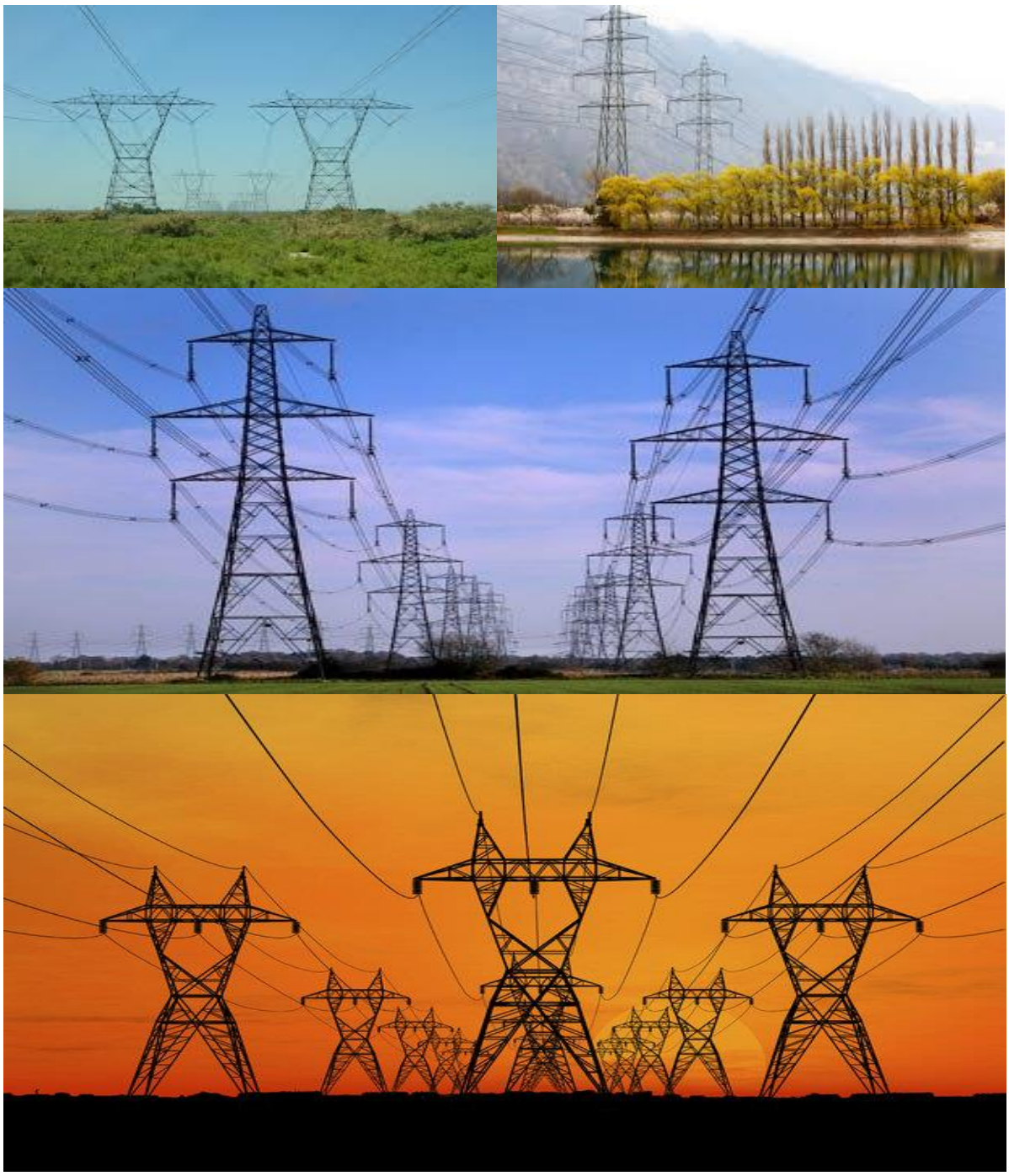
APPENDIX 1

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

TABLE OF CONTENTS

List of figures

List of tables

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. 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. Where an impact management outcome is not relevant, the words "not applicable" can be inserted in the template under the "responsible persons" column. 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. 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 will comply with the pre-approved generic EMPr

Part	Section	Heading	Content
			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. 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) 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 expertise including a curriculum vitae. Once approved, Part C forms part of the EMPr for the site and is legally binding.

Part	Section	Heading	Content
			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	Environmental 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&AP's	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)	<u>Role</u> 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. <u>Responsibilities</u> - Be fully conversant with the conditions of the EA; - Ensure that all stipulations within the EMPr are communicated and adhered to by the Developer and its Contractor(s); - Issuing of site instructions to the Contractor for corrective actions required; - 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 - Ensure that periodic environmental performance audits are undertaken on the project implementation.
Developer Site Supervisor (DSS)	<u>Role</u> The DSS reports directly to the DPM, oversees site works, liaises with the contractor(s) and the ECO. The DSS

Responsible Person (s)	Role and Responsibilities
	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. Responsibilities - Ensure that all contractors identify a contractor's Environmental Officer (cEO); - Must be fully conversant with the conditions of the EA. Oversees site works, liaison with Contractor, DPM and ECO; - Must ensure that all landowners have the relevant contact details of the site staff, ECO and cEO; - Issuing of site instructions to the Contractor for corrective actions required; - Will issue all non-compliances to contractors; and - Ratify the Monthly Environmental Report.
Environmental Control Officer (ECO)	Role 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. 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. 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&AP's), 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 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. Responsibilities

Responsible Person (s)	Role and Responsibilities
	The responsibilities of the ECO will include the following: - Be aware of the findings and conclusions of all EA related to the development; - Be familiar with the recommendations and mitigation measures of this EMPr; - Be conversant with relevant environmental legislation, policies and procedures, and ensure compliance with them; - 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; - Educate the construction team about the management measures contained in the EMPr and environmental licenses; - Compilation and administration of an environmental monitoring plan to ensure that the environmental management measures are implemented and are effective; - Monitoring the performance of the Contractors and ensuring compliance with the EMPr and associated Method Statements; - 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; - Liaison between the DPM, Contractors, authorities and other lead stakeholders on all environmental concerns; - Compile a regular environmental audit report highlighting any non-compliance issues as well as satisfactory or exceptional compliance with the EMPr; - Validating the regular site inspection reports, which are to be prepared by the contractor Environmental Officer (cEO); - Checking the cEO's record of environmental incidents (spills, impacts, legal transgressions etc) as well as corrective and preventive actions taken; - Checking the cEO's public complaints register in which all complaints are recorded, as well as action taken; - Assisting in the resolution of conflicts; - Facilitate training for all personnel on the site – this may range from carrying out the training, to reviewing the training programmes of the Contractor; - 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; - Maintenance, update and review of the EMPr; - Communication of all modifications to the EMPr to the relevant stakeholders.
developer Environmental Officer	Role

Responsible Person (s)	Role and Responsibilities
(dEO)	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. <u>Responsibilities</u> - Be fully conversant with the EMPr; - Be familiar with the recommendations and mitigation measures of this EMPr, and implement these measures; - Ensure that all stipulations within the EMPr are communicated and adhered to by the Employees, Contractor(s) ; - Confine the development site to the demarcated area; - Conduct environmental internal audits with regards to EMPr and authorisation compliance (on cEO); - Assist the contractors in addressing environmental challenges on site; - Assist in incident management: - Reporting environmental incidents to developer and ensuring that corrective action is taken, and lessons learnt shared; - Assist the contractor in investigating environmental incidents and compile investigation reports; - Follow-up on pre-warnings, defects, non-conformance reports; - Measure and communicate environmental performance to the Contractor; - Conduct environmental awareness training on site together with ECO and cEO; - Ensure that the necessary legal permits and / or licenses are in place and up to date; - Acting as Developer's Environmental Representative on site and work together with the ECO and contractor;
Contractor	<u>Role</u> 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

Responsible Person (s)	Role and Responsibilities
	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. Responsibilities - project delivery and quality control for the development services as per appointment; - 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; - 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; - attend on site meeting(s) prior to the commencement of activities to confirm the procedure and designated activity zones; - 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.
contractor Environmental Officer (cEO)	Role 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: Responsibilities - Be on site throughout the duration of the project and be dedicated to the project; - Ensure all their staff are aware of the environmental requirements, conditions and constraints with respect to all of their activities on site; - Implementing the environmental conditions, guidelines and requirements as stipulated within the EA,

Responsible Person (s)	Role and Responsibilities
	EMPr and Method Statements; - Attend the Environmental Site Meeting; - Undertaking corrective actions where non-compliances are registered within the stipulated timeframes; - Report back formally on the completion of corrective actions; - Assist the ECO in maintaining all the site documentation; - Prepare the site inspection reports and corrective action reports for submission to the ECO; - Assist the ECO with the preparing of the monthly report; and - 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 Substance’s;
- 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 understands 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; – The Contractor must allow for sufficient sessions to train all personnel with no more than 20 personnel attending each course; – Refresher environmental awareness training is available as and when required; – 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; – The Contractor must erect and maintain information posters at key locations on site, and the posters must include the following information as a minimum: a)Safety notifications; and b) No littering. – Environmental awareness training must include as a minimum the following: a) Description of significant environmental impacts, actual or potential, related to their work activities; b) Mitigation measures to be implemented when carrying out specific activities; c) Emergency preparedness and response						

procedures; d) Emergency procedures; e) Procedures to be followed when working near or within sensitive areas; f) Wastewater management procedures; g) Water usage and conservation; h) Solid waste management procedures; i) Sanitation procedures; j)Fire prevention; and k) Disease prevention. – A record of all environmental awareness training courses undertaken as part of the EMPr must be available; – Educate workers on the dangers of open and/or unattended fires; – A staff attendance register of all staff to have received environmental awareness training must be available. – Course material must be available and presented in appropriate languages that all staff can understand.						

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; – Location of 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; – Sites must be located where possible on previously disturbed areas; – The camp must be fenced in accordance with *Section 5.5: Fencing and gate installation*; and – The use of existing accommodation for contractor staff, where possible, is encouraged.						

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; – 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 – Unauthorised access and development related activity inside access restricted areas is prohibited.						

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; – An access agreement must be formalised and signed by the DPM, Contractor and landowner before commencing with the activities;						

– The access roads to tower positions must be signposted after access has been negotiated and before the commencement of the activities; – 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 – All contractors must be made aware of all these access routes. – Any access route deviation from that in the written agreement must be closed and re-vegetated immediately, at the contractor's expense; – Maximum use of both existing servitudes and existing roads must be made to minimize further disturbance through the development of new roads; – 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; – Access roads in flattish areas must follow fence lines and tree belts to avoid fragmentation of vegetated areas or croplands – Access roads must only be developed on pre-planned and approved roads.						

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; – Existing and new gates to be recorded and documented in accordance with section *4.9: photographic record*; – All gates must be fitted with locks and be kept locked at all times during the development phase, unless otherwise agreed with the landowner; – At points where the line crosses a fence in which there is no suitable gate within the extent of the line servitude, on the instruction of the DPM, a gate must be installed at the approval of the landowner; – 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; – Where gates are installed in jackal proof fencing, a suitable reinforced concrete sill must be provided beneath the gate; – Original tension must be maintained in the fence wires; – All gates installed in electrified fencing must be re-electrified; – All demarcation fencing and barriers must be maintained in good working order for the duration of overhead transmission and distribution electricity infrastructure development activities; – 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; – Any temporary fencing to restrict the movement of life-stock must only be erected with the permission of the land owner. – All fencing must be developed of high quality material bearing the SABS mark; – The use of razor wire as fencing must be avoided; – 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; – On completion of the development phase all temporary fences are to be removed; – The contractor must ensure that all fence uprights are appropriately removed, ensuring that no uprights are cut at ground level but rather removed completely.						

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; – The Contractor must ensure the following: a. The vehicle abstracting water from a river does not enter						

or cross it and does not operate from within the river; b. No damage occurs to the river bed or banks and that the abstraction of water does not entail stream diversion activities; and c. All reasonable measures to limit pollution or sedimentation of the downstream watercourse are implemented. – Ensure water conservation is being practiced by: a. Minimising water use during cleaning of equipment; b. Undertaking regular audits of water systems; and c. Including a discussion on water usage and conservation during environmental awareness training. d. The use of grey water is encouraged.						

5.7 Storm and waste water management

Impact management outcome: Impacts to the environment caused by storm water 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; – 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; – Natural storm water 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; – Water that has been contaminated with suspended solids, such as soils and silt, may be released into watercourses or water bodies only once all suspended solids have been removed from the water by settling out these solids in settlement ponds. The release of settled water back into the environment must be subject to the Project Manager's approval and support by the ECO.						

