket South Africa (Pty) Ltd* | *Junior EAP and GIS Specialist* |

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Woodlands Drive, Woodmead
Johannesburg, South Africa

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Tel: +27 (11) 656 3237

# CURRICULUM VITAE OF NICOLENE VENTER

**Profession :** Public Participation and Social Consultant

**Specialisation:** Public participation process; stakeholder engagement; facilitation (workshops, focus group and public meetings; public open days; steering committees); monitoring and evaluation of public participation and stakeholder engagement processes

**Work Experience:** 23 years' experience as a Public Participation Practitioner and Stakeholder Consultant

## VOCATIONAL EXPERIENCE

Over the past 23 years Nicolene established herself as an experienced and well recognised public participation practitioner, facilitator and strategic reviewer of public participation processes. She has experience in managing public participation and stakeholder engagement projects and awareness creation programmes. Her experience includes designing and managing countrywide public participation and stakeholder engagement projects and awareness creation projects, managing multi-project schedules, budgets and achieving project goals. She has successfully undertaken several public participation processes for EIA, BA and WULA projects. The EIA and BA process include linear projects such as the NMPP, Eskom Transmission and Distribution power lines as well as site specific developments such as renewable energy projects i.e. solar, photo voltaic and wind farms. She also successfully managed stakeholder engagement projects which were required to be in line with the Equator Principles, locally and in neighbouring countries.

## SKILLS BASE AND CORE COMPETENCIES

- Project Management
- Public Participation, Stakeholder Engagement and Awareness Creation
- Public Speaking and Presentation Skills
- Facilitation (workshops, focus group meetings, public meetings, public open days, working groups and committees)
- Social Assessments (Stakeholder Analysis / Stakeholder Mapping)
- Monitoring and Evaluation of Public Participation and Stakeholder Engagement Processes
- Community Liaison
- IFC Performance Standards
- Equator Principles
- Minute taking, issues mapping, report writing and quality control

## EDUCATION AND PROFESSIONAL STATUS

**Degrees / Diplomas / Certificates:**

- Higher Secretarial Certificate, Pretoria Technicon (1970)

**Short Courses:**

- Techniques for Effective Public Participation, International Association for Public Participation, IAP2 (2008)
- Foundations of Public Participation (Planning and Communication for Effective Public Participation), IAP2 (2009)
- Certificate in Public Participation – IAP2SA Modules 1, 2 and 3 (2013)

Certificate in Public Relations, Public Relation Institute of South Africa, Damelin Management School (1989)

**Professional Society Affiliations:**

- Member of International Association for Public Participation (IAP2): Southern Africa

## EMPLOYMENT

| Date | Company | Roles and Responsibilities |
|---|---|---|
| **November 2018 – current** | Savannah Environmental (Pty) Ltd | Public Participation and Social Consultant<br><br><u>*Tasks include:*</u><br><br>*Tasks include: Drafting of a Public Participation Plan with key deliverable dates and methodology to be followed, Background Information Document, Letters to Stakeholders and Interested and/or Affected Parties (I&APs) inclusive of key project deliverables and responses to questions / concerns raised; Stakeholder identification; facilitating stakeholder workshops, focus group and public meetings; conduct one-on-one consultation with Community Leaders, Tribal Chiefs, affected landowners, etc.*<br><br>*Managing interaction between Stakeholders and Team Members, liaising with National, Provincial and Local Authorities, managing community consultation and communications in project affected areas, attend to the level of technical information communicated to and consultation with all level of stakeholders involved.* |

| Date | Company | Roles and Responsibilities |
|---|---|---|
| **2016 – October 2018** | Imaginative Africa (Pty) Ltd<br><br>*(Director of Imaginative Africa)* | Independent Consultant<br><br>*Consulting to various Environmental Assessment Practitioners for Public Participation and Stakeholder Engagements:*<br><br>*<u>Tasks include:</u>*<br><br>*Tasks include: Drafting of a Public Participation Plan with key deliverable dates and methodology to be followed, Background Information Document, Letters to Stakeholders and Interested and/or Affected Parties (I&APs) inclusive of key project deliverables and responses to questions / concerns raised; Stakeholder identification; facilitating stakeholder workshops, focus group and public meetings; conduct one-on-one consultation with Community Leaders, Tribal Chiefs, affected landowners, etc.*<br><br>*Managing interaction between Stakeholders and Team Members, liaising with National, Provincial and Local Authorities, managing community consultation and communications in project affected areas, attend to the level of technical information communicated to and consultation with all level of stakeholders involved*<br><br>*<u>Clients</u>:*<br><br>*SiVEST Environmental*<br>*Savannah Environmental*<br>*Baagi Environmental*<br>*Royal Haskoning DHV (previously SSI)* |
| **2013 - 2016** | Zitholele Consulting<br><br>*Contact person: Dr Mathys Vosloo*<br><br>*Contact number: 011 207 2060* | Senior Public Participation Practitioner and Project Manager<br><br><u>Tasks included:</u><br><br>*Project managed public participation process for EIA/BA/WULA/EAL projects. Manages two Public Participation Administrators. Public Participation tasks as outlined as above and including financial management of public participation processes.* |
| **2011 - 2013** | Imaginative Africa (Pty) Ltd<br><br>*(company owned by Nicolene Venter)* | Independent Consultant<br><br>Consulting to various Environmental Assessment Practitioners for Public Participation and Stakeholder Engagements<br><br><u>Tasks included:</u><br><br>*Drafting of a Public Participation Plan with key deliverable dates and methodology to be followed, Background Information Document,* |

| | | |
|---|---|---|
| | | *Letters to Stakeholders and Interested and/or Affected Parties (I&APs) inclusive of key project deliverables and responses to questions / concerns raised; Stakeholder identification; facilitating stakeholder workshops, focus group and public meetings; conduct one-on-one consultation with Community Leaders, Tribal Chiefs, affected landowners, etc.*<br><br>*Managing interaction between Stakeholders and Team Members, liaising with National, Provincial and Local Authorities, managing community consultation and communications in project affected areas, attend to the level of technical information communicated to and consultation with all level of stakeholders involved*<br><br>*<u>Clients</u>:*<br>*Bohlweki Environmental*<br>*Bembani Sustainability (Pty) Ltd*<br>*Naledzi Environmental* |
| **2007 – 2011** | SiVEST SA (Pty) Ltd<br><br>*Contact person: Andrea Gibb*<br><br>*Contact number: 011 798 0600* | Unit Manager: Public Participation Practitioner<br><br>*<u>Tasks included:</u>*<br><br>*Project managed public participation process for EIA/BA projects. Manages two Junior Public Participation Practitioners. Public Participation tasks as outlined as above and including financial management of public participation processes.* |
| **2005 – 2006** | Imaginative Africa (Pty) Ltd<br><br>*(company owned by Nicolene Venter)* | Independent Consultant<br><br>Public Participation and Stakeholder Engagement Practitioner<br><br>*<u>Tasks included:</u>*<br><br>*Drafting of a Public Participation Plan with key deliverable dates and methodology to be followed, Background Information Document, Letters to Stakeholders and Interested and/or Affected Parties (I&APs) inclusive of key project deliverables and responses to questions / concerns raised; Stakeholder identification; facilitating stakeholder workshops, focus group and public meetings; conduct one-on-one consultation with Community Leaders, Tribal Chiefs, affected landowners, etc.*<br><br>*Managing interaction between Stakeholders and Team Members, liaising with National, Provincial and Local Authorities, managing community consultation and communications in project affected areas, attend to the level of technical* |

| | | |
|---|---|---|
| | | *information communicated to and consultation with all level of stakeholders involved.*<br><br>*<u>Clients</u>:*<br><br>*Manyaka-Greyling-Meiring (previously Greyling Liaison and currently Golder Associates)* |
| **1997 - 2004** | Imaginative Africa (Pty) Ltd<br><br>*(company owned by Nicolene Venter)* | Independent Consultant: Public Participation Practitioner.<br><br>*<u>Tasks included:</u>*<br><br>*Drafting of a Public Participation Plan with key deliverable dates and methodology to be followed, Background Information Document, Letters to Stakeholders and Interested and/or Affected Parties (I&APs) inclusive of key project deliverables and responses to questions / concerns raised; Stakeholder identification; facilitating stakeholder workshops, focus group and public meetings; conduct one-on-one consultation with Community Leaders, affected landowners, etc.*<br><br>*Managing interaction between Stakeholders and Team Members, liaising with National, Provincial Local Authorities, managing community consultation and communications in project affected areas, attend to the level of technical information communicated to and consultation with all level of stakeholders involved.*<br><br>*<u>Clients</u>:*<br><br>*Greyling Liaison (currently Golder Associates); Bembani Sustainability (Pty) Ltd; Lidwala Environmental; Naledzi Environmental* |

**PROJECT EXPERIENCE**

**RENEWABLE POWER GENERATION PROJECTS**

***PHOTOVOLTAIC SOLAR ENERGY FACILITIES***

***Environmental Impact Assessments and Environmental Management Programmes***

| ***Project Name & Location*** | ***Client Name*** | ***Role*** |
|---|---|---|
| *Lichtenburg PVs (3 PVs) & Power Lines (grid connection), Lichtenburg, North West Province* | *Atlantic Energy Partners*<br>*EAP: Savannah Environmental* | *Project Manage the Public Participation Process*<br>*Facilitate all meetings*<br>*Consultation with Government Officials, Key Stakeholders, Landowners & Community Leaders* |
| *Allepad PVs 4 PVs) & Power Lines (grid connection), Upington, Northern Cape Province* | *IL Energy*<br>*EAP: Savannah Environmental* | |
| *Hyperion Solar PV Developments (4 PVs) and Associated Infrastructures, Kathu, Northern Cape Province* | *Building Energy*<br>*EAP: Savannah Environmental* | |
| *Aggeneys Solar PV Developments (2 PVs) and Associated Infrastructures, Aggeneys, Northern Cape Province* | *Atlantic Energy Partners and ABO Wind*<br>*EAP: Savannah Environmental* | |
| *Upilanga Solar Park, Northern Cape (350MW CSP Tower)* | *Emvelo Capital Projects (Pty) Ltd* | |
| *Khunab Solar Development, consisting of Klip Punt PV1, McTaggarts PV1, McTaggarts PV2, McTaggarts PV3 and the Khunab solar Grid Connection near Upington, Northern Cape Province* | *Atlantic Energy Partners and Abengoa* | |
| *Sirius Solar PV3 and PV4, near Upington, Northern Cape Province* | *Solal* | |
| *Geelstert PV 1 and PV2 solar energy facilities, near Aggeneys, Northern Cape* | *ABO Wind* | |
| *Naledi PV and Ngwedi PV solar energy facilities, near Upington, Northern Cape* | *Atlantic Energy Partners and Abengoa* | |
| *Kotulo Tsatsi PV1, Kotulo Tsatsi PV3 and Kotulo Tsatsi PV4 solar energy facilities, near Kenhardt, Northern Cape* | *Kotulo Tsatsi Energy* | |
| *Tlisitseng PV, including Substations & Power Lines, Lichtenburg, North West Province* | *BioTherm Energy*<br>*EAP: SiVEST* | *Public Participation, Landowner and Community Consultation* |
| *Sendawo PVs, including Substations & Power Lines, Vryburg, North West Province* | | |
| *Helena Solar 1, 2 and 3 PVs, Copperton, Northern Cape Province* | | |
| *Farm Spes Bona 23552 Solar PV Plants, Bloemfontein, Free State Province* | *Surya Power*<br>*EAP: SiVEST* | *Public Participation, Landowner and Community Consultation* |
| *De Aar Solar Energy Facility, De Aar, Northern Cape Province* | *South Africa Mainstream Renewable Power Developments*<br>*EAP: SiVEST* | *Public Participation, Landowner and Community Consultation* |
| *Droogfontein Solar Energy Facility, Kimberley, Northern Cape Province* | | |
| *Kaalspruit Solar Energy Facility, Loeriesfontein, Northern Cape Province* | | |

| | | |
|---|---|---|
| *Platsjambok East PV, Prieska, Northern Cape Province* | | |
| *Renosterburg PV, De Aar, Northern Cape Province* | *Renosterberg Wind Energy Company*<br>*EAP: SiVEST* | *Public Participation, Landowner and Community Consultation* |
| *19MW Solar Power Plant on Farm 198 (Slypklip), Danielskuil, Northern Cape Province* | *Solar Reserve South Africa*<br>*EAP: SiVEST* | *Public Participation, Landowner and Community Consultation* |

***Basic Assessments and Environmental Management Programmes***

| ***Project Name & Location*** | ***Client Name*** | ***Role*** |
|---|---|---|
| *Upilanga Solar Park, Northern Cape (x6 100MW PV's and x3 350MW PV Basic Assessments)* | *Emvelo Capital Projects (Pty) Ltd* | *Project Manage the Public Participation Process*<br>*Facilitate all meetings*<br>*Consultation with Government Officials, Key Stakeholders, Landowners & Community Leaders* |
| *Sirius Solar PV Solar Energy Facility, Upington, Northern Cape Province* | *SOLA Future Energy* | |
| *Khunab Solar Development, consisting of Klip Punt PV1, McTaggarts PV1, McTaggarts PV2, McTaggarts PV3 and the Khunab solar Grid Connection near Upington, Northern Cape Province* | *Atlantic Energy Partners and Abengoa* | |

***WIND ENERGY FACILITIES***

***Environmental Impact Assessments and Environmental Management Programmes***

| ***Project Name & Location*** | ***Client Name*** | ***Role*** |
|---|---|---|
| *Aletta Wind Farm, Copperton, Northern Cape Province* | *BioTherm Energy*<br>*EAP: SiVEST* | *Public Participation* |
| *Eureka Wind Farm, Copperton, Northern Cape Province* | | |
| *Loeriesfontein Wind Farm, Loeriesfontein, Northern Cape Province* | *South Africa Mainstream Renewable Power Developments*<br>*EAP: SiVEST* | *Public Participation* |
| *Droogfontein Wind Farm, Loeriesfontein, Northern Cape Province* | | |
| *Four Leeuwberg Wind Farms, Loeriesfontein, Northern Cape Province* | | |
| *Noupoort Wind Farm, Noupoort, Northern Cape Province* | | |
| *Mierdam PV & Wind Farm, Prieska, Northern Cape Province* | | |
| *Platsjambok West Wind Farm & PV, Prieska, Northern Cape Province* | | |

**Basic Assessments and Environmental Management Programmes**

| **Project Name & Location** | **Client Name** | **Role** |
|---|---|---|
| *Cluster of Renewable Energy Developments, Eastern Cape Province* | *Wind Relic* | |

| | | |
|---|---|---|
| *Nama Wind Energy Facility, Northern Cape Province* | *Genesis ECO*<br>*EAP: Savannah Environmental* | *Project Manage the Public Participation Process*<br>*Facilitate all meetings*<br>*Consultation with Government Officials, Key Stakeholders, Landowners & Community Leaders* |
| *Zonnequa Wind Energy Facility, Northern Cape Province* | | |

***CONCENTRATED SOLAR FACILITIES (CSP)***

***Environmental Impact Assessments and Environmental Management Programmes***

| ***Project Name & Location*** | ***Client Name*** | ***Role*** |
|---|---|---|
| *Upington Concentrating Solar Plant and associated Infrastructures, Northern Cape Province* | *Eskom Holdings*<br>*EAP: Bohlweki Environmental* | *Project Manage the Public Participation Process*<br>*Facilitate all meetings*<br>*Consultation with Government Officials, Key Stakeholders, Landowners & Community Leaders* |