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; – Sufficient, covered waste collection bins (scavenger and weatherproof) must be provided; – A suitably positioned and clearly demarcated waste collection site must be identified and provided; – The waste collection site must be maintained in a clean and orderly manner;						

– Waste must be segregated into separate bins and clearly marked for each waste type for recycling and safe disposal; – Staff must be trained in waste segregation; – Bins must be emptied regularly; – General waste produced onsite must be disposed of at registered waste disposal sites/ recycling company; – Hazardous waste must be disposed of at a registered waste disposal site; – Certificates of safe disposal for general, hazardous and recycled waste must be maintained.						

5.9 Protection of watercourses and estuaries

Impact management outcome: Pollution and contamination of the watercourse environment and or estuary 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 solid waste, sewage, cement, oils, fuels, chemicals, aggregate tailings, wash and contaminated water or organic material resulting from the Contractor's activities; – In the event of a spill, prompt action must be taken to clear the polluted or affected areas; – Where possible, no development equipment must traverse any seasonal or permanent wetland – No return flow into the estuaries must be allowed and no disturbance of the Estuarine Functional Zone should occur;						

– Development of permanent watercourse or estuary crossing must only be undertaken where no alternative access to tower position is available; – There must not be any impact on the long term morphological dynamics of watercourses or estuaries; – Existing crossing points must be favored over the creation of new crossings (including temporary access) – When working in or near any watercourse or estuary, the following environmental controls and consideration must be taken: a) Water levels during the period of construction; No altering of the bed, banks, course or characteristics of a watercourse b) 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; c) 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 d) 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.						

5.10 Vegetation clearing

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; – Protected or endangered species may occur on or near the development site. Special care should be taken not to damage such species; – 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; – Permits for removal must be obtained from the Department of Agriculture, Forestry and Fisheries prior to the cutting or clearing of the affected species, and they must be filed; – 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; – Trees felled due to construction must be documented and form part of the Environmental Audit Report; – Rivers and watercourses must be kept clear of felled trees, vegetation cuttings and debris; – 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, supervision of a registered						

pest control operator or is appropriately trained; – A daily register must be kept of all relevant details of herbicide usage; – No herbicides must be used in estuaries; – 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*. 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; – 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 land owner 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; – 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; – 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; – 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 which limit impact to the environment must always be considered.						

5.11 Protection of fauna

Impact management outcome: Minimise disturbance to fauna.						
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; – The breeding sites of raptors and other wild birds species must be taken into consideration during the planning of the development programme; – 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; – Nesting sites on existing parallel lines must documented; – Special recommendations of the avian specialist must be adhered to at all times to prevent unnecessary disturbance of birds; – Bird guards and diverters must be installed on the new line as per the recommendations of the specialist; – 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; – No deliberate or intentional killing of fauna is allowed;						

– In areas where snakes are abundant, snake deterrents to be deployed on the pylons to prevent snakes climbing up, being electrocuted and causing power outages; and – 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.						

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*; – Carry out general monitoring of excavations for potential fossils, artefacts and material of heritage importance; – 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.						

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.; – All unattended open excavations must be adequately fenced or demarcated; – Adequate protective measures must be implemented to prevent unauthorised access to and climbing of partly constructed towers and protective scaffolding; – Ensure structures vulnerable to high winds are secured; – Maintain an incidents and complaints register in which all incidents or complaints involving the public are logged.						

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; – 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; – Where mobile chemical toilets are required, the following must be ensured: a) Toilets are located no closer than 100 m to any watercourse or water body; b) Toilets are secured to the ground to prevent them from toppling due to wind or any other cause; c) No spillage occurs when the toilets are cleaned or emptied and the contents are managed in accordance with the EMPr; 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; e) Toilets are emptied before long weekends and workers holidays, and must be locked after working hours; f) Toilets are serviced regularly and the ECO must inspect toilets to ensure compliance to health standards; – A copy of the waste disposal certificates must be maintained.						

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; – Ensure that the workforce is sensitised to the effects of sexually transmitted diseases, especially HIV AIDS; – The Contractor must ensure that information posters on AIDS are displayed in the Contractor Camp area; – Information and education relating to sexually transmitted diseases to be made available to both construction workers and local community, where applicable; – Free condoms must be made available to all staff on site at central points; – Medical support must be made available; – Provide access to Voluntary HIV Testing and Counselling Services.						

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; – The Emergency Plan must deal with accidents, potential spillages and fires in line with relevant legislation; – All staff must be made aware of emergency procedures as part of environmental awareness training; – The relevant local authority must be made aware of a fire as soon as it starts; – In the event of emergency necessary mitigation measures to contain the spill or leak must be implemented (see *Hazardous Substances section 5.17*).						

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; – All hazardous substances must be stored in suitable containers as defined in the Method Statement; – Containers must be clearly marked to indicate contents, quantities and safety requirements; – All storage areas must be bunded. The bunded area must be of sufficient capacity to contain a spill / leak from the stored containers; – Bunded areas to be suitably lined with a SABS approved liner; – An Alphabetical Hazardous Chemical Substance (HCS) control sheet must be drawn up and kept up to date on a continuous basis; – All hazardous chemicals that will be used on site must have Material Safety Data Sheets (MSDS); – All employees working with HCS must be trained in the safe use of the substance and according to the safety data sheet; – 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; – The Contractor must ensure that diesel and other liquid fuel, oil and hydraulic fluid is stored in appropriate storage tanks or in bowsers; – 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);						

– The floor of the bund must be sloped, draining to an oil separator; – Provision must be made for refueling 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; – All empty externally dirty drums must be stored on a drip tray or within a bunded area; – No unauthorised access into the hazardous substances storage areas must be permitted; – No smoking must be allowed within the vicinity of the hazardous storage areas; – Adequate fire-fighting equipment must be made available at all hazardous storage areas; – Where refueling away from the dedicated refueling station is required, a mobile refueling unit must be used. Appropriate ground protection such as drip trays must be used; – 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; – The responsible operator must have the required training to make use of the spill kit in emergency situations; – An appropriate number of spill kits must be available and must be located in all areas where activities are being undertaken; – 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.*						

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; – 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. The relevant local authority must be made aware of a fire as soon as it starts; – Leaking equipment must be repaired immediately or be removed from site to facilitate repair; – Workshop areas must be monitored for oil and fuel spills; – Appropriately sized spill kit kept onsite relevant to the scale of the activity taking place must be available; – 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; – Water drainage from the workshop must be contained and managed in accordance *Section 5.7: storm and waste water management*.						

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; – Batching plants areas must be fitted with a containment facility for the collection of cement laden water. – Dirty water from the batching plant must be contained to prevent soil and groundwater contamination – Bagged cement must be stored in an appropriate facility and at least 10 m away from any water courses, gullies and drains; – A washout facility must be provided for washing of concrete associated equipment. Water used for washing must be restricted; – Hardened concrete from the washout facility or concrete mixer can either be reused or disposed of at an appropriate licenced disposal facility; – Empty cement bags must be secured with adequate binding material if these will be temporarily stored on site; – Sand and aggregates containing cement must be kept damp to prevent the generation of dust (Refer to *Section 5.20: Dust emissions*)						

– 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; – Temporary fencing must be erected around batching plants in accordance with *Section 5.5: Fencing and gate installation*.						

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; – 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; – Excavation, handling and transport of erodible materials must be avoided under high wind conditions or when a visible 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; – Where possible, soil stockpiles must be located in sheltered areas where they are not exposed to the erosive effects of the wind; – Where erosion of stockpiles becomes a problem, erosion control measures must be implemented at the discretion of the ECO; – Vehicle speeds must not exceed 40 km/h along dust roads or 20 km/h when traversing unconsolidated and non-vegetated areas; – 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; – For significant areas of excavation or exposed ground, dust suppression measures must be used to minimise the spread of dust.						

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 – Notification of surrounding landowners, emergency services site personnel of blasting activity 24 hours prior to such						

activity taking place on Site.						

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; – All vehicles and machinery must be fitted with appropriate silencing technology and must be properly maintained; – 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; – 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.						

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; – Firefighting equipment must be available on all vehicles located on site; – The local Fire Protection Agency (FPA) must be informed of construction activities; – Contact numbers for the FPA and emergency services must be communicated in environmental awareness training and displayed at a central location on site; – Two way swop of contact details between ECO and FPA.						

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, watercourses and water bodies; – All stockpiled material must be maintained and kept clear of weeds and alien vegetation growth by undertaking regular weeding and control methods; – Topsoil stockpiles must not exceed 2 m in height; – During periods of strong winds and heavy rain, the stockpiles must be covered with appropriate material (e.g. cloth, tarpaulin etc.); – Where possible, sandbags (or similar) must be placed at the bases of the stockpiled material in order to prevent erosion of the material.						

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	Method of	Timeframe for	Responsible	Frequency	Evidence of

	person	implementation	implementation	person		compliance
– No vegetation clearing must occur during survey and pegging operations; – No new access roads must be developed to facilitate access for survey and pegging purposes; – Project manager, botanical specialist and contractor to agree on final tower positions based on survey within assessed and approved areas; – 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.						

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; – Spoil can however be used for landscaping purposes and must be covered with a layer of 150 mm topsoil for rehabilitation purposes; – Management of equipment for excavation purposes must be undertaken in accordance with *Section 5.18: Workshop equipment maintenance and storage*; and – Hazardous substances spills from equipment must be						

managed in accordance with *Section 5.17: Hazardous substances*. – Batching of cement to be undertaken 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*.						

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 surface (suggest wooden blocks) to minimise damage to the underlying vegetation; – In sensitive areas, tower assembly must take place off-site or away from sensitive positions; – The crane used for tower assembly must be operated in a manner which minimises impact to the environment; – The number of crane trips to each site must be minimised; – Wheeled cranes must be utilised in preference to tracked cranes; – Consideration must be given to erecting towers by helicopter or by hand where it is warranted to limit the extent						

of environmental impact; – Access to tower positions to be undertaken in accordance with access requirements in specified in Section 8.4: Access Roads; – Vegetation clearance to be undertaken in accordance with general vegetation clearance requirements specified in Section 8.10: Vegetation clearing; – No levelling at tower sites must be permitted unless approved by the Development Project Manager or Developer Site Supervisor; – Topsoil must be removed separately from subsoil material and stored for later use during rehabilitation of such tower sites; – Topsoil must be stored in heaps not higher than 1m to prevent destruction of the seed bank within the topsoil; – Excavated slopes must be no greater that 1:3, but where this is unavoidable, appropriate measures must be undertaken to stabilise the slopes; – 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; – Only existing disturbed areas are utilised 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; – Surface water runoff is appropriately channeled through or around spoil areas; – 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; – The surface of the spoil is appropriately rehabilitated in						

accordance with the requirements specified in Section 5.29: Landscaping and rehabilitation; – 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 at the beginning of the dry season.						

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; – The winch and tensioner station must be equipped with drip trays in order to contain any fuel, hydraulic fuel or oil spills and leaks; – Refueling of the winch and tensioner stations must be undertaken in accordance with Section 5.17: Hazardous substances;						

– 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 hand held implements, with vegetation being cut off at ground level. No tracked or wheeled mechanised equipment must be used; – Alternative methods of stringing which limit impact to the environment must always be considered e.g. by hand or by using a helicopter; – 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; – 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; – 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; – Necessary scaffolding protection measures must be installed to prevent damage to the structures supporting certain high value agricultural areas such as vineyards, orchards, nurseries.						

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; – Develop and implement a collaborative and constructive approach to conflict resolution as part of the external stakeholder engagement process; – Sustain continuous communication and liaison with neighboring owners and residents – Create work and training opportunities for local stakeholders; and – 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.						

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: management of hazardous substances* and *5.18 workshop, equipment maintenance and storage*; – Hazardous storage areas must be well ventilated; – Fire extinguishers must be serviced and accessible. Service records to be filed and audited at last service; – Emergency and contact details displayed must be displayed; – Security personnel must be briefed and have the facilities to contact or be contacted by relevant management and emergency personnel; – Night hazards such as reflectors, lighting, traffic signage etc. must have been checked; – Fire hazards identified and the local authority must have been notified of any potential threats e.g. large brush stockpiles, fuels etc.; – Structures vulnerable to high winds must be secured; – Wind and dust mitigation must be implemented; – Cement and materials stores must have been secured; – Toilets must have been emptied and secured; – Refuse bins must have been emptied and secured; – Drip trays must have been emptied and secured.						

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; – 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 – 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; – 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; – 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; – Rehabilitation of tower sites and access roads outside of farmland; – Indigenous species must be used for with species and/grasses to where it compliments or approximates the original condition; – Stockpiled topsoil must be used for rehabilitation (refer to						

Section *5.24: Stockpiling and stockpiled areas*); – Stockpiled topsoil must be evenly spread so as to facilitate seeding and minimise loss of soil due to erosion; – Before placing topsoil, all visible weeds from the placement area and from the topsoil must be removed; – Subsoil must be ripped before topsoil is placed; – The rehabilitation must be timed so that rehabilitation can take place at the optimal time for vegetation establishment; – Where impacted through construction related activity, all sloped areas must be stabilised to ensure proper rehabilitation is effected and erosion is controlled ; – Sloped areas stabilised using design structures or vegetation as specified in the design to prevent erosion of embankments. The contract design 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. – 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: a) Annual and perennial plants are chosen; b) Pioneer species are included; c) Species chosen must be indigenous to the area with the seeds used coming from the area; d) Root systems must have a binding effect on the soil; e) The final product must not cause an ecological imbalance in the area						

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: Paulputs Wind Energy Facility South (RF) (Pty) Ltd

Tel No: +27 82 529 4909

Fax No:

Postal Address: PO Box 762, Wilderness, Western Cape, 6538

Physical Address: Mountain Forest Farm, Erf 384, Hoekwil, Western Cape, 6538

7.1.2 Details and expertise of the EAP

Name of EAP: Ashleigh von der Heyden

Tel No: 0214121529

Fax No:

E-mail address: paulputs@arcusconsulting.co.za / ashleighvdh@arcusonsulting.co.za

Expertise of the EAP (Curriculum Vitae included): Yes

7.1.3 Project name: Proposed 132 kV Grid Connection, Substation and Battery Energy Storage System for the Paulputs South Wind Energy Facility, Northern Cape Province

7.1.4 Description of the project:

Paulputs Wind Energy Facility (RF) (Pty) Ltd ('PWEF'), a wholly owned subsidiary of WKN Windcurrent SA (Pty) Ltd, was granted environmental authorisation for the 300MW (75 turbines) Paulputs Wind Energy Facility (WEF) and its associated 132kV OHPL on 11 December 2019 by the Department of Environment, Forestry and Fisheries (DEFF) (DEFF Reference No. 14/12/16/3/3/2/1120). As part of the original Environmental Impact Assessment (EIA)1, three alternative OHPL options (A, B and C) and three alternative on-site substation options (A, B and C) were assessed. The Competent Authority (CA), DEFF, chose to only issue a favourable authorisation for the preferred OHPL option 'C' and on-site substation option 'A".

To comply with the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) bidding requirements, the abovementioned 300MW Paulputs WEF is being split into the 150MW Paulputs South WEF and the 150MW Paulputs North WEF (being split as part of a separate amendment application). The authorised OHPL option 'C' and on-site substation option 'A' will be used for Paulputs North WEF and a new authorisation for additional electrical infrastructure is now required to connect Paulputs South WEF to the National Grid

[1] The EIA undertaken by Arcus Consultancy Services (Pty) Ltd in 2019, which assessed the Paulputs Wind Energy Facility (WEF) and its associated 132kV grid connection, is hereon referred to as the **'original EIA'**

In effect of the above, Paulputs South (the Applicant[2]) intend to apply for Environmental Authroisation for the construction and operation of the proposed development, which includes:

- A double circuit Overhead Powerline (OHPL) of 132 kV which will connect directly from the proposed on-site substation to the existing Eskom Paulputs Main Transmission Substation (MTS);
- Up to 4 m wide jeep tracks to provide access to and along the 31 m OHPL servitude; and a
- A 4.4 ha substation yard comprising: 1.2 ha on-site substation, 1 ha for offices, 1.2 ha battery energy storage systems (BESS), and 1 ha permanent laydown area.

This EMPr is for the 132 kV Grid Connection.

7.1.5 Project location:

The proposed development is located approximately 35 km south-east of Pofadder and approximately 80 km west of Kakamas in the Northern Cape Province. The OHPL is situated in two district municipalities, the Namakwa District Municipality and the ZF Mgcawu District Municipality, and within the Khâi-Ma Local Municipality and the Kai !Garib Local Municipality. The Substation and BESS are situated within the ZF Mgcawu District Municipality within the Kai !Garib Local Municipality

Property owner		Farm name and portion	Size in hectare	21 digit surveyor general codes
	FLORES JOHANNES VAN DER COLFF	SCUIT-KLIP 92/3	948.99	C03600000000009200003
		SCUIT-KLIP 92/5	1573.06	C03600000000009200005
		LUCASVLEI 93/1	3193.78	C03600000000009300001
		LUCASVLEI 93/2	2895.08	C03600000000009300002
	T G N BOERDERY TRUST	SCUITKLIP 92/0	5447.91	C03600000000009200000
	KONKOONSIES TRUST	SCUITKLIP 92/1	3507.64	C03600000000009200001
		KONKOONSIES 91/6	1713.12	C03600000000009100006
	KAXU CSP SOUTH AFRICA PTY LTD, ABENGOA	SCUITKLIP 92/4	3507.63	C03600000000009200004

Reference Point	Latitude	Longitude
OHPL Development Area Co-ordinates		
Start	28°58'10.26"S	19°45'32.51"E
Middle	28°57'17.58"S	19°38'27.51"E
End	28°52'43.69"S	19°33'53.23"E
Application area (ha)	The proposed OHPL option is approximately 26.5 km long. The substation yard is approximately 4.4 ha and comprises: 1.1 ha on-site substation, 0.5 ha for offices, 1 ha temporary storage area which will be used for the battery energy storage systems (BESS), and 1 ha permanent laydown area	

[2] Paulputs Wind Energy Facility (RE) (Pty) Ltd has given permission to Paulputs Wind Energy Facility South (RE) (Pty) Ltd to submit an application for the proposed development. Three separate Part II amendment applications are being undertaken in parallel with this application to split and amend the Paulputs WEF EA into Paulputs North WEF and Paulputs South WEF respectively.

Magisterial district	Ward 1 of the Khâi-Ma Local Municipality of DC6 – Namakwa District Municipality. Ward 9 of the Kai !Garib Local Municipality of DC8 – ZF Mgcawu District Municipality
Distance and direction from nearest town	The site is located 35 km north east of Pofadder.

7.16 Preliminary technical specification of the overhead transmission and distribution:

Technical Detail	Description
EA Validity	10 years
OHPL	
Height of pylons	Maximum of 30 m high
Length of transmission line	Maximum 26.5 km
Types of poles used	Both monopoles and lattice structures are being considered
Corridor within which to construct the transmission lines	300 m corridor (i.e. 150 m on either side of the proposed transmission lines)
Area occupied by pylon servitude	The pylon servitude width will be 31 m (132 kV) wide
Transmission capacity	• Double-Circuit • Overhead • 132 kV, evacuating a maximum of 300 MW
Width of servitude roads	3 – 6 m wide
Length of servitude roads	26.8 km (worst case scenario)
Site access	N14 (including for abnormal loads)
Height of fencing	Maximum 3m only around the on-site substation and buildings
Type of fencing	Wired mesh / chain link fence not electrified
On-Site Substation Yard	The substation component may be up to 132kV, but may also be less (e.g. 33kV substation), depending on final Eskom requirements/agreements. This substation is comprised partly of: • A control room (which measures performance information); • Earthing mats and earthing rods; • Switching gear; • Step-up transformers and protection equipment; • Various feeder bays; and • Controlled access.
Area occupied by both permanent and construction laydown areas	4.4 ha and comprises: 1.1 ha on-site substation, 0.5 ha for offices, 1 ha temporary storage area which will be used for the battery energy storage systems (BESS), and 1 ha permanent laydown area
Area occupied by buildings	The O&M complex will form part of the substation yard and will be approximately 0.5 ha (100m X 50m).

Battery Energy Storage System (BESS)	Battery Modules will be housed in containers (similar to shipping containers), and these containers will be delivered pre-assembled. The containers will have approximate dimension ranges of: height 2 m - 5 m, width 1.5 m - 3 m, length 7 m - 20 m. The containers are raised slightly off the ground and may be stacked vertically to a maximum height of 10 m. Ancillary (or associated) infrastructure will include (but is not limited to): • A battery room; • Inverters; • Switch gear room; and • Supervisory Control and Data Acquisition (SCADA) equipment.
Ancillary Infrastructure	Infrastructure coupled with the on-site substation yard: • Internal roads and access; • Welfare facilities: ablutions, maintenance rooms, security hut etc.; • Stormwater infrastructure; • Temporary construction areas; and • Perimeter fencing.
Site Access and Internal roads.	As far as possible, existing gravel access roads will be utilised and where this is not possible, roads will be constructed to run in a 2-way direction, approximately 4 – 6 m wide. It is assumed that the same access roads as approved in the Paulputs WEF will be utilised for this project. Caution will be taken to preserve any road infrastructure such as culverts, and where necessary, these may be upgraded. The development site will have one (1) security controlled entry and exit point.

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.

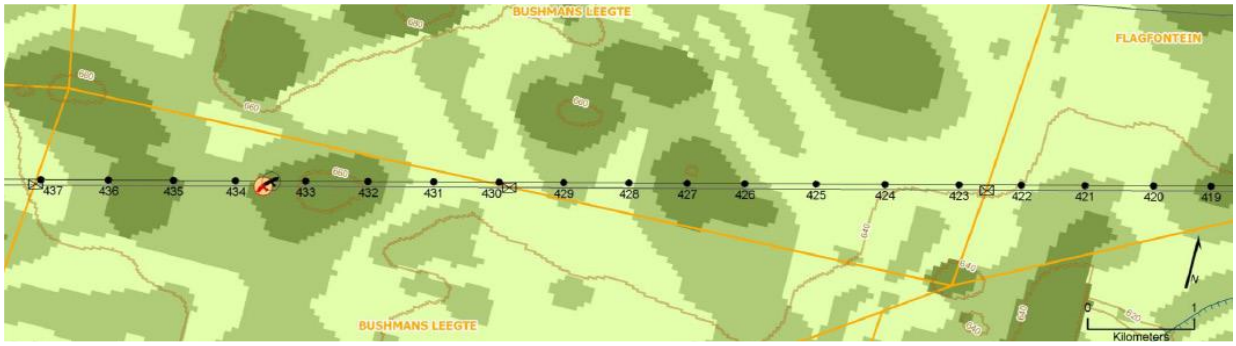


Figure 1: Example of an environmental sensitivity map in the context of a final overhead transmission and distribution profile

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

16/11/2021

Date:

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.

Site specific environmental sensitivities/attributes

Impact management outcome: Direct Faunal Impacts						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– If trenches need to be dug for water pipelines or electrical cabling, these must not be left open for extended periods of time as fauna may fall in and become trapped in them. Trenches which are standing open must have places where there are soil ramps allowing fauna to escape the trench.						

Impact management outcome: Avifauna Impacts						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– Prior to construction, the avifaunal specialist must conduct a site walkthrough, covering the final road and power line routes as well as the final turbine positions, to identify any nests/breeding activity of sensitive species, as well as any						

additional sensitive habitats within which construction activities need to be excluded and/or the schedules adjusted. The results must inform the final construction schedule, including abbreviating construction time, scheduling activities around avian breeding and/or movement schedules, and lowering levels of associated noise; – During Construction, if any of the Priority Species or Red Data species identified in this report are observed to be roosting and/or breeding in the vicinity (within 500 m of the power line), the Avifaunal Specialist is to be contacted immediately for further instruction, while a 'no go' buffer of 300 m is to be instituted around the nest site until the specialist has given further instructions; – Attach appropriate marking devices (BFDs) on overhead power lines to increase visibility. The advice of a specialist must be sought regarding the type, placement and spacing of the BFDs to be used; – Any new overhead power lines must be of a design that minimizes electrocution risk by using adequately insulated 'bird friendly' monopole structures, with clearances between live components and possible bird perches (e.g. cross arms) of 1.8 m or greater. Each pylon must be fitted with a safe bird perch; and – Any new overhead power lines must be of a design that minimizes electrocution risk by using adequately insulated 'bird friendly' structures, with clearances between live components of 1.8 m or greater and which provides a safe bird perch. A replica or 'mock up' of the exact pole structures (including bend point structures), or at least a 3D model simulation that specifically shows how the jumpers will						

be placed and insulated, must be examined and approved by the bird specialist in consultation with EWT.						

Impact management outcome: Bat Impacts						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– It is recommended that a bat specialist survey the confirmed turbine locations and all other proposed site infrastructure for the presence of roosts within 200 m before any construction activities commence and once the preliminary design and layout of each WEF is complete; – It is recommended that a bat specialist surveys the confirmed turbine locations and the locations of all other site infrastructure, such as pylons, for the presence of occupied roosts among the potential roosts before any construction activities commence and once the preliminary design and layout of the site is complete; and – Before construction commences, a bat specialist must conduct a site walkthrough, covering the final road and power line routes as well as the final turbine positions.						