**CONVENTIONAL POWER GENERATION PROJECTS (GAS)**

**Environmental Impact Assessments and Environmental Management Programmes**

| **Project Name & Location** | **Client Name** | **Role** |
|---|---|---|
| 450MW gas to power project and associated 132kV power line, Richards bay, KwaZulu-Natal | Phinda Power Producers | *Project Manage the Public Participation Process*<br>*Facilitate all meetings*<br>*Consultation with Government Officials, Key Stakeholders & Landowners* |
| 4000MW gas to power project and associated 400kV power lines, Richards bay, KwaZulu-Natal | Phinda Power Producers | |
| Richards Bay Gas to Power Combined Cycle Power Station, KwaZulu-Natal | Eskom Holdings SoC Limited | |

**GRID INFRASTRUCTURE PROJECTS**

***Environmental Impact Assessments and Environmental Management Programmes***

| ***Project Name & Location*** | ***Client Name*** | ***Role*** |
|---|---|---|
| *132/11kV Olifantshoek Substation and Power Line, Northern Cape* | *Eskom* | *Project Manage the Public Participation Process*<br>*Facilitate all meetings*<br>*Consultation with Government Officials, Key Stakeholders, Landowners & Community Leaders* |
| *Grid connection infrastructure for the Namas Wind Farm, Northern Cape Province* | *Genesis Namas Wind (Pty) Ltd* | |
| *Grid connection infrastructure for the Zonnequa Wind Farm, Northern Cape Province* | *Genesis Zonnequa Wind (Pty) Ltd* | |
| *Khunab Solar Grid Connection, near Upington, Northern Cape Province* | *Atlantic Energy Partners and Abengoa* | |
| *Pluto-Mahikeng Main Transmission Substation and 400kV Power Line (Carletonville to Mahikeng), Gauteng and North West Provinces* | *Eskom Holdings*<br>*EAP: Baagi Environmental* | |
| *Thyspunt Transmission Lines Integration Project, Eastern Cape Province* | *Eskom Holdings*<br>*EAP: SiVEST* | *Public Participation, Landowner and Community Consultation* |
| *Westrand Strengthening Project, Gauteng Province* | | *Public Participation,* |

| | | |
|---|---|---|
| *Mookodi Integration Project, North-West Province* | | |
| *Transnet Coallink, Mpumalanga and KwaZulu-Natal Provinces* | | |
| *Delarey-Kopela-Phahameng Distribution power line and newly proposed Substations, North-West Province* | | *Public Participation, Landowner and Community Consultation* |
| *Invubu-Theta 400kV Eskom Transmission Power Line, KwaZulu-Natal Province* | *Eskom Holding*<br>*EAP: Bembani Environmental* | |
| *Melkhout-Kudu-Grassridge 132kV Power Line Project (project not submitted to DEA), Eastern Cape Province* | *Eskom Holdings*<br>*EAP: SiVEST* | *Public Participation, Landowner and Community Consultation* |
| *Tweespruit-Welroux-Driedorp-Wepener 132Kv Power Line, Free State Province* | | |
| *Kuruman 132Kv Power Line Upgrade, Northern Cape Province* | *Eskom Holdings*<br>*EAP: Zitholele* | |
| *Vaalbank 132Kv Power Line, Free State Province* | | |
| *Pongola-Candover-Golela 132kV Power Line (Impact Phase), KwaZulu-Natal Province* | | |

**PART 2 AMENDMENTs**

| ***Project Name & Location*** | ***Client Name*** | ***Role*** |
|---|---|---|
| *Transalloys Coal-Fired Power Station near Emalahleni, Mpumalanga Province* | *Transalloys (Pty) Ltd* | *Project Manage the Public Participation Process* |
| *Zen Wind Energy Facility, Western Cape* | *Energy Team (Pty) Ltd* | |
| *Hartebeest Wind Energy Facility, Western Cape* | *juwi Renewable Energies (Pty) Ltd* | |
| *Khai-Ma and Korana Wind Energy Facilities* | *Mainstream Renewable Power (Pty) Ltd* | |

**FACILITATION**

| ***Project Name & Location*** | ***Client Name*** | ***Meeting Type*** |
|---|---|---|
| Bloemfontein Strengthening Project, Free State Province | Eskom Holdings<br>EAP: Baagi Environmental | Public Meetings |
| Mooidraai-Smitkloof 132kV Power Line and Substation, Northern Cape Province | Eskom Holdings<br>EAP: SSI | Focus Group Meetings |
| Aggeneis-Oranjemond 400kV Eskom Transmission Power Line, Northern Cape Province | Eskom Holdings<br>EAP: Savannah Environmental | Focus Group Meetings &<br>Public Meetings |
| Ariadne-Eros 400kV/132kV Multi-Circuit Transmission Power Line (Public Meetings) | Eskom Holdings<br>EAP: ACER Africa | Public Meetings |
| Majuba-Venus 765kV Transmission Power Lines, Mpumlanaga Province | | |
| Thabametsi IPP Power Station, Limpopo Province | Thabametsi Power Company<br>EAP: Savannah Environmental | Focus Group Meeting &<br>Public Meeting |
| Aggeneis-Oranjemond Transmission Line & Substation Upgrade, Northern Cape | Eskom Transmission | Focus Group Meetings &<br>Public Meetings |

**SCREENING STUDIES**

| ***Project Name & Location*** | ***Client Name*** | ***Role*** |
|---|---|---|
| *Potential Power Line Alternatives from Humansdorp to Port Elizabeth, Eastern Cape Province* | *Nelson Mandela Bay Municipality*<br>*EAP: SiVEST* | *Social Assessment* |

**ASH DISPOSAL FACILITIES**

***Environmental Impact Assessments and Environmental Management Programmes***

| ***Project Name & Location*** | ***Client Name*** | ***Role*** |
|---|---|---|
| *Medupi Flue Gas Desulphurisation Project (up to completion of Scoping Phase), Limpopo Province* | *Eskom Holdings SOC Ltd*<br>*EAP: Zitholele Consulting* | *Public Participation, Landowner and Community Consultation* |
| *Kendal 30-year Ash Disposal Facility, Mpumalanga Province* | | |
| *Kusile 60-year Ash Disposal Facility, Mpumalanga Province* | | |
| *Camden Power Station Ash Disposal Facility, Mpumalanga Province* | | |
| *Tutuka Fabric Filter Retrofit and Dust Handling Plant Projects, Mpumalanga Province* | *Eskom Holdings SOC Ltd*<br>*EAP: Lidwala Environmental* | |
| *Eskom's Majuba and Tutuka Ash Dump Expansion, Mpumalanga Province* | | |
| *Hendrina Ash Dam Expansion, Mpumalanga Province* | | |

**INFRASTRUCTURE DEVELOPMENT PROJECTS (BRIDGES, PIPELINES, ROADS, WATER RESOURCES, STORAGE, ETC)**

***Basic Assessments***

| ***Project Name & Location*** | ***Client Name*** | ***Role*** |
|---|---|---|
| *Expansion of LOX and Diesel Storage at the Air Products Facility in Coega, Eastern Cape* | *Air Products South Africa (Pty) Ltd* | *Project Manage the Public Participation Process*<br>*Facilitate all meetings*<br>*Consultation with Government Officials, Key Stakeholders & Landowners* |
| *Transnet's New Multi-Products Pipeline traversing Kwa-Zulu Natal, Free State and Gauteng Provinces* | *Transnet*<br>*EAP: Bohlweki Environmental* | |
| *Realignment of the Bulshoek Dam Weir near Klawer and the Doring River Weir near Clanwilliam, Western Cape Province* | *Dept of Water and Sanitation*<br>*EAP: Zitholele* | *Public Participation* |

**STAKEHOLDER ENGAGEMENT**

| ***Project Name & Location*** | ***Client Name*** | ***Role*** |
|---|---|---|
| *Socio-Economic Impact Study for the shutdown and repurposing of Eskom Power Stations: Komati Power Station, Hendrina Power Station & Grootvlei Power Station* | *Urban-Econ* | *Project Management for the stakeholder engagement with Community* |

| | | |
|---|---|---|
| | | *Representatives in the primary data capture area* |
| *First State of Waste Report for South Africa* | *Golder Associates on behalf of the Department of Environmental Affairs* | *Secretarial Services* |
| *Determination, Review and Implementation of the Reserve in the Olifants/Letaba System* | *Golder Associates on behalf of the Department of Water and Sanitation* | |
| *Orange River Bulk Water Supply System* | | |
| *Levuvu-Letaba Resources Quality Objectives* | | |

**FACILITATION**

| ***Project Name & Location*** | ***Client Name*** | ***Meeting Type*** |
|---|---|---|
| *Determination, Review and Implementation of the Reserve in the Olifants/Letaba System* | *Department of Water and Sanitation*<br>*Golder Associates* | *Secretarial Services* |
| *Orange River Bulk Water Supply System* | | *Secretarial Services* |
| *Levuvu-Letaba Resources Quality Objectives* | | *Secretarial Services* |
| *SmancorCR Chemical Plant (Public Meeting), Gauteng Province* | *Samancor Chrome (Pty) Ltd*<br>*EAP: Environment al Science Associates* | *Public Meeting* |
| *SANRAL N4 Toll Highway Project (2nd Phase), Gauteng & North West Provinces* | *Department of Transport*<br>*EAP: Bohlweki Environmental* | *Public Meetings* |

**MINING SECTOR**

**Environmental Impact Assessment and Environmental Management Programme**

| **Project Name & Location** | **Client Name** | **Role** |
|---|---|---|
| *Zero Waste Recovery Plant at highveld Steel, Mpumalanga Province* | *Anglo African Metals*<br>*EAP: Savannah Environmental* | *Public Participation* |
| *Koffiefontein Slimes Dam, Free State Province* | *Petra Diamond Mines*<br>*EAP: Zitholele* | *Public Participation* |
| *Baobab Project: Ethenol Plant, Chimbanje, Middle Sabie, Zimbabwe* | *Applicant: Green Fuel*<br>*EAP: SiVEST* | *Public Participation & Community Consultation* |
| *BHP Billiton Energy Coal SA's Middelburg Water Treatment Plant, Mpumalanga* | *BHP Billiton Group*<br>*EAP: Jones & Wagener* | *Public Participation* |

**ENVIRONMENTAL AUTHORISATION AMENDMENTS**

| ***Project Name & Location*** | ***Client Name*** | ***Role*** |
|---|---|---|
| *Transalloys Coal-Fired Power Station near Emalahleni, Mpumalanga Province* | *Transalloys (Pty) Ltd* | *Public Participation* |
| *Zen Wind Energy Facility, Western Cape* | *Energy Team (Pty) Ltd* | |
| *Hartebeest Wind Energy Facility, Western Cape* | *juwi Renewable Energies (Pty) Ltd* | |
| *Khai-Ma and Korana Wind Energy Facilities* | *Mainstream Renewable Power (Pty) Ltd* | |
| *Beaufort West 280MW Wind Farm into two 140MW Trakas and Beaufort West Wind Farms, Western Cape* | *South Africa Mainstream Renewable Power Developments*<br>*EAP: SiVEST* | |

**SECTION 54 AUDITS**

| ***Project Name & Location*** | ***Client Name*** | ***Role*** |
|---|---|---|
| *Mulilo 20MW PV Facility, Prieska, Northern Cape* | *Mulilo (Pty) Ltd* | *Public Participation: I&AP Notification process* |
| *Mulilo 10MW PV Facility, De Aar, Northern Cape* | *Mulilo (Pty) Ltd* | |
| *Karoshoek CSP 1 Facility/ Solar One, Upington, Northern Cape* | *Karoshoek Solar One (Pty) Ltd* | |

**APPENDIX 3: DFFE SCREENING TOOL REPORT**

# SCREENING REPORT FOR AN ENVIRONMENTAL AUTHORIZATION AS REQUIRED BY THE 2014 EIA REGULATIONS – PROPOSED SITE ENVIRONMENTAL SENSITIVITY

**EIA Reference number:** TBD

**Project name:** Ummbila Emoyeni Solar Energy Facility

**Project title:** Ummbila Emoyeni Solar Energy Facility

**Date screening report generated:** 12/05/2022 13:51:40

**Applicant:** Emoyeni Renewable Energy (Pty) Ltd

**Compiler:** Savannah Environmental (Pty) Ltd

**Compiler signature:**

.....

**Application Category:** Utilities Infrastructure|Electricity|Generation|Renewable|Solar|PV

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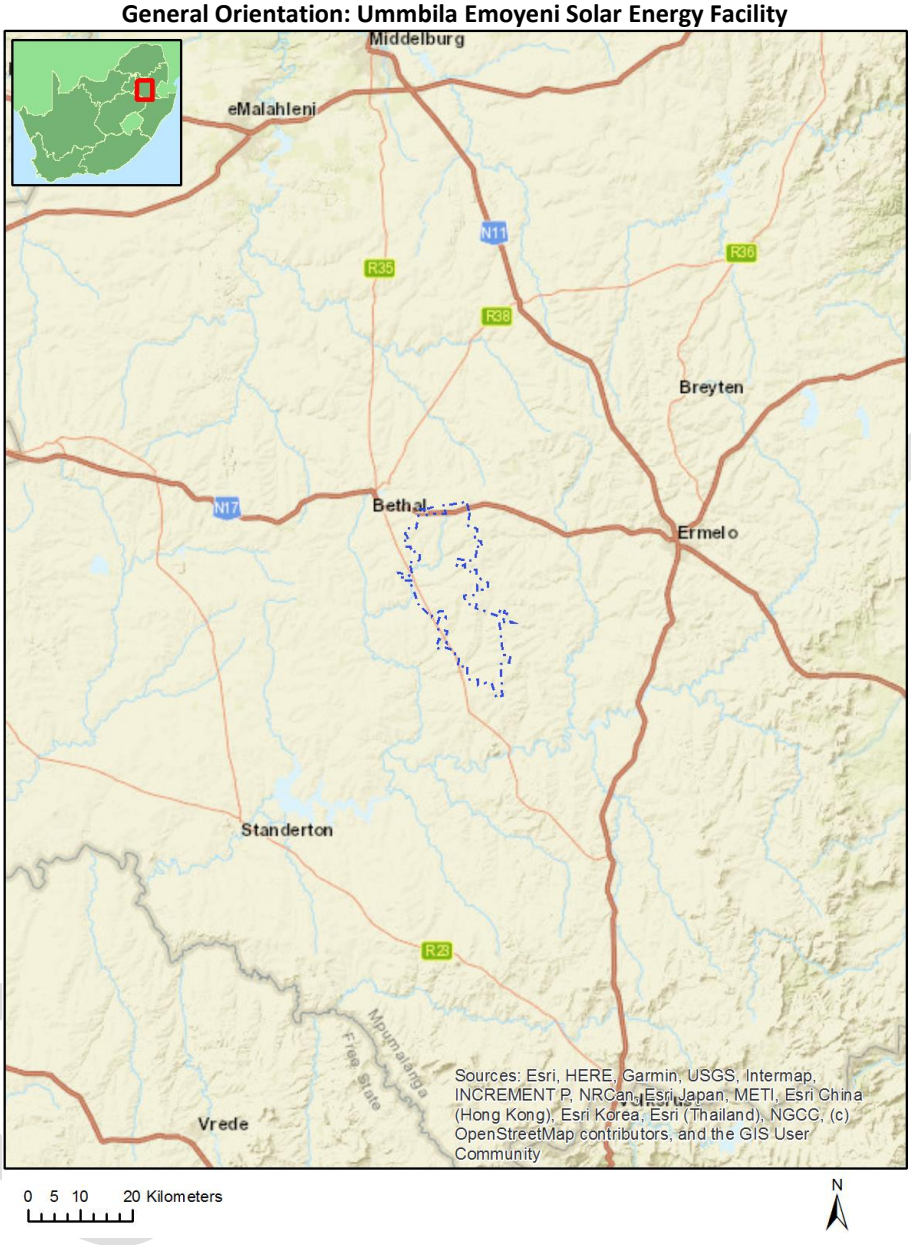
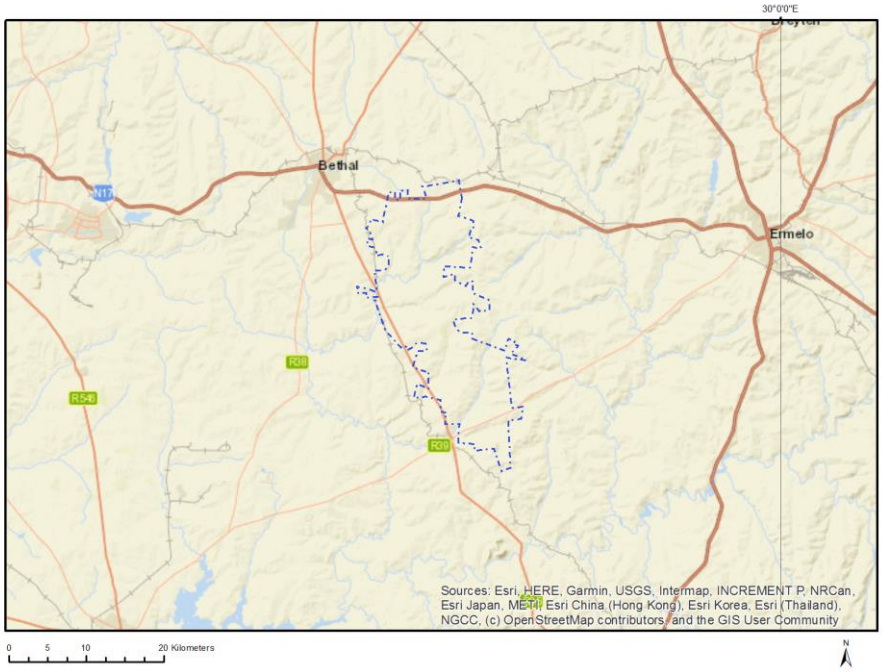
# Proposed Project Location