Alien Invasive Plant Species Management Plan

Purpose of the Alien Invasive Management Plan

The purpose of the Alien Invasive Management Plan is to provide a framework for the management of alien and invasive plant species during the construction and operation of the Paulputs Wind Energy Facility North. The broad objectives of the plan include the following:

- Ensure alien plants do not become dominant in parts or the whole site through the control and management of alien and invasive species presence, dispersal and encroachment;
- Initiate and implement a monitoring and eradication programme for alien and invasive species; and
- Promote the natural re-establishment and planting of indigenous species in order to retard erosion and alien plant invasion.

Problem Outline

Alien plants replace indigenous vegetation leading to severe loss of biodiversity and change in landscape function. Potential consequences include loss of biodiversity, loss of grazing resources, increased fire risk, increased erosion, loss of wetland function, impacts on drainage lines, increased water use etc.

In addition, the Conservation of Agricultural Resources Act (Act 43 of 1983), as amended in 2001, requires that land users clear *Declared Weeds* from their properties and prevent the spread of *Declared Invader Plants* on their properties.

Table 3 of CARA (the Conservation of Agricultural Resources Act) lists all declared weeds and invader plants. Alien plants are divided into 3 categories based on their risk as an invader.

- Category 1 - These plants must be removed and controlled by all land users. They may no longer be planted or propagated and all trade in these species is prohibited.
- Category 2 – These plants pose a threat to the environment but nevertheless have commercial value. These species are only allowed to occur in demarcated areas and a land user must obtain a water use licence as these plants consume large quantities of water.
- Category 3 – These plants have the potential of becoming invasive but are considered to have ornamental value. Existing plants do not have to be removed but no new plantings may occur and the plants may not be sold.

The following guide is a useful starting point for the identification of alien species: Bromilow, C. 2010. *Problem Plants and Alien Weeds of South Africa*. Briza, Pretoria.

Vulnerable Ecosystems and Habitats

Certain habitats and environments are more vulnerable to alien plant invasion and are likely to bear the brunt of alien plant invasion problems at the site. In addition, construction activities and changes in water distribution at the site following construction are also likely to increase and alter the vulnerability of the site to alien plant invasion.

Areas at the site which are likely to require specific attention include the following:

- Wetlands, drainage lines and other mesic areas;
- Cleared and disturbed areas such as road verges, crane pads and construction footprints etc.; and

- Construction camps and lay-down areas which are cleared or are active for an extended period.

Wetlands, drainage lines and other mesic areas

There are a relatively large number of drainage lines at the site as well as a number of artificial wetlands. Disturbance within these areas often results in alien plant invasion on account of the greater water and nutrient availability in this habitat. Although there are no turbines within such areas, numerous road crossings will be required. The disturbance footprint within such areas must be minimized and these areas must be checked for alien species more than the surrounding landscape.

Cleared and disturbed areas

Cleared and disturbed areas are clearly vulnerable to invasion on account of the lack of existing plant cover to resist invasion as well as the disturbance created during construction which promoted the germination and establishment of alien plant species.

Construction camps and laydown areas

Construction camps and lay down areas are either cleared of vegetation or prolonged activities in these areas result in negative impact on indigenous vegetation. In addition, repeated vehicle and human activity in these areas usually results in the import of alien plant seed on clothes, dirty vehicles or with construction machinery and materials

General Clearing and Guidance Principles

- Alien control programs are long-term management projects and must include a clearing plan which includes follow up actions for rehabilitation of the cleared area. Alien problems at the site must be identified during pre-construction surveys of the development footprint. This may occur simultaneously to other required reaches and surveys. The clearing plan must then form part of the pre-construction reporting requirements for the site.
- The plan must include a map showing the alien density and indicating dominant alien species in each area.
- Lighter infested areas must be cleared first to prevent the build-up of seed banks.
- Pre-existing dense mature stands ideally must be left for last, as they probably won't increase in density or pose a greater threat than they are currently.
- Collective management and planning with neighbours may be required in the case of large woody invaders as seeds of aliens are easily dispersed across boundaries by wind or water courses.
- All clearing actions must be monitored and documented to keep track of which areas are due for follow-up clearing.

Clearing Methods

- Different species require different clearing methods such as manual, chemical or biological methods or a combination of both.
- However, care must be taken that the clearing methods used do not encourage further invasion. As such, regardless of the methods used, disturbance to the soil must be kept to a minimum. Fire is not a natural phenomenon in the area and fire must not be used for alien control or vegetation management at the site.
- The best-practice clearing method for each species identified must be used. The preferred clearing methods for most alien species can be obtained from the DFFE Working for Water Website: https://www.environment.gov.za/sites/default/files/legislations/guideto_clearing_invasive_alienplants.pdf

Use of Herbicide for Alien Control

Although it is usually preferable to use manual clearing methods where possible, such methods may create additional disturbance which stimulates alien invasion and may also be ineffective for many woody species which re-sprout. Where herbicides are to be used, the impact of the operation on the natural environment must be minimised by observing the following:

- Area contamination must be minimised by careful, accurate application with a minimum amount of herbicide to achieve good control.
- All care must be taken to prevent contamination of any water bodies. This includes due care in storage, application, cleaning equipment and disposal of containers, product and spray mixtures.
- Equipment must be washed where there is no danger of contaminating water sources and washings carefully disposed of in a suitable site.
- To avoid damage to indigenous or other desirable vegetation, products must be selected that will have the least effect on non-target vegetation.
- Coarse droplet nozzles must be fitted to avoid drift onto neighbouring vegetation.
- The appropriate health and safety procedures must also be followed regarding the storage, handling and disposal of herbicides.

For all herbicide applications, the *Working for Water: Policy on the Use of Herbicides for the Control of Alien Vegetation* guideline must be followed.

Alien Plant Management Plan

Construction Phase Activities

The following management actions are aimed at reducing soil disturbance during the construction phase of the development, as well as reducing the likelihood that alien species will be brought onto site or otherwise encouraged.

Construction Phase Action	Frequency
The ECO is to provide permission prior to any vegetation being cleared for development.	Daily
Clearing of vegetation must be undertaken as the work front progresses – mass clearing should not occur unless the cleared areas are to be surfaced or prepared immediately afterwards.	Weekly
Where cleared areas will be exposed for some time, these areas must be protected with packed brush, or appropriately battered with fascine work. Alternatively, jute (Soil Saver) may be pegged over the soil to stabilise it.	Weekly
Cleared areas that have become invaded can be sprayed with appropriate herbicides provided that these are such that break down on contact with the soil. Residual herbicides must not be used.	Weekly
Although organic matter is frequently used to encourage regrowth of vegetation on cleared areas, no foreign material for this purpose must be brought onto site. Brush from cleared areas must be used as much as possible. The use of manure or other soil amendments is likely to encourage invasion.	Weekly
Clearing of vegetation is not allowed within 32 m of any wetland, 80 m of any wooded area, within 1:100 year floodlines, in conservation servitude areas or on slopes steeper than 1:3, unless permission is granted by the ECO for specifically allowed construction activities in these areas	Weekly
Care must be taken to avoid the introduction of alien plant species to the site and surrounding areas. (Particular attention must be paid to imported material such as building sand or dirty earth-moving equipment.) Stockpiles must be checked regularly and any weeds emerging from material stockpiles must be removed.	Weekly

Alien vegetation regrowth on areas disturbed by construction must be controlled throughout the entire site during the construction period.	Monthly
The alien plant removal and control method guidelines must adhere to best-practice for the species involved. Such information can be obtained from the DFFE Working for Water website.	Monthly
Clearing activities must be contained within the affected zones and may not spill over into demarcated No Go areas.	Daily
Pesticides may not be used. Herbicides may be used to control listed alien weeds and invaders only	Monthly
Wetlands and other sensitive areas must remain demarcated with appropriate fencing or hazard tape. These areas are no-go areas (this must be explained to all workers) that must be excluded from all development activities.	Daily

Monitoring Actions - Construction Phase

The following monitoring actions must be implemented during the construction phase of the development.

Monitoring Action	Indicator	Timeframe
Document alien species present at the site	List of alien species	Pre-construction
Document alien plant distribution	Alien plant distribution map within priority areas	3 Monthly
Document & record alien control measures implemented	Record of clearing activities	3 Monthly
Review & evaluation of control success rate	Decline in documented alien abundance over time	Biannually

Operational Phase Activities

The following management actions are aimed at reducing the abundance of alien species within the site and maintaining non-invaded areas clear of aliens.

Operational Phase Action	Frequency
Surveys for alien species must be conducted regularly. Every 6 months for the first two years after construction and annually thereafter. All aliens identified must be cleared.	Every 6 months for 2 years and annually thereafter
Where areas of natural vegetation have been disturbed by construction activities, revegetation with indigenous, locally occurring species must take place where the natural vegetation is slow to recover or where repeated invasion has taken place following disturbance.	Biannually, but revegetation must take place at the start of the rainy season
Areas of natural vegetation that need to be maintained or managed to reduce plant height or biomass, must be controlled using methods that leave the soil protected, such as using a weed-eater to mow above the soil level.	When necessary
No alien species must be cultivated on-site. If vegetation is required for esthetic purposes, then non-invasive, water-wise locally-occurring species must be used.	When necessary

Monitoring Actions - Operational Phase

The following monitoring actions must be implemented during the construction phase of the development.

Monitoring Action	Indicator	Timeframe

Document alien species distribution and abundance over time at the site	Alien plant distribution map	Biannually
Document alien plant control measures implemented & success rate achieved	Records of control measures and their success rate. A decline in alien distribution and cover over time at the site	Quarterly
Document rehabilitation measures implemented and success achieved in problem areas	Decline in vulnerable bare areas over time	Biannually

Decommissioning Phase Activities

The following management actions are aimed at preventing the invasion, by alien plant species, of the re-vegetated areas created during the decommissioning phase. Re-vegetation of the disturbed site is aimed at approximating as near as possible the natural vegetative conditions prevailing prior to operation.

Decommissioning Phase Action	Frequency
All damaged areas shall be rehabilitated if the infrastructure is removed and the facility is decommissioned	Once off
All natural areas must be rehabilitated with species indigenous to the area. Re-seed with locally-sourced seed of indigenous grass species that were recorded on site pre-construction.	Once off, with annual follow up re-vegetation where required
Maintain alien plant monitoring and removal programme for 3 years after rehabilitation.	Biannually

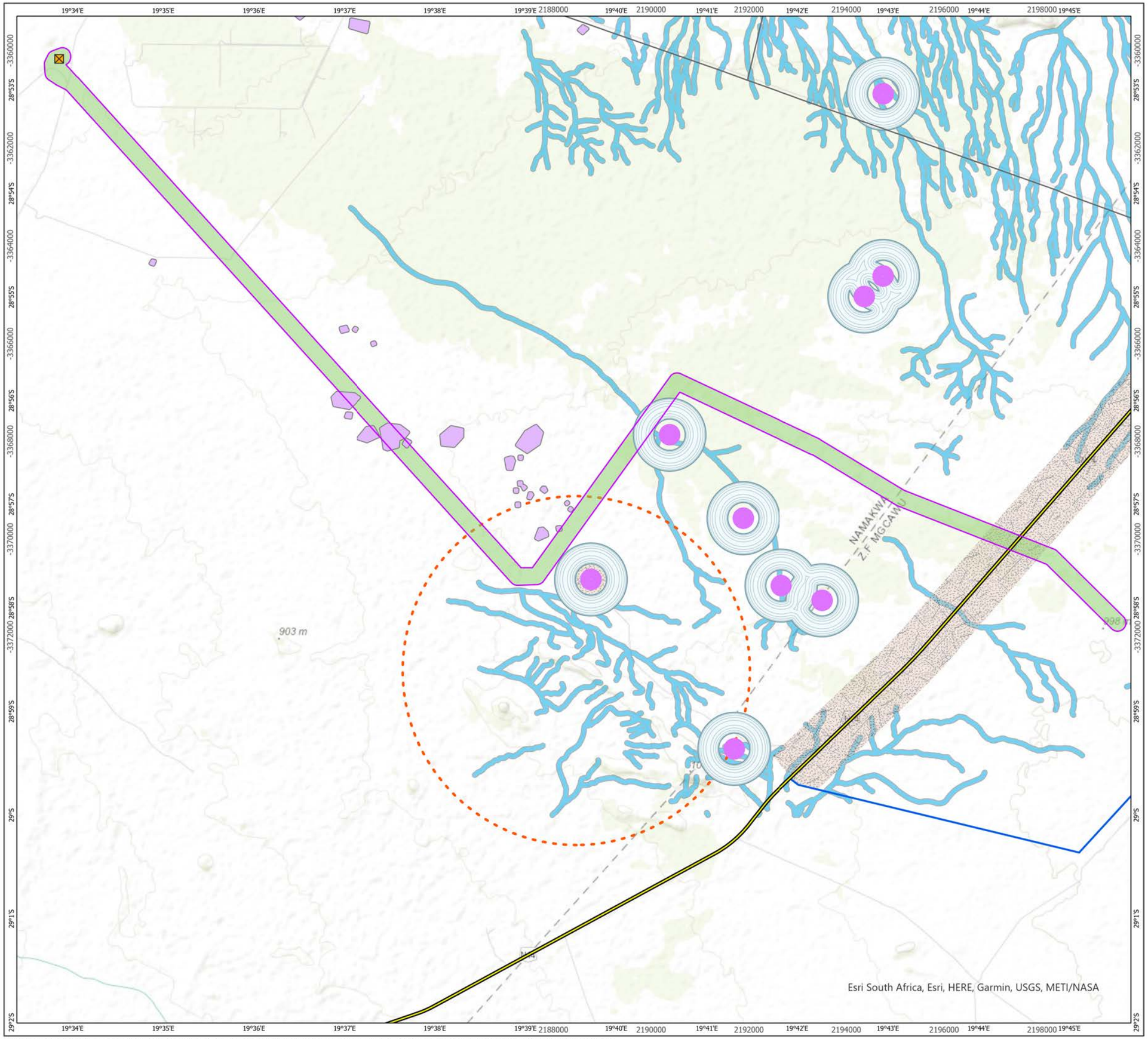
Monitoring Actions - Decommissioning Phase