## Orientation map 1: General location

**General Orientation: Ummbila Emoyeni Solar Energy Facility**



# Map of proposed site and relevant area(s)




## Cadastral details of the proposed site

Property details:

| No | Farm Name | Farm/ Erf No | Portion | Latitude | Longitude | Property Type |
|---|---|---|---|---|---|---|
| 1 | SPRINGBOKFONTEIN | 425 | 0 | 26°34'4.51S | 29°40'25.01E | Farm |
| 2 | VAALBANK | 456 | 0 | 26°41'19.21S | 29°39'17.6E | Farm |
| 3 | BRAKFONTEIN SETTLEMENT | 268 | 0 | 26°30'13.97S | 29°39'1.92E | Farm |
| 4 | OSHOEK | 454 | 0 | 26°36'52.84S | 29°40'32.54E | Farm |
| 5 | GOEDEGEDACHT | 458 | 0 | 26°38'30.67S | 29°35'37.06E | Farm |
| 6 | KLIPKRAAL | 469 | 0 | 26°42'18.67S | 29°42'52.44E | Farm |
| 7 | NAUDESFONTEIN | 261 | 0 | 26°28'28.25S | 29°31'41.69E | Farm |
| 8 | RIETFONTEIN | 420 | 0 | 26°31'55.89S | 29°31'35.24E | Farm |
| 9 | MORGENZON | 466 | 0 | 26°44'32.53S | 29°35'44.46E | Farm |
| 10 | AMAJUBA | 482 | 0 | 26°45'27.12S | 29°43'35.38E | Farm |
| 11 | KLIPFONTEIN | 422 | 0 | 26°35'50.07S | 29°36'4.08E | Farm |
| 12 | BEKKERSPRUIT | 423 | 0 | 26°32'58.95S | 29°36'18.51E | Farm |
| 13 | EBENHEAZER | 455 | 0 | 26°38'56.57S | 29°39'17.4E | Farm |
| 14 | ROODEKRANS | 457 | 0 | 26°41'27.59S | 29°35'40.12E | Farm |
| 15 | DURABEL | 548 | 0 | 26°34'17.12S | 29°33'50.27E | Farm |
| 16 | RIETPAN | 263 | 0 | 26°27'16.5S | 29°35'25.66E | Farm |
| 17 | SUKKELAAR | 421 | 0 | 26°34'47.76S | 29°31'25.64E | Farm |
| 18 | HENDRIKSPAN | 459 | 0 | 26°38'22.05S | 29°32'52.43E | Farm |
| 19 | GELUKSPLAATS | 264 | 0 | 26°29'51.68S | 29°35'42.7E | Farm |
| 20 | BRAKFONTEIN | 452 | 0 | 26°40'23S | 29°42'48.62E | Farm |
| 21 | TWEEFONTEIN | 467 | 0 | 26°44'28.81S | 29°39'15.89E | Farm |
| 22 | VLAKFONTEIN - | 484 | 0 | 26°46'56.99S | 29°40'25.95E | Farm |
| 23 | ZEVENFONTEIN | 468 | 0 | 26°43'25.32S | 29°43'1.75E | Farm |
| 24 | NAUDESFONTEIN | 261 | 21 | 26°29'7.08S | 29°33'32.19E | Farm Portion |
| 25 | NAUDESFONTEIN | 261 | 22 | 26°29'32.9S | 29°31'13.57E | Farm Portion |
| 26 | GELUKSPLAATS | 264 | 0 | 26°30'22.25S | 29°34'23.29E | Farm Portion |

| | | | | | | |
|---|---|---|---|---|---|---|
| 27 | GELUKSPLAATS | 264 | 2 | 26°28'42.51S | 29°34'35.29E | Farm Portion |
| 28 | GELUKSPLAATS | 264 | 9 | 26°31'0.2S | 29°36'40.36E | Farm Portion |
| 29 | GELUKSPLAATS | 264 | 13 | 26°28'56.37S | 29°34'23.3E | Farm Portion |
| 30 | BRAKFONTEIN SETTLEMENT | 268 | 1 | 26°29'11.77S | 29°38'0.82E | Farm Portion |
| 31 | BRAKFONTEIN SETTLEMENT | 268 | 45 | 26°27'49.77S | 29°37'38.93E | Farm Portion |
| 32 | NAUDESFONTEIN | 261 | 1 | 26°28'44.5S | 29°33'15.16E | Farm Portion |
| 33 | RIETPAN | 263 | 10 | 26°27'44.85S | 29°35'51.07E | Farm Portion |
| 34 | RIETPAN | 263 | 5 | 26°27'47.26S | 29°36'49.42E | Farm Portion |
| 35 | GELUKSPLAATS | 264 | 8 | 26°30'34.81S | 29°35'48.76E | Farm Portion |
| 36 | GELUKSPLAATS | 264 | 14 | 26°28'56.09S | 29°35'13.34E | Farm Portion |
| 37 | GELUKSPLAATS | 264 | 16 | 26°28'54.67S | 29°35'43.65E | Farm Portion |
| 38 | RIETKUIL | 57 | 11 | 26°42'48.14S | 29°36'29.3E | Farm Portion |
| 39 | NAUDESFONTEIN | 261 | 14 | 26°30'1.21S | 29°33'1.95E | Farm Portion |
| 40 | NAUDESFONTEIN | 261 | 71 | 26°28'57.38S | 29°33'44.29E | Farm Portion |
| 41 | GELUKSPLAATS | 264 | 5 | 26°29'32.36S | 29°36'32.77E | Farm Portion |
| 42 | RIETFONTEIN | 420 | 12 | 26°30'46.46S | 29°32'3.3E | Farm Portion |
| 43 | NAUDESFONTEIN | 261 | 24 | 26°29'52.28S | 29°32'6.39E | Farm Portion |
| 44 | NAUDESFONTEIN | 261 | 69 | 26°28'56.54S | 29°32'41.71E | Farm Portion |
| 45 | RIETPAN | 263 | 2 | 26°27'38.48S | 29°36'47.62E | Farm Portion |
| 46 | GELUKSPLAATS | 264 | 18 | 26°28'38.74S | 29°37'3.19E | Farm Portion |
| 47 | BRAKFONTEIN SETTLEMENT | 268 | 25 | 26°28'6.45S | 29°37'57.87E | Farm Portion |
| 48 | BRAKFONTEIN SETTLEMENT | 268 | 12 | 26°31'41.12S | 29°38'40.65E | Farm Portion |
| 49 | NAUDESFONTEIN | 261 | 25 | 26°29'57.67S | 29°31'35E | Farm Portion |
| 50 | NAUDESFONTEIN | 261 | 70 | 26°28'57.93S | 29°33'14.4E | Farm Portion |
| 51 | RIETPAN | 263 | 11 | 26°27'21.56S | 29°35'20.66E | Farm Portion |
| 52 | GELUKSPLAATS | 264 | 6 | 26°31'35.1S | 29°36'36.13E | Farm Portion |
| 53 | GELUKSPLAATS | 264 | 3 | 26°28'28.37S | 29°35'49.83E | Farm Portion |
| 54 | GELUKSPLAATS | 264 | 15 | 26°28'55.57S | 29°35'34.86E | Farm Portion |
| 55 | BRAKFONTEIN SETTLEMENT | 268 | 10 | 26°31'20.55S | 29°38'0.6E | Farm Portion |
| 56 | BRAKFONTEIN SETTLEMENT | 268 | 35 | 26°30'10.96S | 29°38'34.49E | Farm Portion |
| 57 | NAUDESFONTEIN | 261 | 15 | 26°29'5.71S | 29°32'44.01E | Farm Portion |
| 58 | GELUKSPLAATS | 264 | 4 | 26°28'23.7S | 29°37'4.57E | Farm Portion |
| 59 | BRAKFONTEIN SETTLEMENT | 268 | 8 | 26°30'47.12S | 29°38'52.85E | Farm Portion |
| 60 | BRAKFONTEIN SETTLEMENT | 268 | 13 | 26°32'5.07S | 29°39'31.77E | Farm Portion |
| 61 | BRAKFONTEIN SETTLEMENT | 268 | 24 | 26°27'22.95S | 29°38'18.31E | Farm Portion |
| 62 | GELUKSPLAATS | 264 | 10 | 26°31'33.85S | 29°35'40.69E | Farm Portion |
| 63 | GELUKSPLAATS | 264 | 17 | 26°28'52.28S | 29°36'19.91E | Farm Portion |
| 64 | BRAKFONTEIN SETTLEMENT | 268 | 7 | 26°30'38.07S | 29°38'14.25E | Farm Portion |
| 65 | BRAKFONTEIN SETTLEMENT | 268 | 11 | 26°31'21.86S | 29°37'29.81E | Farm Portion |
| 66 | SUKKELAAR | 421 | 6 | 26°35'24.4S | 29°31'5.57E | Farm Portion |
| 67 | SUKKELAAR | 421 | 8 | 26°34'29.33S | 29°31'54.11E | Farm Portion |
| 68 | SUKKELAAR | 421 | 12 | 26°36'58.65S | 29°32'43.4E | Farm Portion |
| 69 | SUKKELAAR | 421 | 12 | 26°36'40.98S | 29°32'58.69E | Farm Portion |
| 70 | SUKKELAAR | 421 | 9 | 26°35'28.8S | 29°32'26.43E | Farm Portion |
| 71 | SUKKELAAR | 421 | 54 | 26°35'28.43S | 29°32'14.04E | Farm Portion |
| 72 | SUKKELAAR | 421 | 55 | 26°35'4.05S | 29°32'3.58E | Farm Portion |
| 73 | KLIPFONTEIN | 422 | 7 | 26°35'24.89S | 29°38'9.22E | Farm Portion |
| 74 | KLIPFONTEIN | 422 | 10 | 26°36'15.95S | 29°37'39.49E | Farm Portion |
| 75 | KLIPFONTEIN | 422 | 2 | 26°33'55.29S | 29°34'25.37E | Farm Portion |

| | | | | | | |
|---|---|---|---|---|---|---|
| 76 | KLIPFONTEIN | 422 | 11 | 26°36'50.89S | 29°37'53.13E | Farm Portion |
| 77 | BEKKERSPRUIT | 423 | 20 | 26°33'47S | 29°36'52.99E | Farm Portion |
| 78 | BRAKFONTEIN SETTLEMENT | 268 | 9 | 26°31'10.44S | 29°38'44.86E | Farm Portion |
| 79 | RIETFONTEIN | 420 | 2 | 26°33'11.75S | 29°31'21.92E | Farm Portion |
| 80 | RIETFONTEIN | 420 | 8 | 26°33'17.93S | 29°33'19.13E | Farm Portion |
| 81 | SUKKELAAR | 421 | 22 | 26°34'42.86S | 29°30'46.33E | Farm Portion |
| 82 | SUKKELAAR | 421 | 37 | 26°36'43.21S | 29°33'9.93E | Farm Portion |
| 83 | SUKKELAAR | 421 | 49 | 26°37'1.72S | 29°33'4.67E | Farm Portion |
| 84 | RIETFONTEIN | 420 | 11 | 26°30'39.26S | 29°33'5.51E | Farm Portion |
| 85 | RIETFONTEIN | 420 | 13 | 26°30'41.78S | 29°30'32.56E | Farm Portion |
| 86 | SUKKELAAR | 421 | 25 | 26°34'58.91S | 29°31'29.77E | Farm Portion |
| 87 | SUKKELAAR | 421 | 14 | 26°36'40.12S | 29°32'0.3E | Farm Portion |
| 88 | SUKKELAAR | 421 | 37 | 26°37'2.88S | 29°33'4.16E | Farm Portion |
| 89 | SUKKELAAR | 421 | 9 | 26°35'34.9S | 29°32'1.45E | Farm Portion |
| 90 | SUKKELAAR | 421 | 57 | 26°34'35.6S | 29°31'49.97E | Farm Portion |
| 91 | KLIPFONTEIN | 422 | 14 | 26°35'2.08S | 29°35'49.9E | Farm Portion |
| 92 | GELUKSPLAATS | 264 | 12 | 26°29'29.66S | 29°34'46.92E | Farm Portion |
| 93 | GELUKSPLAATS | 264 | 11 | 26°31'22.36S | 29°34'28.68E | Farm Portion |
| 94 | BRAKFONTEIN SETTLEMENT | 268 | 28 | 26°28'40.71S | 29°38'9.41E | Farm Portion |
| 95 | BRAKFONTEIN SETTLEMENT | 268 | 34 | 26°29'30.46S | 29°37'59.97E | Farm Portion |
| 96 | BRAKFONTEIN SETTLEMENT | 268 | 5 | 26°29'52.86S | 29°37'53.54E | Farm Portion |
| 97 | BRAKFONTEIN SETTLEMENT | 268 | 6 | 26°30'32.09S | 29°37'40.2E | Farm Portion |
| 98 | RIETFONTEIN | 420 | 20 | 26°32'56.56S | 29°32'11.66E | Farm Portion |
| 99 | RIETFONTEIN | 420 | 32 | 26°31'59.22S | 29°33'5.2E | Farm Portion |
| 100 | RIETFONTEIN | 420 | 22 | 26°30'51.05S | 29°31'18.5E | Farm Portion |
| 101 | RIETFONTEIN | 420 | 0 | 26°32'20.55S | 29°29'37.04E | Farm Portion |
| 102 | SUKKELAAR | 421 | 5 | 26°34'39.81S | 29°30'5.45E | Farm Portion |
| 103 | SUKKELAAR | 421 | 23 | 26°34'43.01S | 29°31'27.69E | Farm Portion |
| 104 | SUKKELAAR | 421 | 34 | 26°34'49.67S | 29°33'25.94E | Farm Portion |
| 105 | SUKKELAAR | 421 | 39 | 26°33'46.73S | 29°32'5.32E | Farm Portion |
| 106 | SUKKELAAR | 421 | 40 | 26°33'54.76S | 29°33'3.46E | Farm Portion |
| 107 | SUKKELAAR | 421 | 11 | 26°36'26.75S | 29°32'24.67E | Farm Portion |
| 108 | SUKKELAAR | 421 | 52 | 26°36'31.52S | 29°32'46.78E | Farm Portion |
| 109 | SUKKELAAR | 421 | 2 | 26°34'54.36S | 29°31'57.57E | Farm Portion |
| 110 | KLIPFONTEIN | 422 | 20 | 26°35'16.03S | 29°36'35.27E | Farm Portion |
| 111 | KLIPFONTEIN | 422 | 4 | 26°36'23.05S | 29°37'45.67E | Farm Portion |
| 112 | KLIPFONTEIN | 422 | 0 | 26°37'11.82S | 29°37'30.27E | Farm Portion |
| 113 | BEKKERSPRUIT | 423 | 1 | 26°33'5.24S | 29°34'36.67E | Farm Portion |
| 114 | SUKKELAAR | 421 | 43 | 26°34'51.88S | 29°31'53.66E | Farm Portion |
| 115 | SUKKELAAR | 421 | 45 | 26°34'31.73S | 29°31'56.39E | Farm Portion |
| 116 | SUKKELAAR | 421 | 13 | 26°37'7.92S | 29°32'7.18E | Farm Portion |
| 117 | SUKKELAAR | 421 | 15 | 26°36'8.63S | 29°31'33.32E | Farm Portion |
| 118 | SUKKELAAR | 421 | 42 | 26°34'38.41S | 29°32'35.57E | Farm Portion |
| 119 | SUKKELAAR | 421 | 42 | 26°35'5.49S | 29°32'2E | Farm Portion |
| 120 | KLIPFONTEIN | 422 | 16 | 26°36'58.21S | 29°35'55.58E | Farm Portion |
| 121 | KLIPFONTEIN | 422 | 23 | 26°34'51.83S | 29°34'35.14E | Farm Portion |
| 122 | BEKKERSPRUIT | 423 | 19 | 26°34'2.6S | 29°36'10.5E | Farm Portion |
| 123 | OSHOEK | 454 | 3 | 26°38'23.29S | 29°41'54.62E | Farm Portion |
| 124 | VAALBANK | 456 | 2 | 26°40'40.32S | 29°40'27.02E | Farm Portion |
| 125 | VAALBANK | 456 | 4 | 26°41'42.4S | 29°38'46.35E | Farm Portion |
| 126 | ROODEKRANS | 457 | 8 | 26°41'2.98S | 29°34'11.86E | Farm Portion |
| 127 | KLIPFONTEIN | 422 | 17 | 26°34'38.67S | 29°35'13.88E | Farm Portion |
| 128 | KLIPFONTEIN | 422 | 21 | 26°35'40.01S | 29°34'9.35E | Farm Portion |
| 129 | OSHOEK | 454 | 4 | 26°35'40.83S | 29°39'15.32E | Farm Portion |
| 130 | ROODEKRANS | 457 | 0 | 26°42'43.69S | 29°34'37.4E | Farm Portion |