The following monitoring and evaluation actions must take place during the decommissioning phase of the development

Monitoring Action	Indicator	Timeframe
Monitor newly disturbed areas where infrastructure has been removed to detect and quantify any aliens that may become established for 3 years after decommissioning and rehabilitation	Alien plant surveys and distribution map	Biannually until such time as the natural vegetation has recovered sufficiently to resist invasion.
Monitor re-vegetated areas to detect and quantify any aliens that may become established for 3 years after decommissioning and rehabilitation	Alien plant surveys and distribution map	Biannually for 3 years
Document alien plant control measures implemented & success rate achieved	Records of control measures and their success rate. A decline in alien distribution and cover over time at the site	Annually for 3 years

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.



ARCUS

- Proposed South WEF 300m Corridor
- Proposed Paulputs South WEF Site
- Existing Eskom Substation

Roads

- N14 Highway
- Unclassified Road

Grid Connection Sensitivities

- Avifauna Medium - Low with Mitigation
- Heritage Medium - Low with Mitigation
- Noise High: No Development
- Noise Low Sensitivity

Grid Connection Buffers

- Avifauna - 500m Nest Buffer
- Visual - 500m buffer
- Visual - 500m buffer
- Watercourse - 45m Buffer

1:75,000 Scale @ A3

0 1.5 3 km

NORTH

Produced By: SC	Ref: 3944-GIS-057
Checked By: AA	Date: 16/11/2021

Environmental Sensitivity Map
Figure 1

Paulputs South WEF Grid Connection EMPr

P:\Administration\GIS Administration\South Africa\3944 Paulputs Amendment Reports\3944 Paulputs Amendment Reports.aprx\3944-GIS-057 Fig01 Environmental Sensitivity Map

APPENDIX 2: CURRICULUM VITAE OF THE EAP

CURRICULUM VITAE

Ashlin Bodasing

Technical Director and Environmental Assessment Practitioner

Email: ashlinb@arcusconsulting.co.za Tel: +27 (0) 21 412 1529

Specialisms

- Environmental Impact Assessments
- Environmental Management Plans
- Environmental Feasibility Studies
- Environmental Due Diligence and Compliance
- Client Relationship Management

Summary of Experience

Ashlin Bodasing is a Technical Director at Arcus Consultancy Services South Africa (Pty) Ltd. She manages the Arcus South African office and the team based in Cape Town.
Having obtained her Bachelor of Social Science Degree (Geography and Environmental Management) from the University of Kwa-Zulu Natal; she has over fourteen years' experience in the environmental consulting industry in southern Africa. She has gained extensive experience in the field of Integrated Environmental Management, environmental impact assessments and public participation. She has also been actively involved in a number of industrial and infrastructural projects, including electricity power lines and substations; road and water infrastructure upgrades and the installation of telecommunication equipment, green and brown field coal mines, as well as renewable energy facilities, both wind and solar. Ashlin has excellent Project Management experience and has gained major project experience in the development of Environmental Impact Assessments, Environmental Management Plans and the monitoring of construction activities. Her areas of expertise include project management, environmental scoping and impact assessments, environmental management plans, environmental compliance monitoring and environmental feasibility studies. Experience also includes International Finance Corporation Performance Standards and World Bank Environmental Guidelines environmental due diligence reviews. She has worked in Mozambique, Namibia, Botswana, Lesotho and Zimbabwe.

Professional History

2017 – Present	-	Technical Director, Arcus Consultancy Services SA (Pty) Ltd
2015 – 2017	-	Team Leader, Arcus Consultancy Services SA (Pty) Ltd Lead Environmental Officer, Tweefontein Optimisation Project,
2012 – 2015	-	Glencore / Xstrata Coal Mine, Witbank, Mpumalanga, South Africa (*Secondment*)
2007 – 2015	-	Senior Environmental Assessment Practitioner, Parsons Brinckerhoff Africa
2005 – 2007	-	Environmental Consultant, WSP Environment and Energy

Ashlin spent over 2 years at the Glencore (previously Xstrata Coal SA) – Tweefontein Optimisation Project, as the sole environmental officer permanently on site overseeing all their construction projects, ensuring contractor compliance to EMP and Environmental Authorisations. This included the construction of the internal and external infrastructure packages. Roles include ensuring all construction and development are in line with the EIA and EMP for the project. Areas of responsibility include the Mine Infrastructure Area, the Explosives Magazine Area, construction of a secondary school, construction of residential houses, and the rail load out facility. Role also included review of environmental impact assessment applications and reports submitted to the department of environmental affairs for the project.

Qualifications and Professional Interests

- **University of Kwa-Zulu Natal, 2004**
  Bachelor of Social Science (Geography and Environmental Management)
- **Environmental Assessment Practitioners Association of South Africa, 2020**
  Registered Environmental Assessment Practitioner: Number 2020/780

CURRICULUM VITAE

Project Experience

Environmental Impact Assessments

- **Highlands North, South and Central Wind Energy Facilities, 2018-present**. Project Director (client liaison) and Lead EAP.
- **Paulputs Wind Energy Facility, 2018-present.** Project Director (client liaison) and Lead EAP.
- **San Kraal Wind Energy Facility, 2016- 2018**. Project Director (client liaison) and Lead EAP.
- **Phezukomoya Wind Energy Facility, 2016 – 2018**. Project Director (client liaison) and Lead EAP.
- **Kolkies and Karee Wind Energy Facilities, 2016-2016**. Project Director (Client liaison) and Lead EAP.
- **Komsberg East and West Wind Energy Facilities 2015-2016**. Project Director (Client Liaison) and EAP.
- **Umsinde Emoyeni Wind Energy Facilities, 2015-2018.** Project Director (Client Liaison) and EAP.

Ecological Impact Assessments and Monitoring

- **Confidential Wind Farm, 2017-2018, Northern Cape Province**. Project Director (Client Liaison), coordination and management of ecologists (bird and bat), review of technical and specialists impact assessments.
- **Paulputs Wind Energy Facility 2017-present, Northern Cape Province.** Project Director (Client Liaison), coordination and management of ecologists (bird and bat), review of technical and specialists impact assessments.
- **Highlands Wind Energy Facilities 2017 – 2018, Northern Cape Province.** Project Director (Client Liaison), coordination and management of ecologists (bird and bat), review of technical and specialists impact assessments.
- **Komsberg Wind Farms, 2015-2016.** Project Director (Client Liaison), coordination and management of ecologists (bird and bat), review of technical and specialists impact assessments.
- **Kolkies and Karee Wind Energy Facilities 2015-2016.** Project Director (Client Liaison), coordination and management of bird and bat specialists and review of technical and impact assessment reports.
- **Umsinde Wind Energy Facilities, Additional Bird Monitoring**. Project Director. Coordination and management of bird specialists and review of technical reports.
- **Kap Vley Wind Energy Facility, Bird and Bat Pre-Construction Monitoring.** Project Director. Coordination and management of bird and bat specialists, review of technical reports.
- **Highlands Wind Energy Facility, Bird and Bat Pre-Construction Monitoring.** Project Director. Coordination and management of bird and bat specialists, review of technical reports.
- **Hopefield Wind Farm –Operational Monitoring.** Project Manager. Coordination and management of bird and bat specialists, review of technical reports.
- **Gouda Wind Farm – Operation Monitoring.** Project Director. Coordination and management of bird and bat specialists, review of technical reports.

Feasibility Studies and Due Diligence Reviews

- **Ecological due diligence for IFC PS6 – Wind Energy Developments:** Project Manager. Review and reporting on bird and bat specialist reports to IFC/World Bank Standards – Various sites across South Africa.
- **Power Plant – Ghana**. Project Manager Compilation of environmental due diligence for refinancing, IFC and World Bank Standards, on behalf of Botswana Development Corporation.
- **Ecological Feasibility Study.** Project Director. Review of the feasibility of a site for a wind energy facility in relation to bats.

- **Environmental Feasibility Study.** Project Director and EAP. Review of a proposed site for the development of industrial facility.

Previous Project Experience

Environmental Scoping and Impact Assessments and Project Management for:

- eThekwini Municipality
- Moreland Developments
- RBCH – Bulk Materials and Handling Facility
- SAPREF
- Mittal Steel Permit Amendment
- Transnet Projects
- ArcelorMittal South Africa
- MCA-Lesotho
- Talbot Group Holdings (Australian Mining Company)
- Ncondezi Energy – Mozambique

Environmental Management Plans and Compliance Monitoring

- Nongoma Road Monitoring – Compliance Monitoring
- eThekwini Municipality - Taxi Holding Areas: Canberra Road and Umgeni Road Compilation of the EMP; and Bi-monthly compliance monitoring (site visits) and reporting.
- EMP for Kwezi V3 - Kwamashu Fuel Tank Exemption
- eThekwini Municipality - Ridgeview Road – Compliance Monitoring
- eThekwini Municipality and Merz and Mclellen - Phoenix Overhead Transmission Lines – Compliance Monitoring
- eThekwini Municipality and Merz and Mclellen - E8546 E8699 Compliance Monitoring
- eThekwini Municipality and Merz and Mclellen - Environmental Assessment and EMP
- EMP for eThekwini Municipality - Parlock Switching Station

Training and Auditing

- Petronet Alien Plant Training - Compilation of the training material for alien plant identification and removal methods.
- eThekwini Municipality - Taxi Holding Areas – Canberra and Umgeni Road - Contactor and workforce training.
- eThekwini Municipality - Kingsway Road Taxi Rank - Contactor and workforce training.

Environmental Reviews / Terms of Reference

- Biotherm Energy - Environmental Project Manager: Independent review of environmental impact assessment reports and management plans compiled for 3 wind farms in the Western Cape and 2 PV Solar Plants in the Northern Cape, to ensure compliance to IFC and World Bank Standards.
- Government of Zimbabwe – Hwange Power Station - Environmental Project Manager: Compilation of the Terms of Reference for Environmental Management Plan and Environmental and Social Audit of the Hwange Power Plant in Zimbabwe.

Pre-Feasibility Studies

- Pre-feasibility studies for eThekwini Municipalit, Investec, Sekoko Coal Resources, Mulilo, Sekoko Mining and MCA-Lesotho for renewable energy, coal mines and power plants.

CURRICULUM VITAE

Aneesah Alwie

Environmental Consultant

Email: AneesahA@arcusconsulting.co.za | Cell: +27 (0) 72 595 0104

Specialisms

- Project EAP Assistant
- Project Manager
- Project Participation Co-ordinator
- Due Diligence
- Project Administration
- Quality Control

Summary of Experience

Aneesah Alwie is an Environmental Consultant at Arcus. Having obtained her Bachelor of Science Degree (Environment and Water Science) from the University of the Western Cape; she has over 10 years public relations experience in conjunction with 6 years' experience as support to a technical team and 2 years' experience as a professional. She has also attended certified training courses in Environmental Law and Compliance. Aneesah assists in report writing and public participation processes and manages the EIA processes for projects across South Africa. She has a proven track record in producing work of quality standards, within timeframes and budgets. Her excellent organisational and project management skills development enables smooth flow of the assigned project duties and client relations. Starting off as administrator at Arcus she still provides on-going administrative and technical support to colleagues to ensure that their projects are completed in time and within budget.