| 131 | ROODEKRANS | 457 | 34 | 26°40'17.56S | 29°35'6.32E | Farm Portion |
|---|---|---|---|---|---|---|
| 132 | ROODEKRANS | 457 | 21 | 26°40'15.23S | 29°35'18.67E | Farm Portion |
| 133 | GOEDEGEDACHT | 458 | 22 | 26°37'50.27S | 29°34'17.2E | Farm Portion |
| 134 | GOEDEGEDACHT | 458 | 29 | 26°38'18.47S | 29°35'50.94E | Farm Portion |
| 135 | GOEDEGEDACHT | 458 | 9 | 26°38'43.44S | 29°37'39.08E | Farm Portion |
| 136 | GOEDEGEDACHT | 458 | 19 | 26°37'32.33S | 29°34'50E | Farm Portion |
| 137 | GOEDEGEDACHT | 458 | 40 | 26°39'48.06S | 29°35'6.61E | Farm Portion |
| 138 | BEKKERSPRUIT | 423 | 24 | 26°32'29.77S | 29°35'33.17E | Farm Portion |
| 139 | OSHOEK | 454 | 13 | 26°35'15.12S | 29°39'2.33E | Farm Portion |
| 140 | VAALBANK | 456 | 1 | 26°40'9.59S | 29°39'45.98E | Farm Portion |
| 141 | ROODEKRANS | 457 | 1 | 26°40'17.73S | 29°36'28.15E | Farm Portion |
| 142 | ROODEKRANS | 457 | 29 | 26°42'11.45S | 29°36'24.74E | Farm Portion |
| 143 | ROODEKRANS | 457 | 30 | 26°42'6.05S | 29°36'21.97E | Farm Portion |
| 144 | GOEDEGEDACHT | 458 | 32 | 26°38'43.43S | 29°37'3.16E | Farm Portion |
| 145 | GOEDEGEDACHT | 458 | 33 | 26°37'33.09S | 29°35'32E | Farm Portion |
| 146 | GOEDEGEDACHT | 458 | 18 | 26°38'9.56S | 29°35'24.26E | Farm Portion |
| 147 | GOEDEGEDACHT | 458 | 25 | 26°38'52.64S | 29°35'2.52E | Farm Portion |
| 148 | RIETFONTEIN | 420 | 15 | 26°32'17.47S | 29°31'57.86E | Farm Portion |
| 149 | SUKKELAAR | 421 | 7 | 26°35'26.99S | 29°33'4.21E | Farm Portion |
| 150 | SUKKELAAR | 421 | 10 | 26°36'0.2S | 29°32'44.12E | Farm Portion |
| 151 | SUKKELAAR | 421 | 53 | 26°36'6.71S | 29°32'33.2E | Farm Portion |
| 152 | SUKKELAAR | 421 | 56 | 26°34'48.8S | 29°31'56.81E | Farm Portion |
| 153 | SUKKELAAR | 421 | 1 | 26°34'27.7S | 29°31'21.4E | Farm Portion |
| 154 | KLIPFONTEIN | 422 | 8 | 26°35'39.4S | 29°36'34.75E | Farm Portion |
| 155 | KLIPFONTEIN | 422 | 12 | 26°37'5.2S | 29°36'32.14E | Farm Portion |
| 156 | BEKKERSPRUIT | 423 | 10 | 26°34'24.98S | 29°37'43.46E | Farm Portion |
| 157 | BEKKERSPRUIT | 423 | 15 | 26°32'21.3S | 29°37'18.48E | Farm Portion |
| 158 | BEKKERSPRUIT | 423 | 16 | 26°33'18.26S | 29°38'3.73E | Farm Portion |
| 159 | BEKKERSPRUIT | 423 | 25 | 26°33'47.79S | 29°35'16.1E | Farm Portion |
| 160 | RIETFONTEIN | 420 | 16 | 26°31'21.75S | 29°31'47.56E | Farm Portion |
| 161 | RIETFONTEIN | 420 | 27 | 26°32'21.95S | 29°31'15.08E | Farm Portion |
| 162 | RIETFONTEIN | 420 | 10 | 26°31'34.16S | 29°32'58.91E | Farm Portion |
| 163 | RIETFONTEIN | 420 | 18 | 26°31'46S | 29°31'47.28E | Farm Portion |
| 164 | SUKKELAAR | 421 | 38 | 26°36'4.66S | 29°33'15.25E | Farm Portion |
| 165 | SUKKELAAR | 421 | 50 | 26°36'45.86S | 29°32'55.66E | Farm Portion |
| 166 | SUKKELAAR | 421 | 10 | 26°36'7.66S | 29°32'14.66E | Farm Portion |
| 167 | SUKKELAAR | 421 | 2 | 26°34'13.99S | 29°32'32.82E | Farm Portion |
| 168 | SUKKELAAR | 421 | 4 | 26°35'38.65S | 29°31'31.06E | Farm Portion |
| 169 | KLIPFONTEIN | 422 | 9 | 26°36'16.04S | 29°36'22.13E | Farm Portion |
| 170 | KLIPFONTEIN | 422 | 19 | 26°35'1.93S | 29°36'43.73E | Farm Portion |
| 171 | BEKKERSPRUIT | 423 | 13 | 26°31'48.98S | 29°35'30.69E | Farm Portion |
| 172 | BEKKERSPRUIT | 423 | 22 | 26°32'32.52S | 29°34'24.09E | Farm Portion |
| 173 | BEKKERSPRUIT | 423 | 17 | 26°34'28.4S | 29°38'20.01E | Farm Portion |
| 174 | GOEDEGEDACHT | 458 | 23 | 26°38'17.47S | 29°33'39.8E | Farm Portion |
| 175 | GOEDEGEDACHT | 458 | 49 | 26°37'48.89S | 29°33'31.46E | Farm Portion |
| 176 | ROODEKRANS | 457 | 24 | 26°41'34.46S | 29°34'34.79E | Farm Portion |
| 177 | ROODEKRANS | 457 | 25 | 26°42'13.81S | 29°35'48.62E | Farm Portion |
| 178 | ROODEKRANS | 457 | 25 | 26°42'2.94S | 29°36'22.22E | Farm Portion |
| 179 | GOEDEGEDACHT | 458 | 31 | 26°38'27.68S | 29°36'23.19E | Farm Portion |
| 180 | GOEDEGEDACHT | 458 | 36 | 26°38'11.23S | 29°35'1.88E | Farm Portion |
| 181 | GOEDEGEDACHT | 458 | 38 | 26°39'37.13S | 29°35'3.13E | Farm Portion |
| 182 | GOEDEGEDACHT | 458 | 3 | 26°38'11.89S | 29°34'36.42E | Farm Portion |
| 183 | GOEDEGEDACHT | 458 | 11 | 26°39'28.38S | 29°36'58.83E | Farm Portion |
| 184 | GOEDEGEDACHT | 458 | 41 | 26°38'29.2S | 29°34'19.66E | Farm Portion |
| 185 | BEKKERSPRUIT | 423 | 6 | 26°33'20.57S | 29°35'51.56E | Farm Portion |
| 186 | BEKKERSPRUIT | 423 | 8 | 26°33'30.96S | 29°37'36.68E | Farm Portion |
| 187 | BEKKERSPRUIT | 423 | 14 | 26°32'31.28S | 29°36'42.36E | Farm Portion |
| 188 | BEKKERSPRUIT | 423 | 4 | 26°32'24.66S | 29°36'4.51E | Farm Portion |
| 189 | SPRINGBOKFONTEIN | 425 | 4 | 26°34'26.93S | 29°39'3.01E | Farm Portion |
| 190 | SPRINGBOKFONTEIN | 425 | 9 | 26°32'55.45S | 29°38'44.41E | Farm Portion |

| 191 | BRAKFONTEIN | 452 | 2 | 26°40'41.88S | 29°41'40.65E | Farm Portion |
|---|---|---|---|---|---|---|
| 192 | OSHOEK | 454 | 21 | 26°37'27.1S | 29°38'39.72E | Farm Portion |
| 193 | OSHOEK | 454 | 1 | 26°36'31.5S | 29°39'7.13E | Farm Portion |
| 194 | VAALBANK | 456 | 18 | 26°42'41.33S | 29°39'17.84E | Farm Portion |
| 195 | VAALBANK | 456 | 15 | 26°42'3.71S | 29°38'17.3E | Farm Portion |
| 196 | ROODEKRANS | 457 | 26 | 26°42'54.33S | 29°36'40.07E | Farm Portion |
| 197 | ROODEKRANS | 457 | 22 | 26°41'7.04S | 29°36'37.14E | Farm Portion |
| 198 | ROODEKRANS | 457 | 23 | 26°40'48.38S | 29°35'58.31E | Farm Portion |
| 199 | BEKKERSPRUIT | 423 | 0 | 26°32'5.42S | 29°34'29.56E | Farm Portion |
| 200 | OSHOEK | 454 | 18 | 26°38'10.02S | 29°41'12.92E | Farm Portion |
| 201 | OSHOEK | 454 | 6 | 26°37'45.85S | 29°39'41.05E | Farm Portion |
| 202 | EBENHEAZER | 455 | 1 | 26°39'22.42S | 29°38'31.26E | Farm Portion |
| 203 | VAALBANK | 456 | 8 | 26°41'43.22S | 29°38'29.59E | Farm Portion |
| 204 | VAALBANK | 456 | 11 | 26°40'15.98S | 29°38'19.02E | Farm Portion |
| 205 | ROODEKRANS | 457 | 7 | 26°41'0.22S | 29°34'52.35E | Farm Portion |
| 206 | ROODEKRANS | 457 | 18 | 26°42'24.88S | 29°36'14.94E | Farm Portion |
| 207 | ROODEKRANS | 457 | 31 | 26°41'37.02S | 29°36'2.24E | Farm Portion |
| 208 | GOEDEGEDACHT | 458 | 27 | 26°37'30.54S | 29°35'51.57E | Farm Portion |
| 209 | GOEDEGEDACHT | 458 | 5 | 26°37'51.07S | 29°37'36.47E | Farm Portion |
| 210 | GOEDEGEDACHT | 458 | 26 | 26°38'40.56S | 29°35'49.83E | Farm Portion |
| 211 | GOEDEGEDACHT | 458 | 0 | 26°37'49.14S | 29°38'13.84E | Farm Portion |
| 212 | GOEDEGEDACHT | 458 | 48 | 26°38'13.88S | 29°33'45.69E | Farm Portion |
| 213 | TWEEFONTEIN | 467 | 5 | 26°45'1.33S | 29°40'52.08E | Farm Portion |
| 214 | TWEEFONTEIN | 467 | 6 | 26°43'16.91S | 29°39'25.86E | Farm Portion |
| 215 | AMAJUBA | 482 | 1 | 26°44'44.12S | 29°41'39.81E | Farm Portion |
| 216 | AMAJUBA | 482 | 2 | 26°45'27.97S | 29°41'52.52E | Farm Portion |
| 217 | KLIPKRAAL | 469 | 4 | 26°42'35.56S | 29°42'18.91E | Farm Portion |
| 218 | BEKKERSPRUIT | 423 | 5 | 26°33'34.49S | 29°34'23.36E | Farm Portion |
| 219 | BEKKERSPRUIT | 423 | 12 | 26°31'39.11S | 29°34'20.94E | Farm Portion |
| 220 | BRAKFONTEIN | 452 | 4 | 26°39'22.43S | 29°42'21.52E | Farm Portion |
| 221 | OSHOEK | 454 | 7 | 26°37'37.77S | 29°40'27.45E | Farm Portion |
| 222 | OSHOEK | 454 | 17 | 26°36'13S | 29°39'39.43E | Farm Portion |
| 223 | EBENHEAZER | 455 | 0 | 26°38'25.6S | 29°38'56.67E | Farm Portion |
| 224 | VAALBANK | 456 | 12 | 26°40'59.44S | 29°37'49.14E | Farm Portion |
| 225 | VAALBANK | 456 | 17 | 26°42'35.27S | 29°40'46.23E | Farm Portion |
| 226 | VAALBANK | 456 | 19 | 26°42'6.86S | 29°40'39.98E | Farm Portion |
| 227 | VAALBANK | 456 | 5 | 26°41'39.63S | 29°39'23.64E | Farm Portion |
| 228 | VAALBANK | 456 | 7 | 26°42'25.88S | 29°40'8.14E | Farm Portion |
| 229 | ROODEKRANS | 457 | 28 | 26°42'25.42S | 29°36'29.24E | Farm Portion |
| 230 | ROODEKRANS | 457 | 18 | 26°42'18.95S | 29°36'33.54E | Farm Portion |
| 231 | ROODEKRANS | 457 | 6 | 26°41'44.43S | 29°35'27.89E | Farm Portion |
| 232 | ROODEKRANS | 457 | 32 | 26°41'8.74S | 29°35'41.33E | Farm Portion |
| 233 | GOEDEGEDACHT | 458 | 8 | 26°38'8.31S | 29°37'8.93E | Farm Portion |
| 234 | GOEDEGEDACHT | 458 | 2 | 26°39'46.55S | 29°36'36.44E | Farm Portion |
| 235 | HENDRIKSPAN | 459 | 17 | 26°37'19.08S | 29°33'14.41E | Farm Portion |
| 236 | MORGENZON | 466 | 3 | 26°43'48.25S | 29°37'25.64E | Farm Portion |
| 237 | MORGENZON | 466 | 7 | 26°43'13.34S | 29°37'5.37E | Farm Portion |
| 238 | TWEEFONTEIN | 467 | 7 | 26°44'17.94S | 29°39'15.01E | Farm Portion |
| 239 | ZEVENFONTEIN | 468 | 2 | 26°43'19.23S | 29°41'15.41E | Farm Portion |
| 240 | GOEDEGEDACHT | 458 | 14 | 26°39'32.96S | 29°35'53.11E | Farm Portion |
| 241 | GOEDEGEDACHT | 458 | 16 | 26°37'40.59S | 29°36'19.96E | Farm Portion |
| 242 | GOEDEGEDACHT | 458 | 28 | 26°37'56S | 29°35'51.44E | Farm Portion |
| 243 | GOEDEGEDACHT | 458 | 13 | 26°39'15.08S | 29°36'2.42E | Farm Portion |
| 244 | GOEDEGEDACHT | 458 | 44 | 26°39'26.22S | 29°34'29.03E | Farm Portion |
| 245 | GOEDEGEDACHT | 458 | 1 | 26°39'24.71S | 29°34'0.8E | Farm Portion |
| 246 | GOEDEGEDACHT | 458 | 4 | 26°37'59.67S | 29°33'32.32E | Farm Portion |
| 247 | KLIPKRAAL | 469 | 3 | 26°42'5.44S | 29°42'25.36E | Farm Portion |
| 248 | VLAKFONTEIN - | 484 | 4 | 26°46'31.54S | 29°40'33.92E | Farm Portion |
| 249 | HENDRIKSPAN | 459 | 15 | 26°37'9.48S | 29°33'15.71E | Farm Portion |
| 250 | TWEEFONTEIN | 467 | 0 | 26°43'32.5S | 29°38'15.31E | Farm Portion |

| 251 | TWEEFONTEIN | 467 | 2 | 26°45'19.67S | 29°39'47.8E | Farm Portion |
|---|---|---|---|---|---|---|
| 252 | TWEEFONTEIN | 467 | 1 | 26°43'55.72S | 29°40'26.65E | Farm Portion |
| 253 | TWEEFONTEIN | 467 | 8 | 26°43'8.01S | 29°40'25.78E | Farm Portion |
| 254 | KLIPKRAAL | 469 | 6 | 26°42'26.65S | 29°41'29.98E | Farm Portion |
| 255 | KLIPKRAAL | 469 | 8 | 26°42'32.85S | 29°41'47.14E | Farm Portion |
| 256 | | 547 | 11 | 26°42'40.65S | 29°36'36.87E | Farm Portion |
| 257 | DURABEL | 548 | 0 | 26°34'17.12S | 29°33'50.27E | Farm Portion |
| 258 | KLIPKRAAL | 469 | 1 | 26°42'20.75S | 29°42'24.72E | Farm Portion |
| 259 | KLIPKRAAL | 469 | 5 | 26°42'9.75S | 29°41'47.94E | Farm Portion |
| 260 | RIETFONTEIN | 420 | 23 | 26°31'13.99S | 29°31'10.84E | Farm Portion |
| 261 | RIETFONTEIN | 420 | 9 | 26°32'30.21S | 29°33'11.21E | Farm Portion |
| 262 | RIETFONTEIN | 420 | 19 | 26°31'7.09S | 29°33'23.96E | Farm Portion |
| 263 | RIETFONTEIN | 420 | 14 | 26°31'39.67S | 29°30'32.08E | Farm Portion |
| 264 | RIETFONTEIN | 420 | 24 | 26°31'20.58S | 29°30'53.07E | Farm Portion |
| 265 | SUKKELAAR | 421 | 21 | 26°34'21.78S | 29°30'50.44E | Farm Portion |
| 266 | SUKKELAAR | 421 | 36 | 26°35'24.37S | 29°33'30.94E | Farm Portion |
| 267 | SUKKELAAR | 421 | 35 | 26°35'6.95S | 29°32'36.36E | Farm Portion |
| 268 | SUKKELAAR | 421 | 51 | 26°36'24.68S | 29°32'43.5E | Farm Portion |
| 269 | SUKKELAAR | 421 | 11 | 26°36'22.26S | 29°32'52.22E | Farm Portion |
| 270 | SUKKELAAR | 421 | 1 | 26°34'21.63S | 29°31'43.22E | Farm Portion |
| 271 | SUKKELAAR | 421 | 58 | 26°34'26.6S | 29°31'43.78E | Farm Portion |
| 272 | KLIPFONTEIN | 422 | 18 | 26°35'22.84S | 29°33'49.72E | Farm Portion |
| 273 | KLIPFONTEIN | 422 | 22 | 26°36'2.02S | 29°34'14.51E | Farm Portion |
| 274 | KLIPFONTEIN | 422 | 5 | 26°34'39.45S | 29°36'49.12E | Farm Portion |
| 275 | KLIPFONTEIN | 422 | 6 | 26°35'18.42S | 29°37'31.15E | Farm Portion |
| 276 | KLIPFONTEIN | 422 | 3 | 26°36'51.16S | 29°34'56.35E | Farm Portion |
| 277 | BEKKERSPRUIT | 423 | 2 | 26°32'24.08S | 29°38'2.2E | Farm Portion |
| 278 | BEKKERSPRUIT | 423 | 7 | 26°33'16.7S | 29°36'50.56E | Farm Portion |
| 279 | BEKKERSPRUIT | 423 | 11 | 26°34'8.81S | 29°36'58.28E | Farm Portion |
| 280 | BEKKERSPRUIT | 423 | 23 | 26°32'1.83S | 29°35'24.89E | Farm Portion |
| 281 | OSHOEK | 454 | 20 | 26°37'31.44S | 29°39'8.45E | Farm Portion |
| 282 | VAALBANK | 456 | 13 | 26°42'22.12S | 29°40'2.7E | Farm Portion |
| 283 | ROODEKRANS | 457 | 4 | 26°42'37.32S | 29°36'59.48E | Farm Portion |
| 284 | ROODEKRANS | 457 | 33 | 26°40'55.93S | 29°35'31.97E | Farm Portion |
| 285 | ROODEKRANS | 457 | 23 | 26°40'57.15S | 29°35'30.54E | Farm Portion |
| 286 | KLIPFONTEIN | 422 | 13 | 26°36'20.97S | 29°34'43.89E | Farm Portion |
| 287 | BEKKERSPRUIT | 423 | 9 | 26°34'0.55S | 29°37'47.36E | Farm Portion |
| 288 | BEKKERSPRUIT | 423 | 3 | 26°33'34.65S | 29°36'52.26E | Farm Portion |
| 289 | OSHOEK | 454 | 12 | 26°35'30.34S | 29°40'5.42E | Farm Portion |
| 290 | EBENHEAZER | 455 | 3 | 26°39'20.07S | 29°40'19.11E | Farm Portion |
| 291 | EBENHEAZER | 455 | 2 | 26°38'42.91S | 29°40'29.85E | Farm Portion |
| 292 | VAALBANK | 456 | 16 | 26°42'40.86S | 29°38'7.48E | Farm Portion |
| 293 | VAALBANK | 456 | 3 | 26°41'30.64S | 29°40'33.04E | Farm Portion |
| 294 | VAALBANK | 456 | 14 | 26°41'2.43S | 29°38'48.28E | Farm Portion |
| 295 | ROODEKRANS | 457 | 27 | 26°42'42.6S | 29°36'35.69E | Farm Portion |
| 296 | ROODEKRANS | 457 | 4 | 26°42'37.32S | 29°36'59.48E | Farm Portion |
| 297 | ROODEKRANS | 457 | 6 | 26°41'31.94S | 29°36'10.15E | Farm Portion |
| 298 | ROODEKRANS | 457 | 21 | 26°40'24.92S | 29°34'55.77E | Farm Portion |
| 299 | GOEDEGEDACHT | 458 | 21 | 26°37'25.75S | 29°34'29.08E | Farm Portion |
| 300 | GOEDEGEDACHT | 458 | 17 | 26°39'10.26S | 29°37'30.05E | Farm Portion |
| 301 | GOEDEGEDACHT | 458 | 39 | 26°39'27.8S | 29°35'0.52E | Farm Portion |
| 302 | GOEDEGEDACHT | 458 | 35 | 26°37'33.52S | 29°35'8.06E | Farm Portion |
| 303 | GOEDEGEDACHT | 458 | 21 | 26°38'9.96S | 29°34'2.22E | Farm Portion |
| 304 | HENDRIKSPAN | 459 | 15 | 26°37'57.66S | 29°33'5.24E | Farm Portion |
| 305 | GOEDEGEDACHT | 458 | 12 | 26°39'0.54S | 29°36'5.25E | Farm Portion |
| 306 | GOEDEGEDACHT | 458 | 15 | 26°37'22.17S | 29°34'4.65E | Farm Portion |
| 307 | GOEDEGEDACHT | 458 | 37 | 26°39'19.68S | 29°34'59.69E | Farm Portion |
| 308 | GOEDEGEDACHT | 458 | 34 | 26°37'31.86S | 29°35'22.04E | Farm Portion |
| 309 | GOEDEGEDACHT | 458 | 10 | 26°39'6.53S | 29°36'57.58E | Farm Portion |
| 310 | GOEDEGEDACHT | 458 | 4 | 26°37'17.27S | 29°33'36.2E | Farm Portion |

| | | | | | | |
|---|---|---|---|---|---|---|
| 311 | TWEEFONTEIN | 467 | 10 | 26°43'48.16S | 29°39'23.92E | Farm Portion |
| 312 | TWEEFONTEIN | 467 | 3 | 26°45'21.44S | 29°38'51.87E | Farm Portion |
| 313 | TWEEFONTEIN | 467 | 9 | 26°45'3.9S | 29°37'58.12E | Farm Portion |
| 314 | ZEVENFONTEIN | 468 | 3 | 26°44'5.22S | 29°41'17.91E | Farm Portion |
| 315 | TWEEFONTEIN | 467 | 4 | 26°45'10.04S | 29°40'27.7E | Farm Portion |
| 316 | KLIPKRAAL | 469 | 7 | 26°42'27.05S | 29°41'12.41E | Farm Portion |

Development footprint[1] vertices:
No development footprint(s) specified.

## Wind and Solar developments with an approved Environmental Authorisation or applications under consideration within 30 km of the proposed area

| No | EIA Reference No | Classification | Status of application | Distance from proposed area (km) |
|---|---|---|---|---|
| 1 | 14/12/16/3/3/2/754 | Solar PV | Approved | 25 |
| 2 | 14/12/16/3/3/2/754 | Solar PV | Approved | 25 |

## Environmental Management Frameworks relevant to the application

No intersections with EMF areas found.

# Environmental screening results and assessment outcomes

The following sections contain a summary of any development incentives, restrictions, exclusions or prohibitions that apply to the proposed development site as well as the most environmental sensitive features on the site based on the site sensitivity screening results for the application classification that was selected. The application classification selected for this report is: **Utilities Infrastructure|Electricity|Generation|Renewable|Solar|PV**.

## Relevant development incentives, restrictions, exclusions or prohibitions

The following development incentives, restrictions, exclusions or prohibitions and their implications that apply to this site are indicated below.

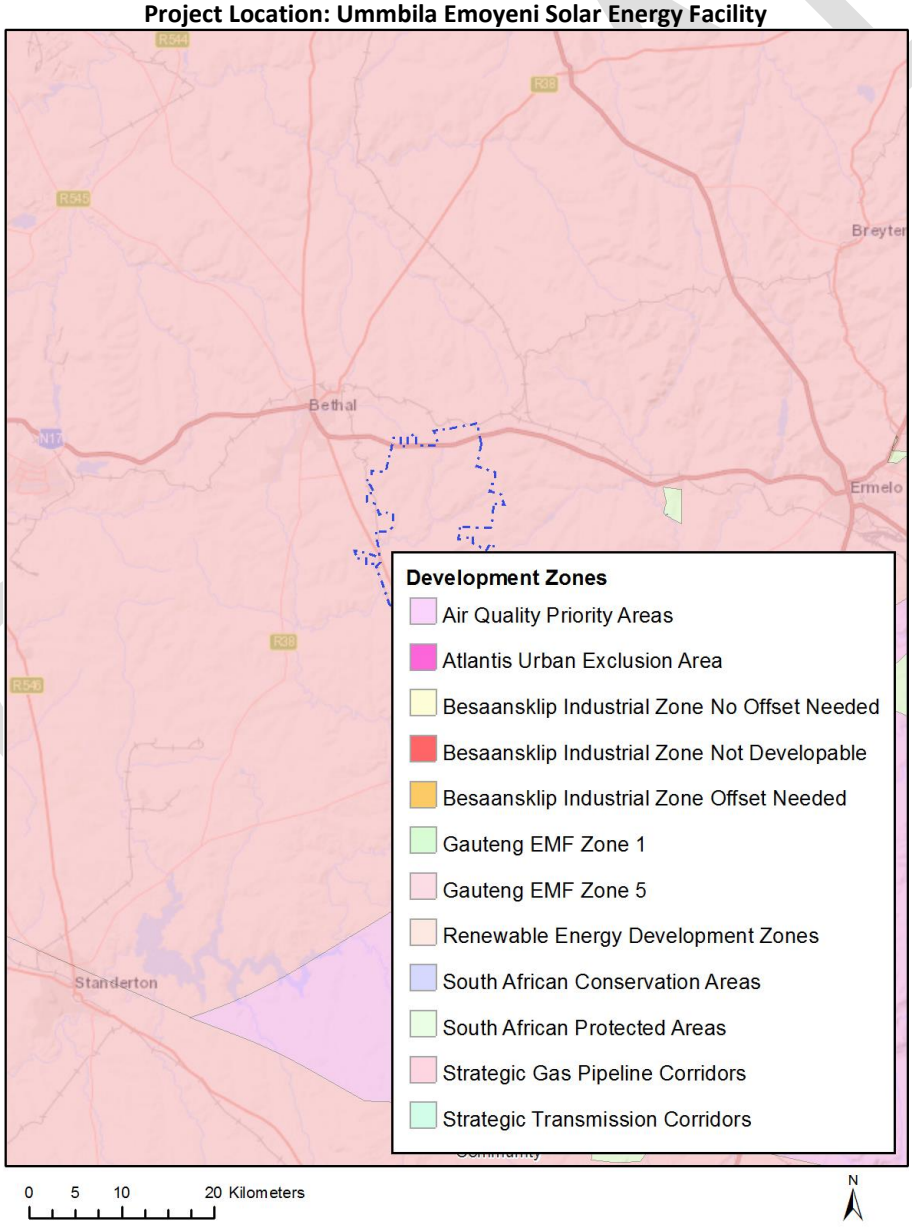
| Incentive, restriction or prohibition | Implication |
|---|---|

[1] "development footprint", means the area within the site on which the development will take place and incudes all ancillary developments for example roads, power lines, boundary walls, paving etc. which require vegetation clearance or which will be disturbed and for which the application has been submitted.

| | |
|---|---|
| Air Quality-Highveld Priority Area | https://screening.environment.gov.za/ScreeningDownloads/DevelopmentZones/HIGHVELD_PRIORITY_AREA_AQMP.pdf |
| Strategic Gas Pipeline Corridors -Phase 8: Rompco Pipeline Corridor | https://screening.environment.gov.za/ScreeningDownloads/DevelopmentZones/Combined_GAS.pdf |

## Map indicating proposed development footprint within applicable development incentive, restriction, exclusion or prohibition zones

**Project Location: Ummbila Emoyeni Solar Energy Facility**



## Proposed Development Area Environmental Sensitivity

The following summary of the development site environmental sensitivities is identified. Only the highest environmental sensitivity is indicated. The footprint environmental sensitivities for the proposed development footprint as identified, are indicative only and must be verified on site by a suitably qualified person before the specialist assessments identified below can be confirmed.

| Theme | Very High sensitivity | High sensitivity | Medium sensitivity | Low sensitivity |
|---|---|---|---|---|
| Agriculture Theme | | X | | |
| Animal Species Theme | | X | | |
| Aquatic Biodiversity Theme | X | | | |
| Archaeological and Cultural Heritage Theme | | | | X |
| Avian Theme | | | | X |
| Civil Aviation (Solar PV) Theme | | | | X |
| Defence Theme | | | | X |
| Landscape (Solar) Theme | X | | | |
| Paleontology Theme | X | | | |
| Plant Species Theme | | | X | |
| RFI Theme | | | X | |
| Terrestrial Biodiversity Theme | X | | | |

## Specialist assessments identified

Based on the selected classification, and the environmental sensitivities of the proposed development footprint, the following list of specialist assessments have been identified for inclusion in the assessment report. It is the responsibility of the EAP to confirm this list and to motivate in the assessment report, the reason for not including any of the identified specialist study including the provision of photographic evidence of the site situation.