Professional History

2019 – Present	-	Environmental Consultant, Arcus SA (Pty) Ltd
2017 – 2019	-	Project Administrative Assistant, Arcus SA (Pty) Ltd
2014 – 2017	-	Environmental Technical Assistant, Department of Environmental Management, City of Cape Town
2012 – 2013	-	Graduate Intern, Department of Economic Development, City of Cape Town

Qualifications and Professional Interests

- University of Western Cape, 2009 - 2012
  Bachelor of Science Degree: Environment and Water Science

Additional Training

- Business Success Solutions Certificate of Training: EIA Law Event
- Business Success Solutions Certificate of Training: Environmental Law and Compliance

Recent Conferences and Seminars

- Windaba 2018
- Windaba 2017

Additional Skills

- Computer Skills: Office / 365 including Microsoft Word, Excel, Outlook and PowerPoint.
- Afrikaans (2nd language)
- ArcGIS Pro
- Public Liaison
- Office Administration

Project Experience

<u>Environmental Impact Assessments</u>

- Part II Amendment of the Authorised Juno WEF, Western Cape Province. 2020 - current. Assistant EAP, project manager and public participation co-ordinator.
- Proposed Expansion of the Darling National Demonstration Wind Farm and Associated Infrastructure (Darling 1B Wind Energy Facility), Western Cape Province. 2021 – current. Assistant EAP, project manager and public participation co-ordinator.
- Proposed Development of the up to 400 kV De Aar 2 South Transmission Line and Switching Station, Northern Cape Province. 2021 – current. Assistant EAP, project manager and public participation co-ordinator.

- Proposed Electrical Grid Connection and Associated Infrastructure for the San Kraal Split 1, Hartebeesthoek East, Phezukomoya Split 1, and Hartebeesthoek West Wind Energy Facilities, Eastern and Northern Cape Provinces. 2019 – 2020. Assistant EAP, project manager and public participation co-ordinator.
- Part II Amendment of the Authorised San Kraal WEF, Eastern and Northern Cape Provinces. 2019 – 2020. Assistant EAP, project manager and public participation co-ordinator.
- Part II Amendment of the Authorised Phezukomoya WEF, Eastern and Northern Cape Provinces. 2019 – 2020. Assistant EAP, project manager and public participation co-ordinator.
- San Kraal WEF, Eastern and Northern Cape Provinces. 2017 - 2018. Provided administrative support during public participation process.
- Phezukomoya WEF, Eastern and Northern Cape Provinces. 2017 - 2018. Provided administrative support during public participation process.
- Umsinde Emoyeni WEF, Western and Northern Cape Provinces. 2017 - 2018. Provided administrative support during public participation process.
- Proposed Residential Development, Elands Bay, Western Cape Province. 2017 – 2019. Assisted in writing the Basic Assessment Report, project manager and public participation co-ordinator.
- Juno WEF, Western Cape Province. 2018 – 2019. Provided administrative support during public participation process.
- Highlands WEF, Eastern Cape Province. 2018 – 2020. Provided administrative support during public participation process.
- Paulputs WEF, Northern Cape Province. 2018 – 2020. Provided administrative support during public participation process.

<u>Environmental Control Officer</u>

- Proposed Residential Development, Elands Bay, Western Cape Province. August 2019 – 2020. Conduct environmental compliance monitoring of residential development.

<u>Environmental Due Diligence</u>

- Environmental Due Diligence at Aggeneys PV 1 and Aggeneys PV 2, Northern Cape Province. April 2021. Assistant project manager. Compilation of environmental due diligence reports for Total Solar.
- Environmental Due Diligence at Geelstert Solar Facility 1 and Geelstert Solar Facility 2, Northern Cape Province. April 2021. Assistant project manager. Compilation of environmental due diligence reports for Total Solar.

<u>Other</u>

- Consent Letters for the Amended San Kraal and Phezukomoya WEF developments. July 2021. Project manager. Compilation of consent letters for the WEF developments.

CURRICULUM VITAE

Ashleigh Blackwell

Senior Environmental Consultant & Project Manager

Email: AshleighB@arcusconsulting.co.za Cell: +27 (0) 79 895 1456

Specialisms

- Project Management;
- Environmental Permitting;
- Environmental Licencing;
- Project Participation;
- Client Engagement;
- Review; and
- Due Diligence / Auditing.

Summary of Experience

Ashleigh Blackwell is a Senior Environmental Consultant and Project Manager Arcus Consultancy Services South Africa (Pty) Ltd. She is a registered SACNASP Environmental Consultant with over 4.5 years working experience in the environmental sector, namely the Renewable Energy and Mining sectors. In addition, she has reporting experience for the International Finance Corporation (IFC) and Equator Principles (EP) Performance Standards and the World Bank Environmental Guidelines in Africa. Ashleigh has a proven track record in managing environmental projects to the required quality standards, timeframes and budgets. Her core responsibilities include client management and project implementation, reporting and execution. Ashleigh completed her BSc (Hons) in Conservation Ecology at the University of Stellenbosch and is currently completing her MSc at the University of Witwatersrand and her Project Management Professional (PMP) Certification through the Project Management Institute (PMI). Ashleigh has attended certified workshops and training courses in Environmental Law, Environmental Waste Act Enforcement, Soil Survey and Soil Classification, and Section 21 Water use Licencing.

Professional History

2020 – Present – Senior Environmental Consultant & Project Manager, Arcus SA (Pty) Ltd
2019 – 2020 – Senior Environmental Consultant & Project Manager, Kongiwe Environmental (Pty) Ltd.
2017 – 2019 – Environmental Consultant, Kongiwe Environmental (Pty) Ltd.
2016 – 2017 – Environmental Consultant, Savannah Environmental (Pty) Ltd.

Qualifications and Professional Interests

- Shaw Academy, 2020
  Professional Diploma in Leadership and Management
- Project Management Institute (PMI), 2020
  Project Management Professional (Ongoing)
- University of Witwatersrand, 2020 - 2021
  Master of Science: Environmental Science (Ongoing)
- Stellenbosch University, 2011 - 2015
  Bachelor of Science Honours Degree: Conservation Ecology

Recent Conferences and Seminars

- February 2020, South African Coal Mining Conference, SAIMM
- November 2018 – EIA Law Event, Business Success Solutions
- February 2018 – Waste Compliance and Enforcement Training, Imbewu Sustainability Solutions (Pty) Ltd
- June 2017 - SAPVIA Conference

Additional Skills

- GIS Mapping
- Soil and Agricultural Impact Assessment
- Office Suite Proficient
- Afrikaans (2nd language)

CURRICULUM VITAE

Project Experience

Environmental Impact Assessments

- Paulputs Wind Energy Facility, 2020. Part II Amendment Reproting. Project Management Services. Project Manager, Team Lead, Peer Reviewer.
- De Aar 2 South (Pty) Ltd, 2020. Basic Assessment Reporting for BESS and Substation. Project Management Services. Project Manager, Team Lead, Peer Reviewer.
- Raubex Phase 1 and 2 Beitsbridge Border Expansion Project, Zimbabwe, 2019 - 2020. Project Management Services. Project Manager, Team Lead, Peer Reviewer.
- Ergo Mining (Pty) Ltd: The Marievale Project, Gauteng Province. 2019 - 2020. EIA and WULA. Project Manager, Senior EAP, Peer Review.
- Crown Gold Recoveries (Pty) Ltd: Reclamation of the Soweto Cluster Dumps, Gauteng Province. 2019 - 2020. EIA and WULA. Project Manager, Senior EAP, Peer Review.
- Ergo Mining (Pty) Ltd: The Valley Silts Project, Gauteng Province. 2019 - 2020. EIA and WULA. Project Manager, Senior EAP, Peer Review.
- Umsimbithi Mining (Pty) Ltd: The eMakhazeni Integrated Water Use Licence, Mpumalanga Province. 2019 – 2020. Team Lead, Project Manager.
- Ergo Mining: Reclamation and Reprocessing of the City Deep Dumps, Gauteng Province, 2018 – 2019. EIA and WULA. Project Manager, Senior EAP, Peer Review.
- Ergo Mining: Reclamation and Reprocessing of the Rooikraal TSF, Gauteng Province, 2018 – 2019. EIA and WULA. Project Manager, Senior EAP, Peer Review.
- Umsimbithi Mining Pty) Ltd: The eMakhazeni Mining Project Mpumalanga Province. 2017 – 2018. Project Manager and EAP for the EIA process.
- Rand Water: Tanganani Bulk Infrastructure Project, Gauteng Province. 2017 – 2018. Project Manager and EAP for the BA process.
- Eskom Holdings SOC Limited: Olifantshoek Substation and Powerline, Northern Cape Province, 2017 – 2018. Project Manager and EAP for the BA process.
- Johannesburg Development Agency: Lehae Training Academy and Fire Station, Gauteng Province, 2017. Project Manager and EAP for the BA process
- REDISA: Cato Ridge Pre-Processing Waste Tyre Depot, KwaZulu-Natal Province, 2017. Project Manager and EAP for the BA process.
- REDISA: Vishoek Pre-Processing Waste Tyre Depot, Mpumalanga Province, 2017. Project Manager and EAP for the BA process.
- REDISA: Nelspruit Pre-Processing Waste Tyre Depot, Mpumalanga Province, 2017. Project Manager and EAP for the BA process.
- Building Energy: Skuitdrift Solar Energy Facility, Northern Cape Province, 2016 -2017. Project Manager and EAP for the BA process.
- Building Energy: Klawer Watercourse Crossing, Western Cape Province, 2016 -2017. Project Manager and EAP for the BA process.
- ACED: Gunsfontein WEF, Northern Cape Province. 2016. Assistant EAP, Assistant PPP.
- Juwi Renewable Energies: Hartebeeste WEF, Western Cape Province. 2016. Assistant EAP, Assistant PPP.

Environmental Auditor

- Glencore Coal South Africa: Environmental Auditing, Mpumalanga Province. 2019. Auditing of Environmental Authorisation, Environmental Management Programme, Water Use Licencing and Waste Management Licencing Auditing, Mpumalanga Complexes. Lead Auditor of 43 Licences.
- Glencore Coal South Africa: Environmental Auditing, Mpumalanga Province. 2018. Auditing of Environmental Authorisation, Environmental Management Programme, Water Use Licencing and Waste Management Licencing Auditing, Mpumalanga Complexes. Lead Auditor of 43 Licences.

- Glencore Coal South Africa: Environmental Auditing, Mpumalanga Province. 2017. Auditing of Environmental Authorisation, Environmental Management Programme, Water Use Licencing and Waste Management Licencing Auditing, Mpumalanga Complexes, 2017. Lead Auditor of 43 Licences.

Environmental Licencing

- Section 24G Ramification Application for Hossam Soror, Gauteng Provinces. 2017. Compilation of the Section 24G Application, Client Liaison and Authority Liaison
- Section 53 Application for the Suurplaat WEF, Northern cape and Western Cape Provinces. 2016. Compilation and Submission of the Section 53 Application, Client Liaison and Authority Liaison.
- Section 53 Application for the Tshivhaso Coal-Fired Power Station, Limpopo Provinces. 2016. Compilation and Submission of the Section 53 Application, Client Liaison and Authority Liaison
- Section 53 Application for the Thabametsi Coal water pipeline, Limpopo Provinces. 2017. Compilation and Submission of the Section 53 Application, Client Liaison and Authority Liaison
- Section 53 Application for the Suurplaat WEF, Northern cape and Western Cape Provinces. 2016. Compilation and Submission of the Section 53 Application, Client Liaison and Authority Liaison
- Various Part II Amendment Applications for Solar and Wind Energy Facilities. Compilation and Submission of the Part II Amendment Applications, Report Compilation, Client Liaison and Authority Liaison
- Various Part I Amendment Applications for Solar and Wind Energy Facilities. Compilation and Submission of the Part I Amendment Applications, Report Compilation, Client Liaison and Authority Liaison

Soil and Agricultural Impact Reporting

- Anglo Operations South Africa (Pty) Ltd: Leslie 1 Coal Project, Mpumalanga Province. 2018. Soil and Agricultural Potential impact Assessment and reporting.
- H2 Clean Energy (Pty) Ltd: H2 Energy Power Station, Mpumalanga Province. 2017. Soil and Agricultural Potential impact Assessment and reporting.
- Genesis Orkney Solar (Pty) Ltd: Orkney Solar Farm, North West Province. 2016. Soil and Agricultural Potential impact Assessment and reporting.
- **Eskom Holdings SOC Ltd: Richard's Bay Gas to Power, KwaZulu**-Natal Province. 2016. Soil and Agricultural Potential impact Assessment and reporting.

APPENDIX 3: DEFF SCREENING TOOL REPORT

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

EIA Reference number: Not Yet Assigned - Reference 14/12/16/3/3/2/1120

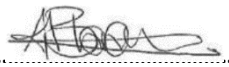
Project name: Basic Assessment for the Proposed Paulputs South WEF Grid Connection

Project title: Paulputs South WEF Grid Connection

Date screening report generated: 23/07/2021 06:40:35

Applicant: Paulputs Wind Energy Facility South (RF) (Pty) Ltd

Compiler: Arcus Consultancy Services South Africa (Pty) Ltd

Compiler signature: 

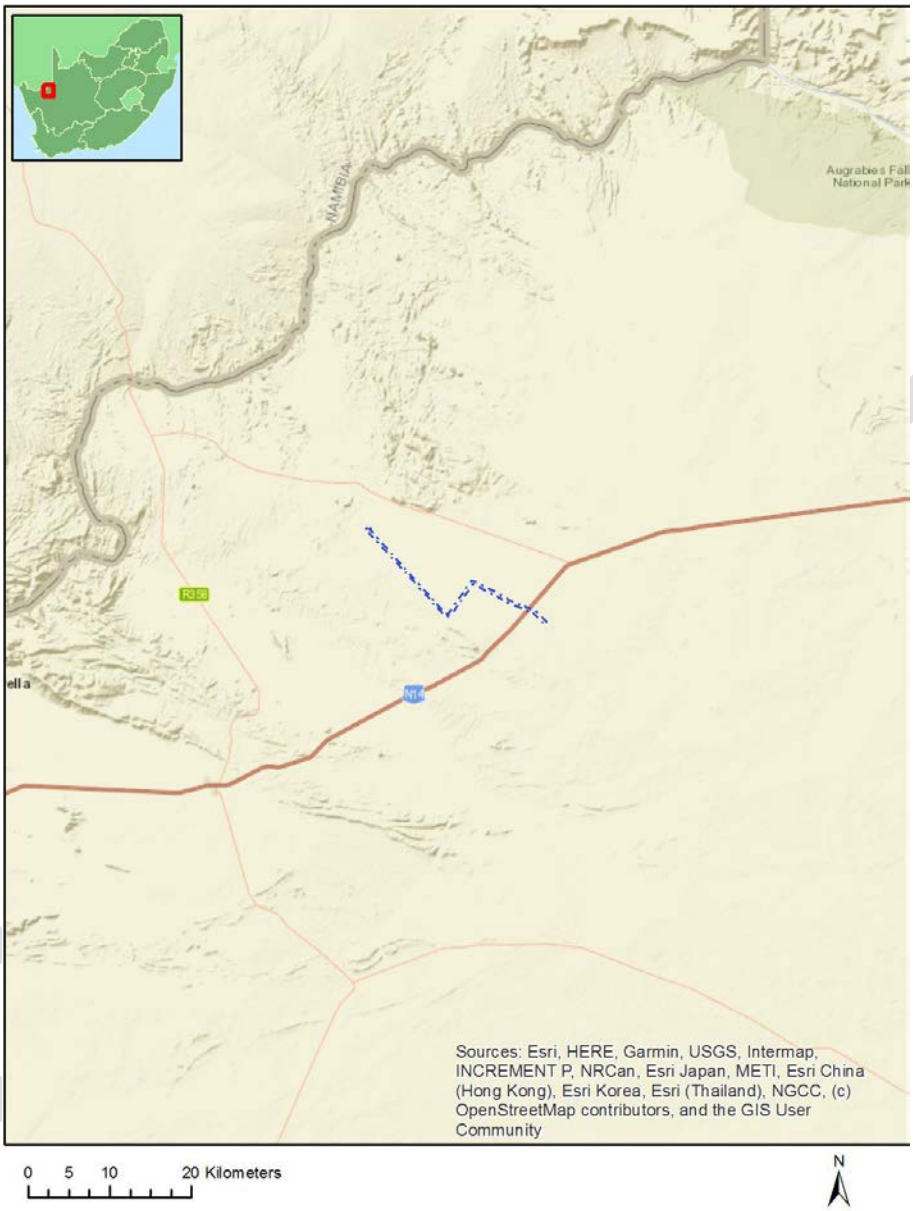
Application Category: Utilities Infrastructure|Electricity|Distribution and Transmission|Powerline

Table of Contents

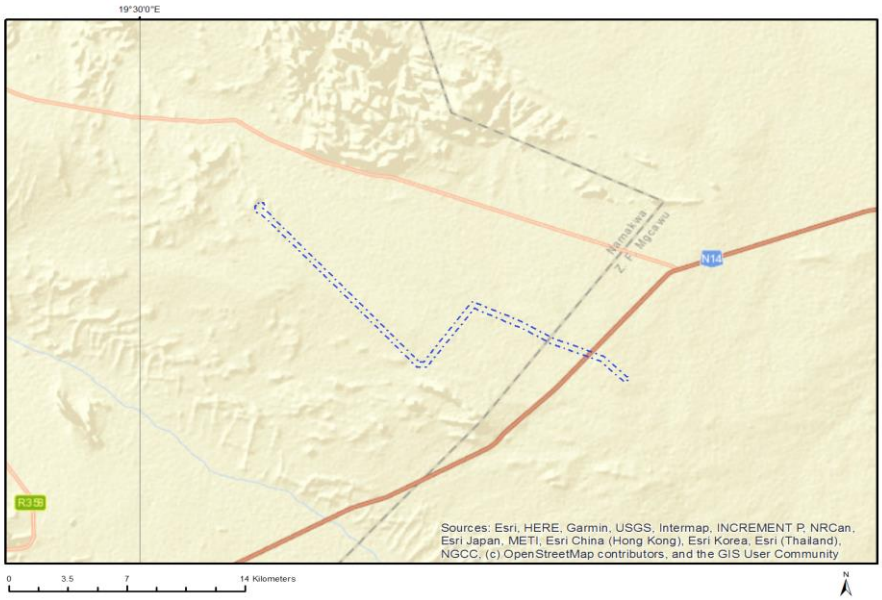
Proposed Project Location

Orientation map 1: General location

General Orientation: Basic Assessment for the Proposed Paulputs South WEF Grid Connection



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	SCUIT-KLIP	92	0	28°53'56.27S	19°39'52.2E	Farm
2	GEMSBOK VLAKTE	140	0	29°1'23.56S	19°35'30.23E	Farm
3	KONKOONSIES	91	0	28°56'22.36S	19°32'21.35E	Farm
4	LUCAS VLEI	93	0	28°58'6.22S	19°48'50.5E	Farm
5	KONKOONSIES	91	1	28°58'5.17S	19°34'6.88E	Farm Portion
6	KONKOONSIES	91	6	28°53'30.26S	19°33'37.23E	Farm Portion
7	SCUIT-KLIP	92	4	28°52'11.6S	19°35'24.92E	Farm Portion
8	LUCAS VLEI	93	8	28°58'32.16S	19°43'12.82E	Farm Portion
9	SCUIT-KLIP	92	5	28°57'51.62S	19°40'34.8E	Farm Portion
10	LUCAS VLEI	93	2	28°58'44.44S	19°44'4.23E	Farm Portion
11	LUCAS VLEI	93	2	28°58'7.05S	19°42'46.68E	Farm Portion
12	SCUIT-KLIP	92	3	28°56'47.1S	19°41'50.09E	Farm Portion
13	SCUIT-KLIP	92	0	28°54'28.13S	19°39'23.54E	Farm Portion
14	LUCAS VLEI	93	1	28°57'37.76S	19°46'48.21E	Farm Portion
15	SCUIT-KLIP	92	1	28°52'8.22S	19°38'29.53E	Farm Portion
16	GEMSBOK VLAKTE	140	1	28°58'23.99S	19°36'54.89E	Farm Portion

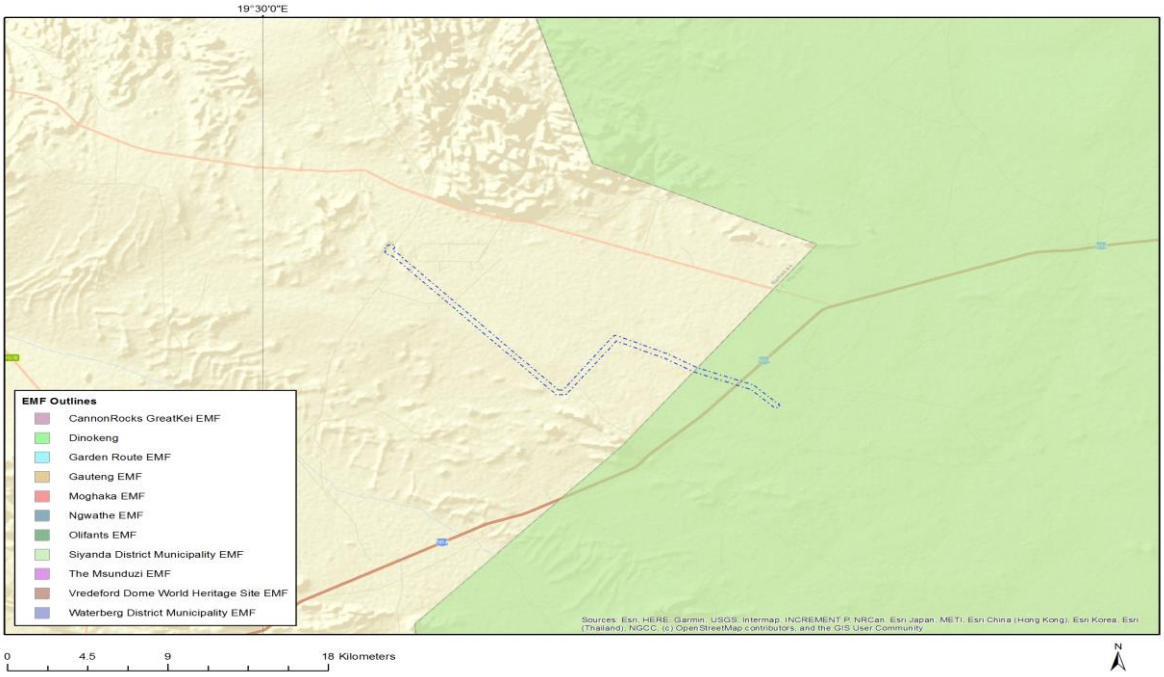
Development footprint[1] vertices:
No development footprint(s) specified.

[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.

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	12/12/20/1832/3A	Solar CSP	Approved	0
2	12/12/20/1832	Solar CSP	Approved	0
3	12/12/20/1832/1A	Solar CSP	Approved	0
4	12/12/20/2098/1	Solar PV	Approved	0
5	12/12/20/2098	Solar PV	Approved	0
6	12/12/20/1832/2A	Solar CSP	Approved	0
7	12/12/20/2443	Solar PV	Approved	0

Environmental Management Frameworks relevant to the application



Environmental Management Framework	LINK
Siyanda District Municipality EMF	https://screening.environment.gov.za/ScreeningDownloads/EMF/SIYANDA_EMF_REPORT_2008.doc

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|Distribution and Transmission|Powerline**.