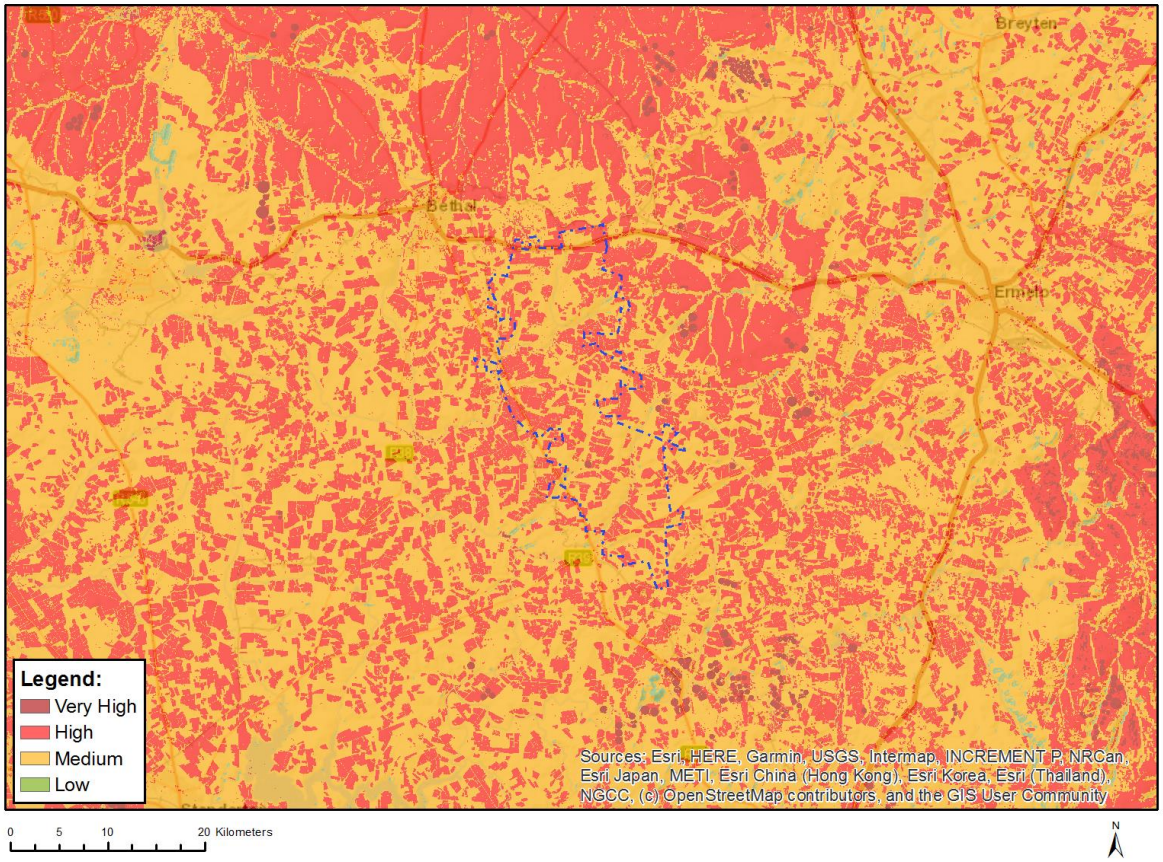
| No | Specialist assessment | Assessment Protocol |
|---|---|---|
| 1 | Agricultural Impact Assessment | https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_WindAndSolar_Agriculture_Assessment_Protocols.pdf |
| 2 | Landscape/Visual Impact Assessment | https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf |
| 3 | Archaeological and Cultural Heritage Impact Assessment | https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf |

| | | |
|---|---|---|
| 4 | Palaeontology Impact Assessment | https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf |
| 5 | Terrestrial Biodiversity Impact Assessment | https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Terrestrial_Biodiversity_Assessment_Protocols.pdf |
| 6 | Aquatic Biodiversity Impact Assessment | https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Aquatic_Biodiversity_Assessment_Protocols.pdf |
| 7 | Civil Aviation Assessment | https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Civil_Aviation_Installations_Assessment_Protocols.pdf |
| 8 | Defense Assessment | https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Defence_Installations_Assessment_Protocols.pdf |
| 9 | RFI Assessment | https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf |
| 10 | Geotechnical Assessment | https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf |
| 11 | Socio-Economic Assessment | https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf |
| 12 | Plant Species Assessment | https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Plant_Species_Assessment_Protocols.pdf |
| 13 | Animal Species Assessment | https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Animal_Species_Assessment_Protocols.pdf |

# Results of the environmental sensitivity of the proposed area.

The following section represents the results of the screening for environmental sensitivity of the proposed site for relevant environmental themes associated with the project classification. It is the duty of the EAP to ensure that the environmental themes provided by the screening tool are comprehensive and complete for the project. Refer to the disclaimer.

## MAP OF RELATIVE AGRICULTURE THEME SENSITIVITY

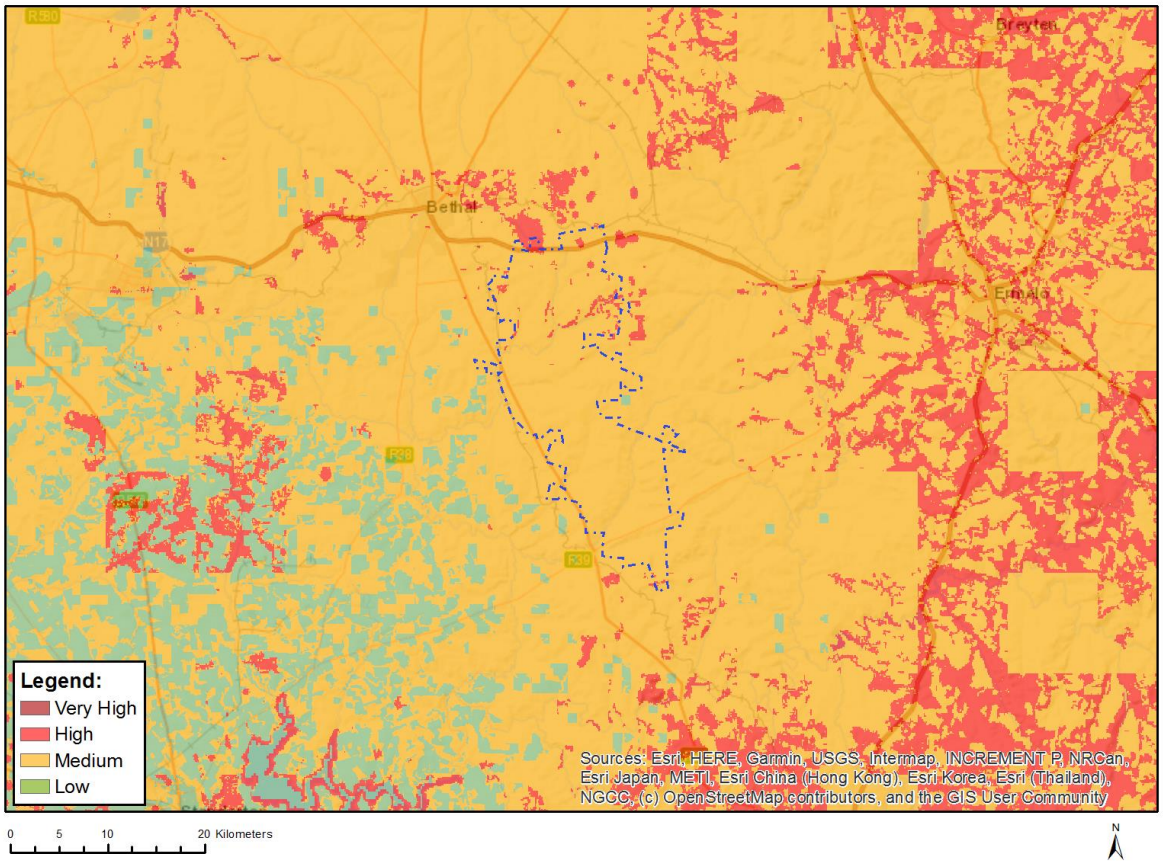



| Very High sensitivity | High sensitivity | Medium sensitivity | Low sensitivity |
|---|---|---|---|
| | X | | |

**Sensitivity Features:**

| Sensitivity | Feature(s) |
|---|---|
| High | Land capability;09. Moderate-High/10. Moderate-High |
| High | Annual Crop Cultivation / Planted Pastures Rotation;Land capability;06. Low-Moderate/07. Low-Moderate/08. Moderate |
| High | Annual Crop Cultivation / Planted Pastures Rotation;Land capability;09. Moderate-High/10. Moderate-High |
| High | Old Fields;Land capability;06. Low-Moderate/07. Low-Moderate/08. Moderate |
| High | Old Fields;Land capability;09. Moderate-High/10. Moderate-High |
| Low | Land capability;01. Very low/02. Very low/03. Low-Very low/04. Low-Very low/05. Low |
| Medium | Land capability;06. Low-Moderate/07. Low-Moderate/08. Moderate |

## MAP OF RELATIVE ANIMAL SPECIES THEME SENSITIVITY

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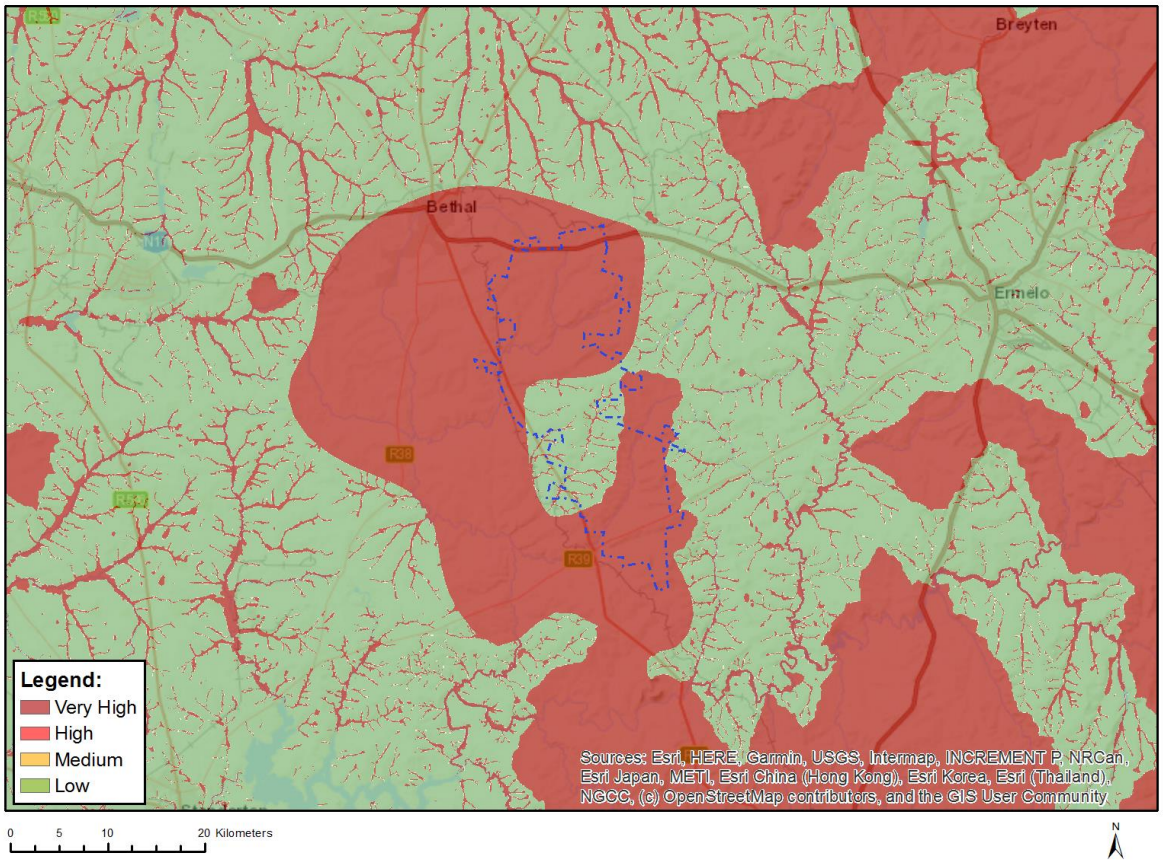
| Very High sensitivity | High sensitivity | Medium sensitivity | Low sensitivity |
|---|---|---|---|
| | X | | |

**Sensitivity Features:**

| Sensitivity | Feature(s) |
|---|---|
| High | Aves-Balearica regulorum |
| High | Aves-Sagittarius serpentarius |
| High | Aves-Geronticus calvus |
| High | Aves-Mycteria ibis |
| Medium | Aves-Tyto capensis |
| Medium | Aves-Hydroprogne caspia |
| Medium | Aves-Sagittarius serpentarius |
| Medium | Aves-Geronticus calvus |
| Medium | Aves-Eupodotis senegalensis |
| Medium | Aves-Balearica regulorum |
| Medium | Aves-Circus ranivorus |
| Medium | Insecta-Lepidochrysops procera |
| Medium | Mammalia-Crocidura maquassiensis |

| | |
|---|---|
| Medium | Mammalia-Hydrictis maculicollis |
| Medium | Mammalia-Ourebia ourebi ourebi |

## MAP OF RELATIVE AQUATIC BIODIVERSITY THEME SENSITIVITY

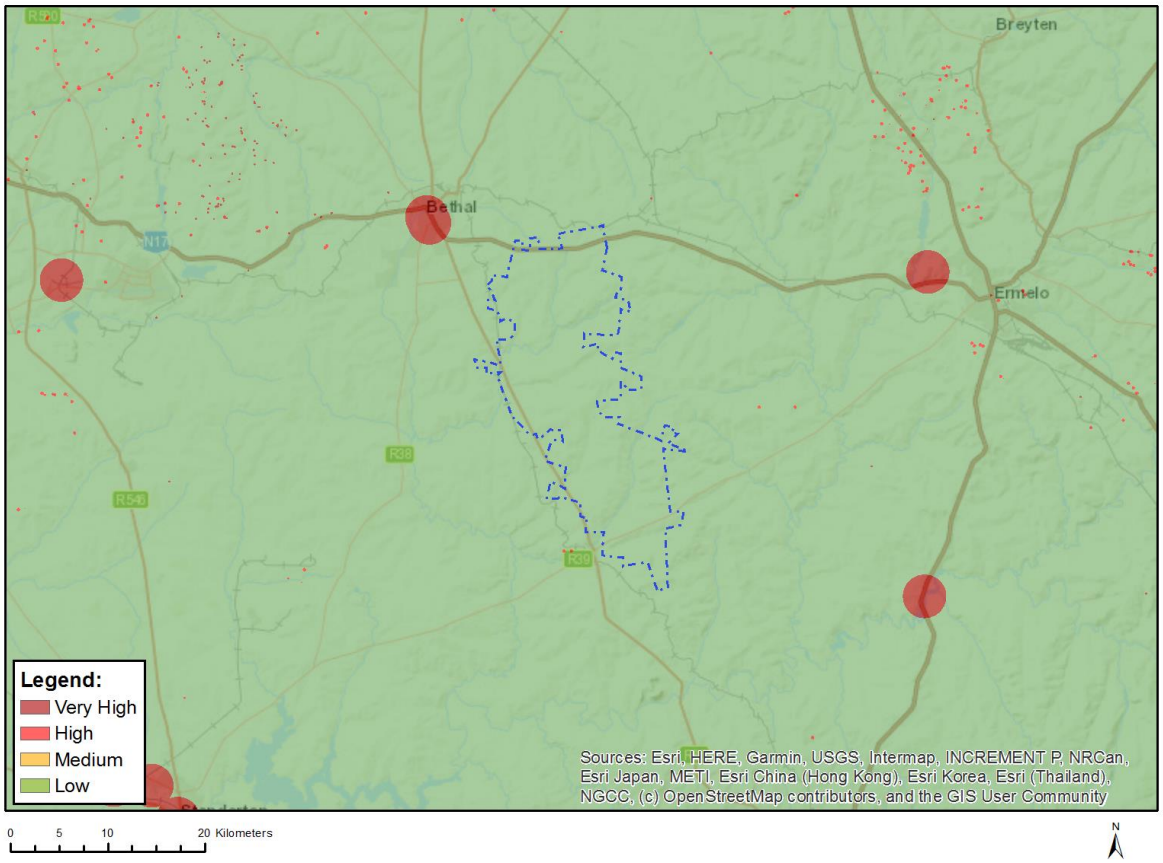



| Very High sensitivity | High sensitivity | Medium sensitivity | Low sensitivity |
|---|---|---|---|
| X | | | |

**Sensitivity Features:**

| Sensitivity | Feature(s) |
|---|---|
| Low | Low sensitivity |
| Very High | Aquatic CBAs |
| Very High | Strategic water source area |
| Very High | Wetlands and Estuaries |
| Very High | Freshwater ecosystem priority area quinary catchments |

## MAP OF RELATIVE ARCHAEOLOGICAL AND CULTURAL HERITAGE THEME SENSITIVITY

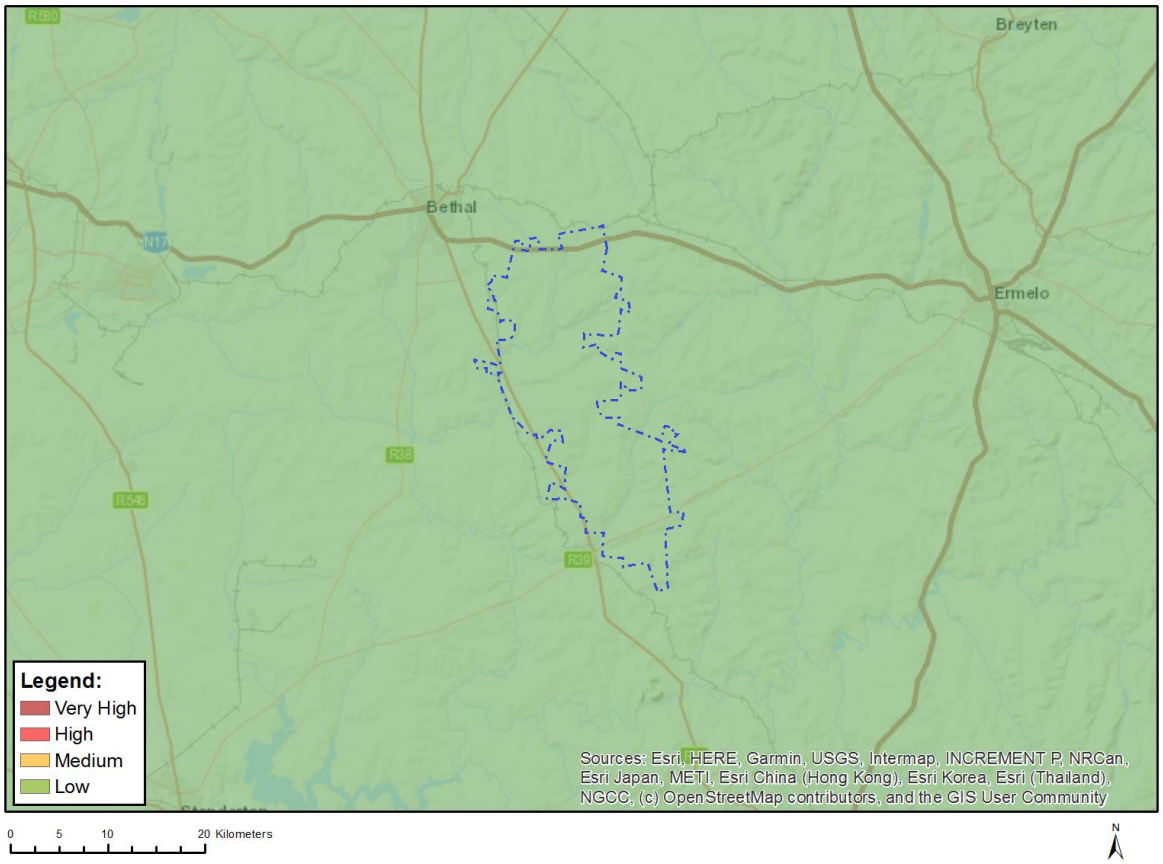



| Very High sensitivity | High sensitivity | Medium sensitivity | Low sensitivity |
|---|---|---|---|
| | | | X |

**Sensitivity Features:**

| Sensitivity | Feature(s) |
|---|---|
| Low | Low sensitivity |

## MAP OF RELATIVE AVIAN THEME SENSITIVITY

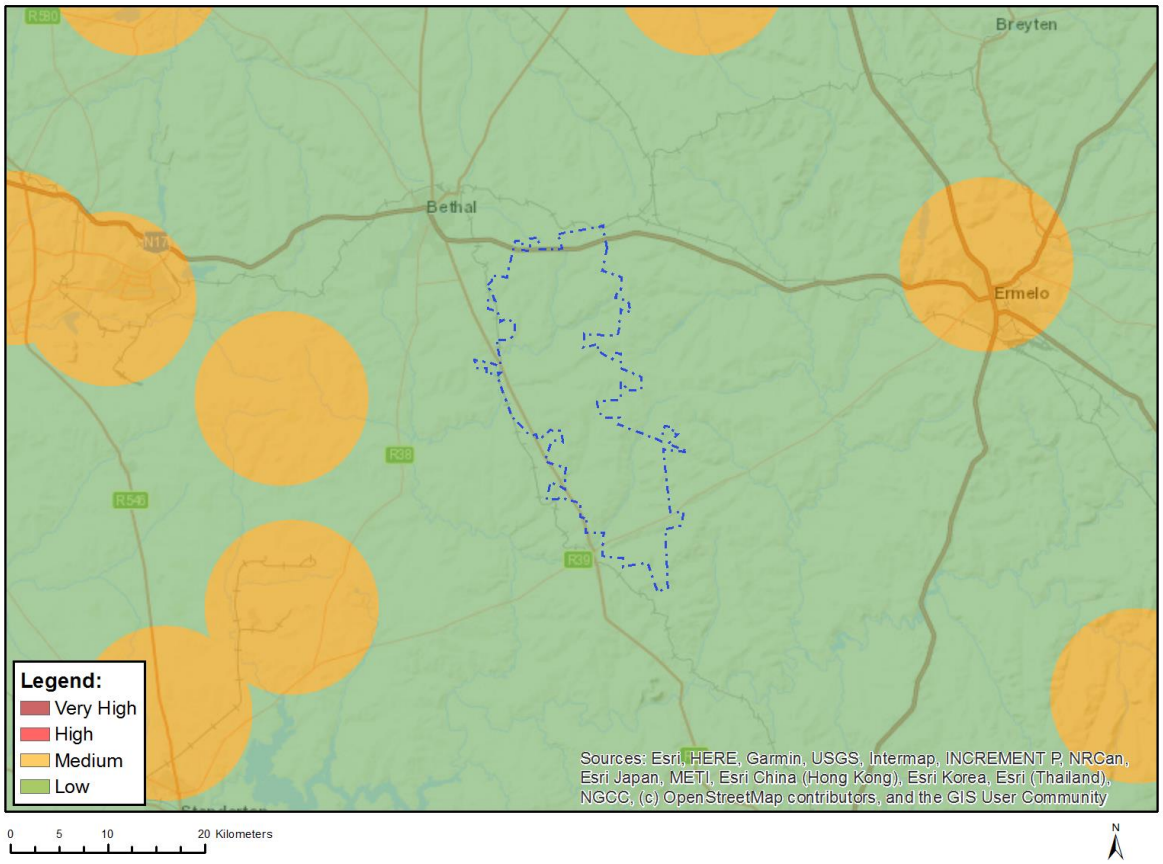



| Very High sensitivity | High sensitivity | Medium sensitivity | Low sensitivity |
|---|---|---|---|
| | | | X |

**Sensitivity Features:**

| Sensitivity | Feature(s) |
|---|---|
| Low | Low Sensitivity |

## MAP OF RELATIVE CIVIL AVIATION (SOLAR PV) THEME SENSITIVITY

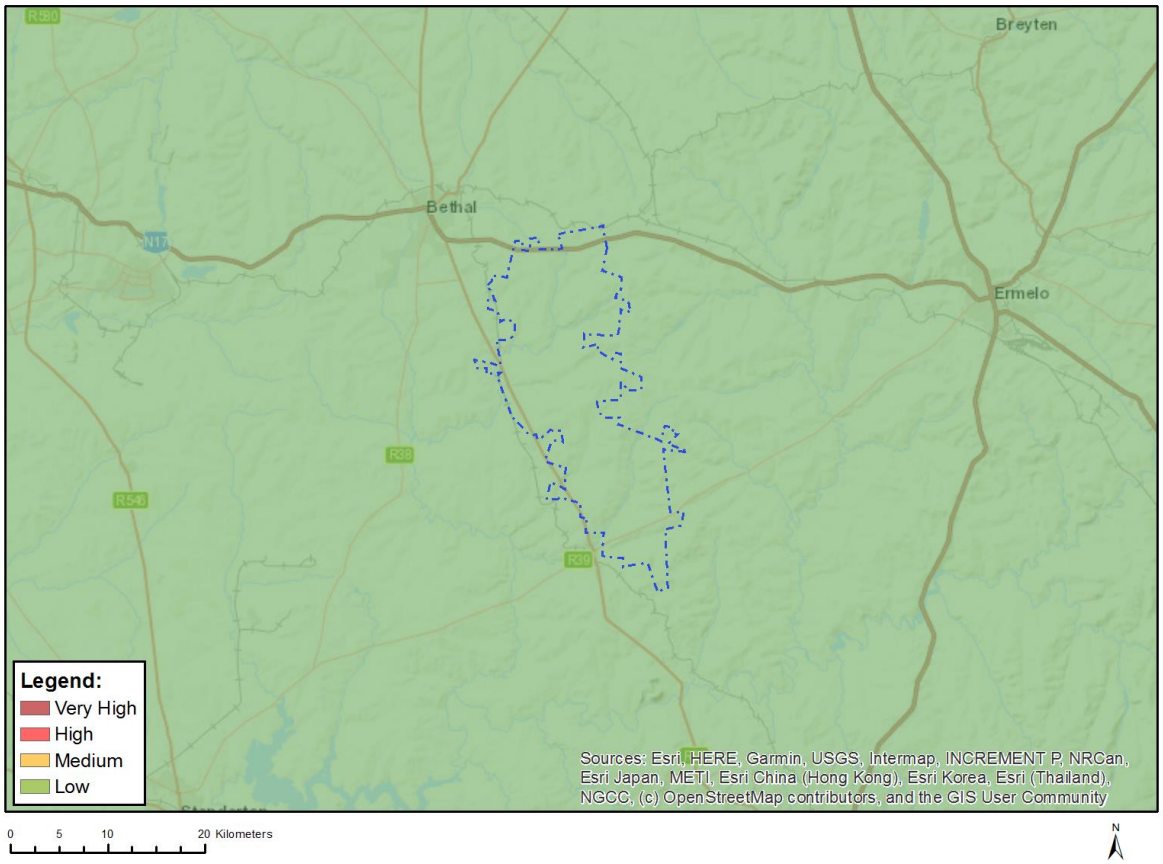



| Very High sensitivity | High sensitivity | Medium sensitivity | Low sensitivity |
|---|---|---|---|
| | | | X |

**Sensitivity Features:**

| Sensitivity | Feature(s) |
|---|---|
| Low | No major or other types of civil aviation aerodromes |

## MAP OF RELATIVE DEFENCE THEME SENSITIVITY

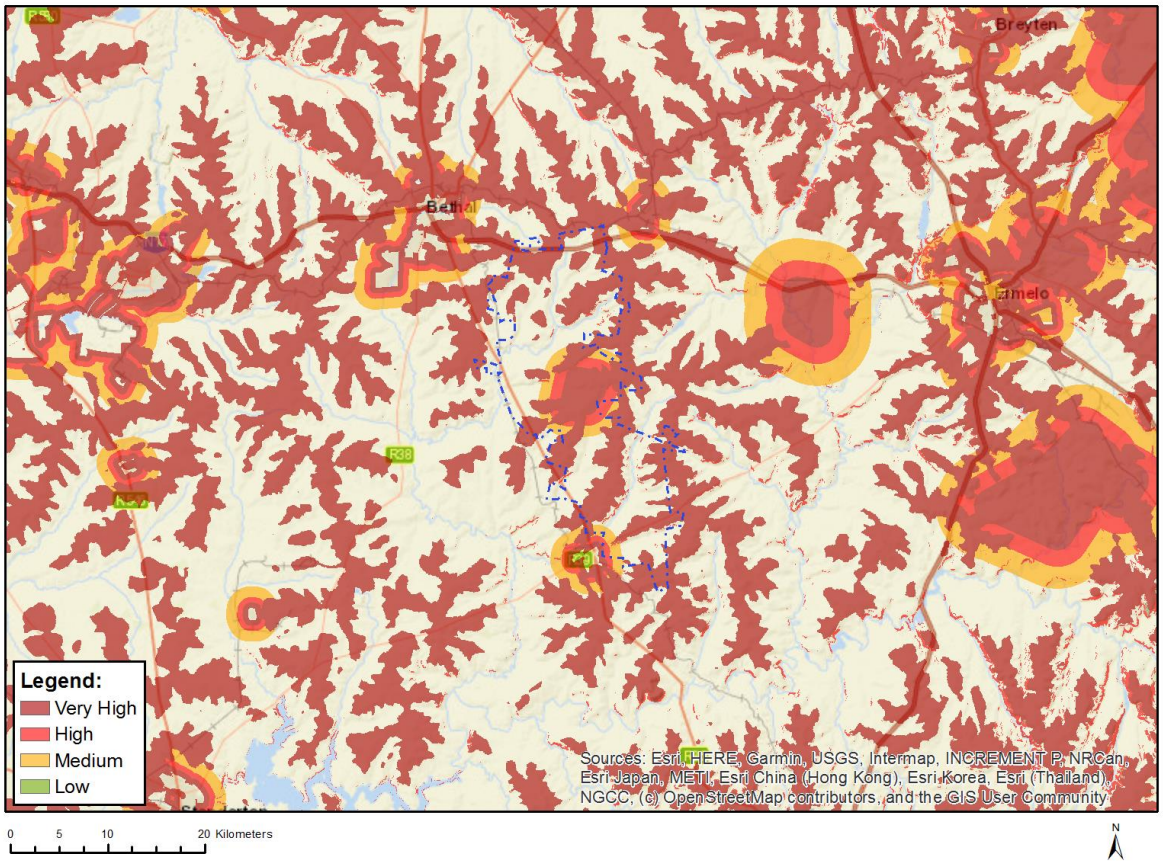



| Very High sensitivity | High sensitivity | Medium sensitivity | Low sensitivity |
|---|---|---|---|
| | | | X |

**Sensitivity Features:**

| Sensitivity | Feature(s) |
|---|---|
| Low | Low sensitivity |

## MAP OF RELATIVE LANDSCAPE (SOLAR) THEME SENSITIVITY

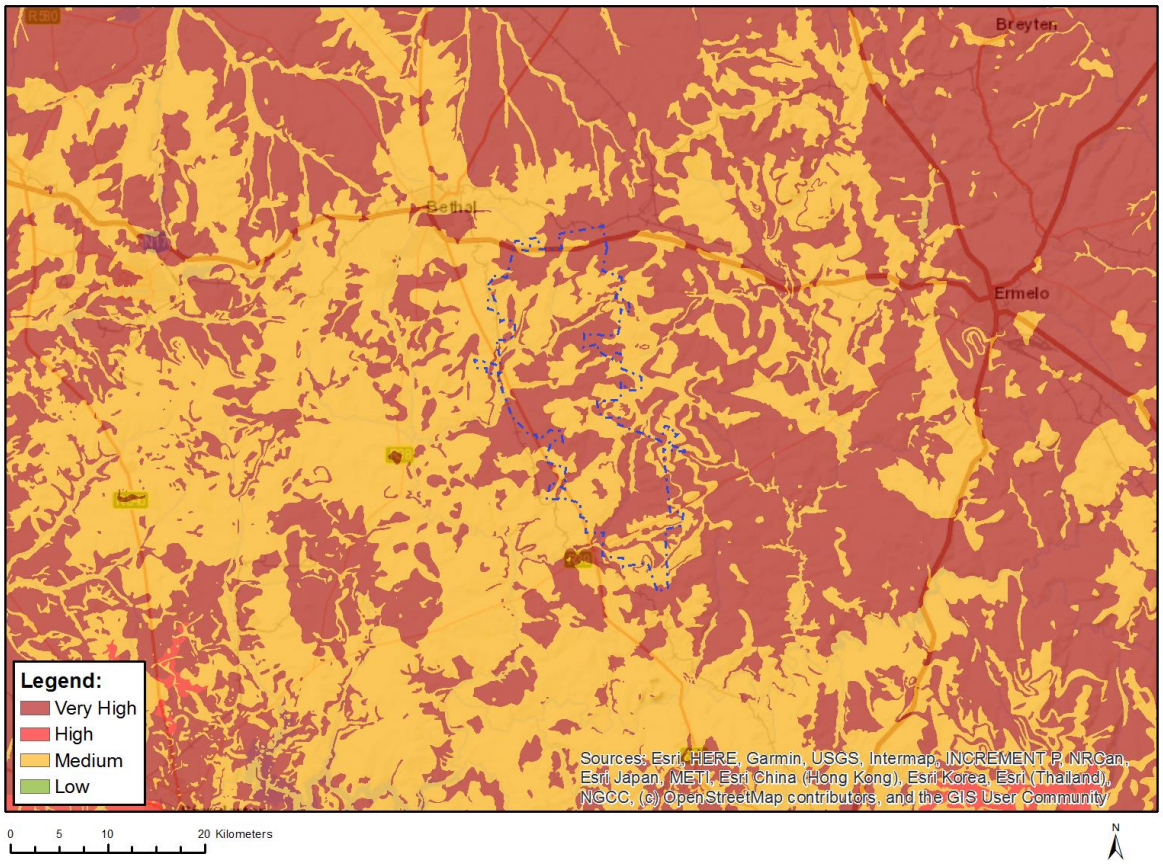



| Very High sensitivity | High sensitivity | Medium sensitivity | Low sensitivity |
|---|---|---|---|
| X | | | |

**Sensitivity Features:**

| Sensitivity | Feature(s) |
|---|---|
| High | Between 500 and 1000 m of a town or village |
| High | Slope between 1:4 and 1:10 |
| High | Between 1 and 2 km of a game farm |
| Low | Slope less than 1:10 |
| Medium | Between a and 2 km of a town or village |
| Medium | Between 2 and 3 km of a game farm |
| Very High | Within 500 m of a town or village |
| Very High | Mountain tops and high ridges |
| Very High | Game farm |
| Very High | Within 1000 m of a game farm |
| Very High | Slope more than 1:4 |

## MAP OF RELATIVE PALEONTOLOGY THEME SENSITIVITY

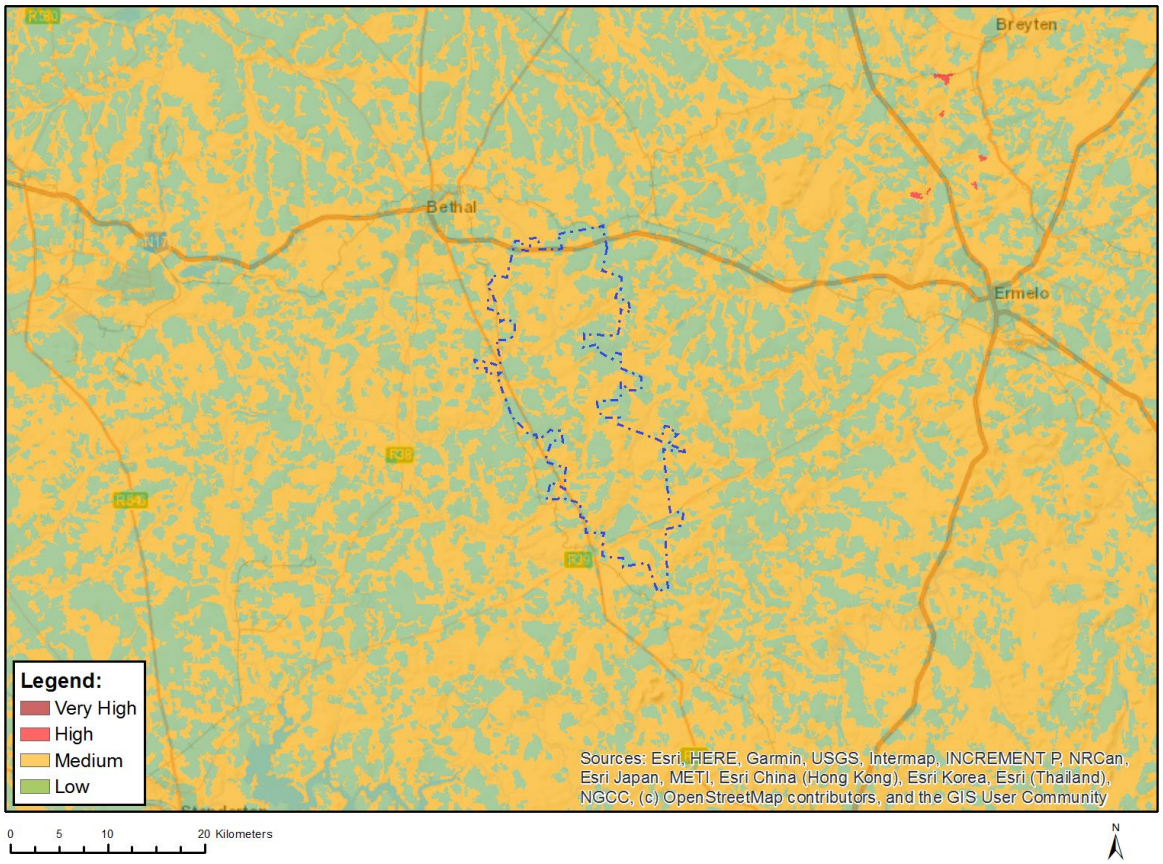



| Very High sensitivity | High sensitivity | Medium sensitivity | Low sensitivity |
|---|---|---|---|
| X | | | |

**Sensitivity Features:**

| Sensitivity | Feature(s) |
|---|---|
| Medium | Features with a Medium paleontological sensitivity |
| Very High | Features with a Very High paleontological sensitivity |

## MAP OF RELATIVE PLANT SPECIES THEME SENSITIVITY

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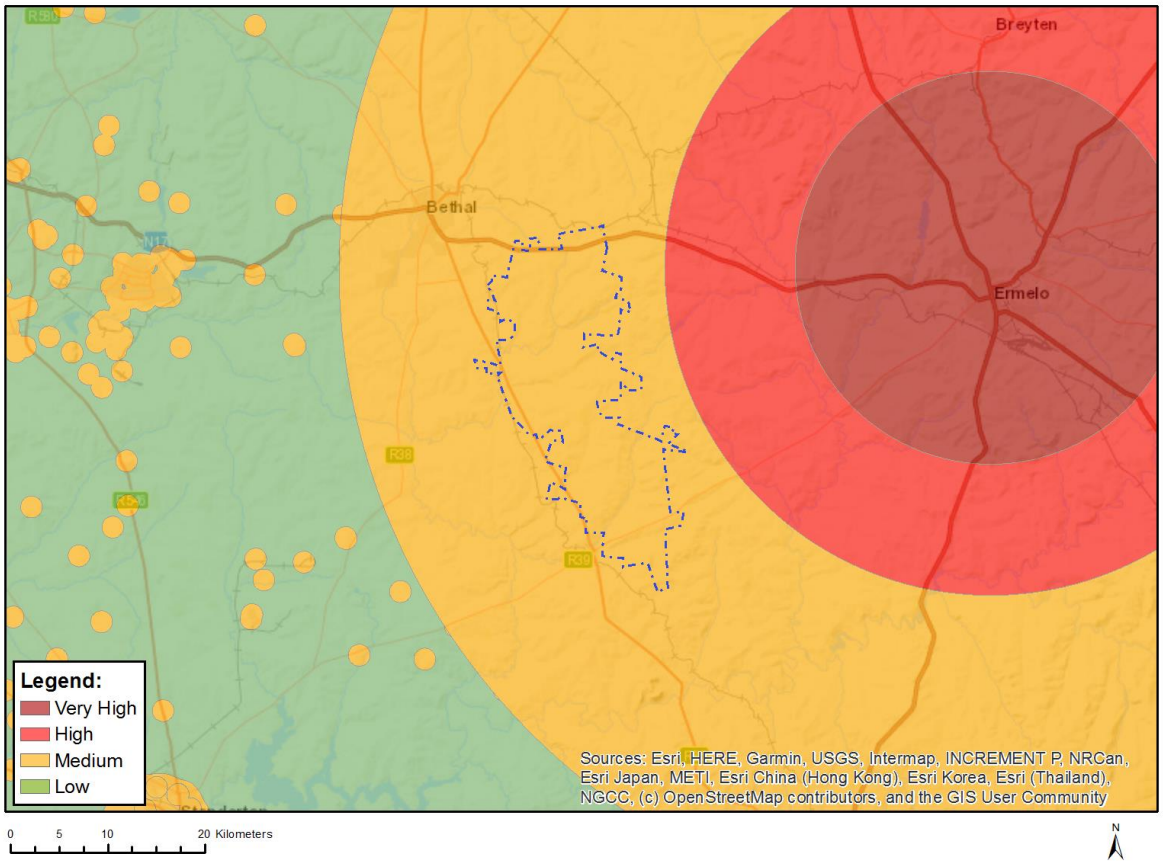
| Very High sensitivity | High sensitivity | Medium sensitivity | Low sensitivity |
|---|---|---|---|
| | | X | |

**Sensitivity Features:**

| Sensitivity | Feature(s) |
|---|---|
| Low | Low Sensitivity |
| Medium | Sensitive species 1252 |
| Medium | Aspidoglossum xanthosphaerum |
| Medium | Miraglossum davyi |
| Medium | Sensitive species 691 |
| Medium | Pachycarpus suaveolens |

## MAP OF RELATIVE RFI THEME SENSITIVITY

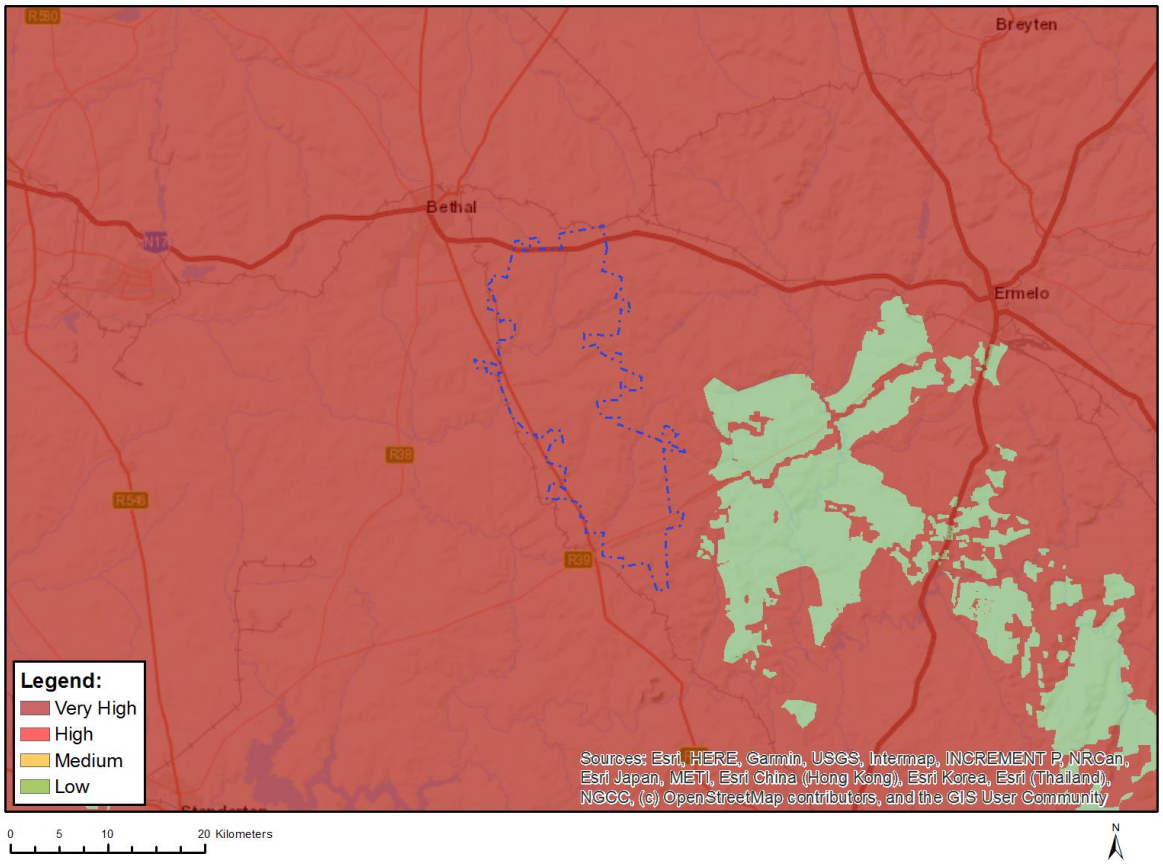



| Very High sensitivity | High sensitivity | Medium sensitivity | Low sensitivity |
|---|---|---|---|
| | | X | |

**Sensitivity Features:**

| Sensitivity | Feature(s) |
|---|---|
| Medium | Within 1 km of a telecommunication facility |
| Medium | Within 5 km of a Sentech High Power Terrestrial Broadcasting Facility |
| Medium | Between 30 and 60 km from a Weather Radar installation and within the radar's line of sight |

## MAP OF RELATIVE TERRESTRIAL BIODIVERSITY THEME SENSITIVITY




| Very High sensitivity | High sensitivity | Medium sensitivity | Low sensitivity |
|---|---|---|---|
| X | | | |

**Sensitivity Features:**

| Sensitivity | Feature(s) |
|---|---|
| Very High | Critical biodiveristy area 1 |
| Very High | Critical biodiveristy area 2 |
| Very High | Ecological support area: landscape corridor |
| Very High | Ecological support area: local corridor |
| Very High | FEPA Subcatchments |
| Very High | Protected Areas Expansion Strategy |
| Very High | Vulnerable ecosystem |