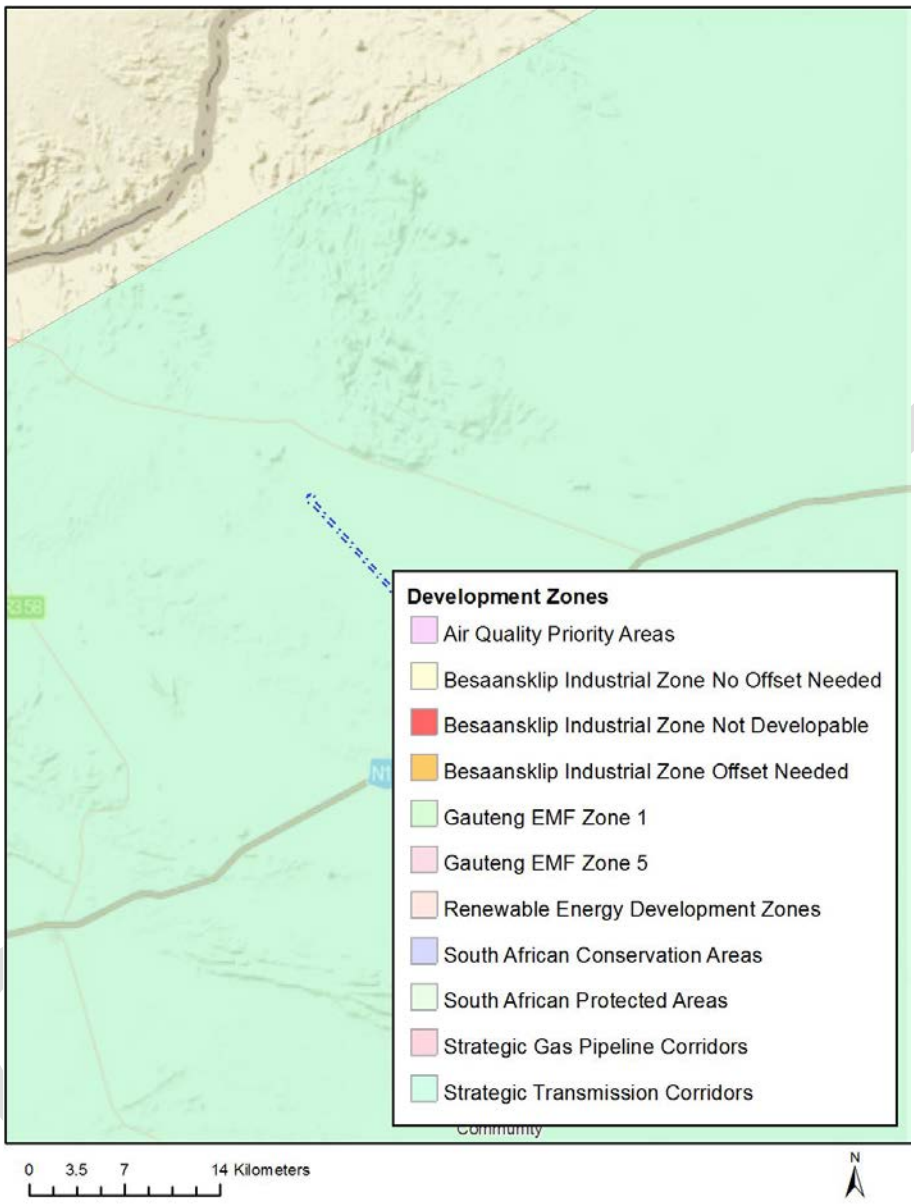
Relevant development incentives, restrictions, exclusions or prohibitions

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

Incentive, restriction or prohibition	Implication
Strategic Transmission Corridor-Northern corridor	https://screening.environment.gov.za/ScreeningDownloads/DevelopmentZones/GN_113_16_February_2018.pdf

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

Project Location: Basic Assessment for the Proposed Paulputs South WEF Grid Connection



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		
Civil Aviation Theme				X
Defence Theme				X
Paleontology Theme			X	
Plant Species 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.

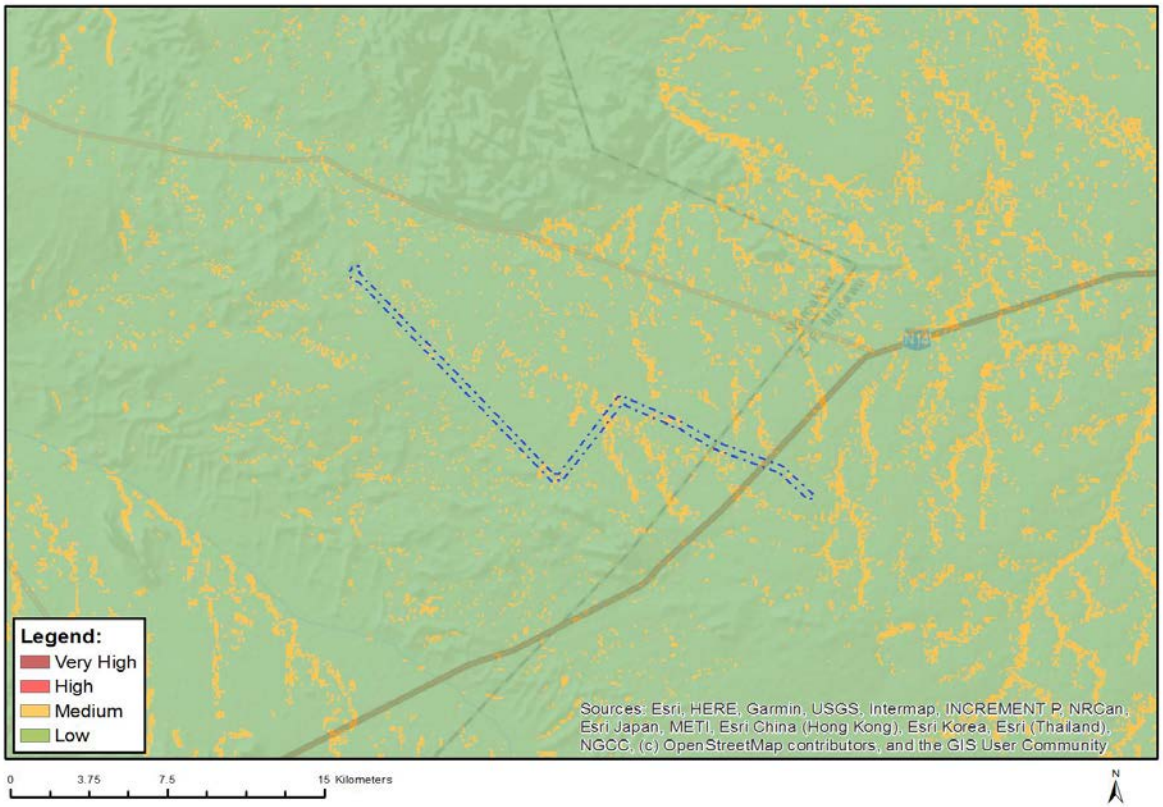
No	Specialist assessment	Assessment Protocol
1	Agricultural Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Agriculture_Assessment_Protocols.pdf
2	Landscape/Visual Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.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 Assessm	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Aquatic_Biodiversity_Assessment_Protocols.pdf

	ent	
7	Avian Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Avifauna_Assessment_Protocols.pdf
8	Civil Aviation Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Civil_Aviation_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	Plant Species Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Plant_Species_Assessment_Protocols.pdf
12	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

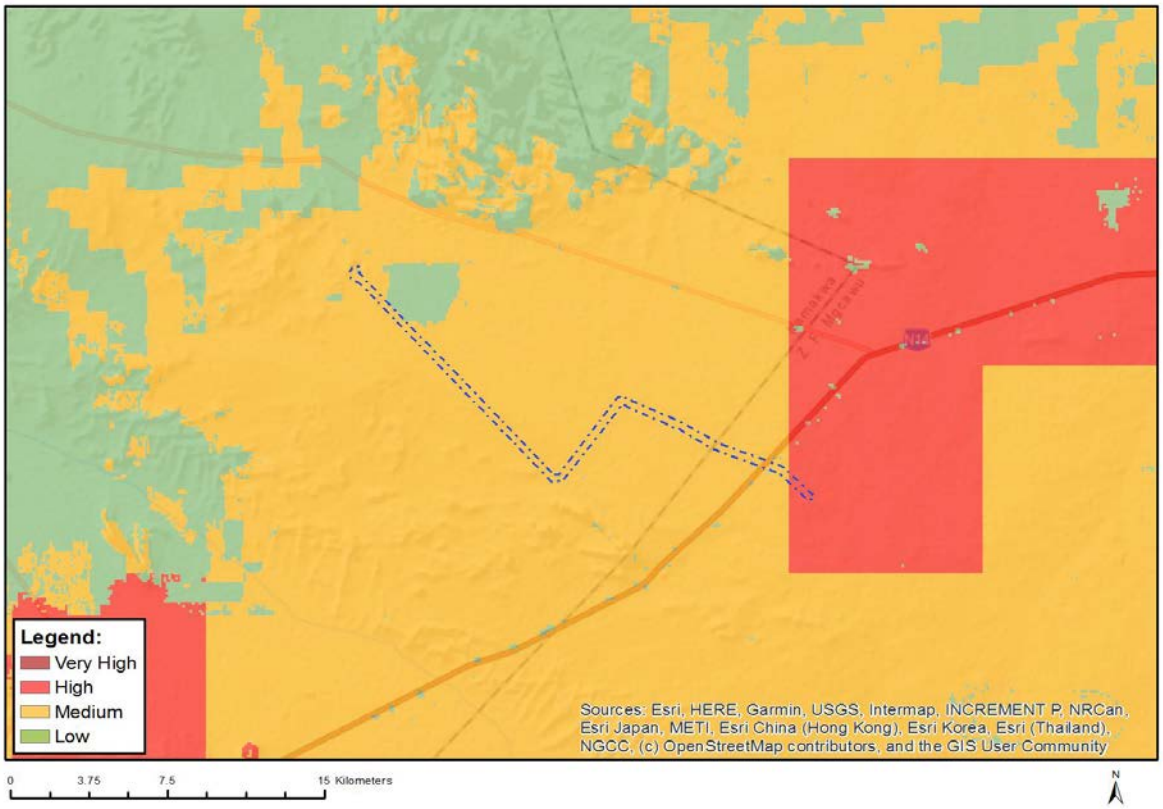


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
		X	

Sensitivity Features:

Sensitivity	Feature(s)
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



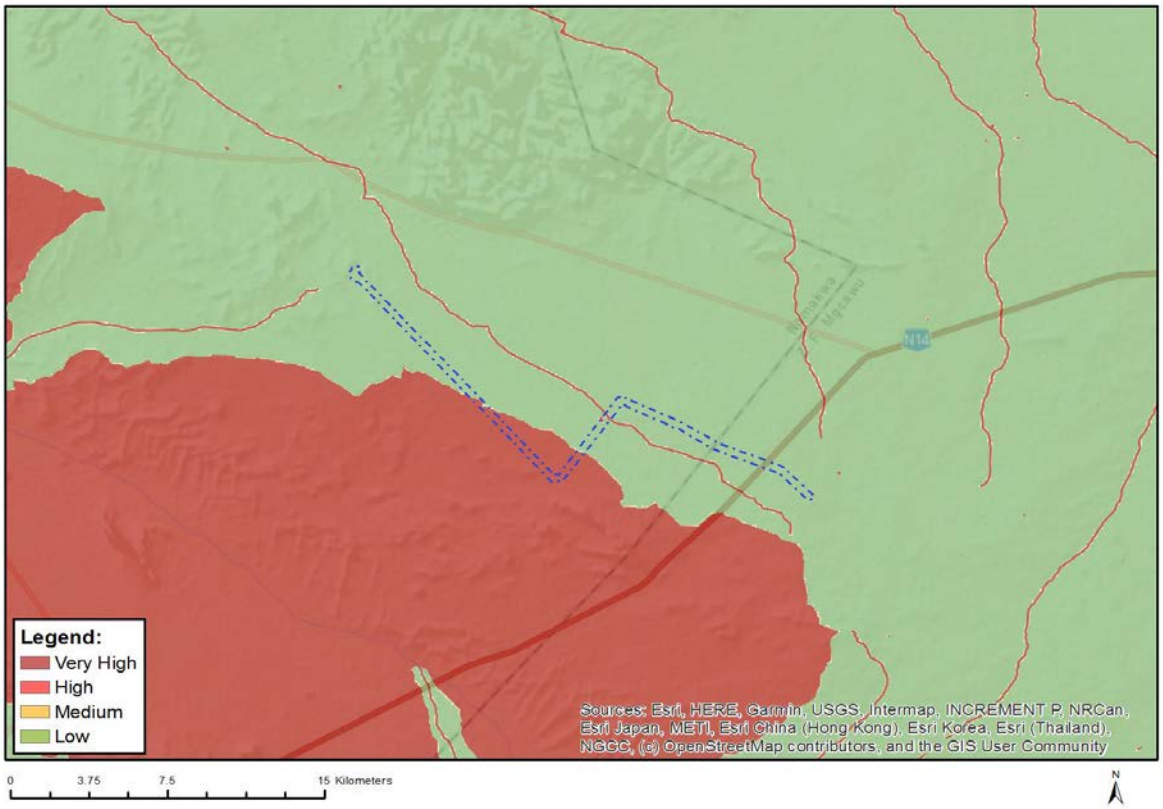
Where only a sensitive plant unique number or sensitive animal unique number is provided in the screening report and an assessment is required, the environmental assessment practitioner (EAP) or specialist is required to email SANBI at eiadatarequests@sanbi.org.za listing all sensitive species with their unique identifiers for which information is required. The name has been withheld as the species may be prone to illegal harvesting and must be protected. SANBI will release the actual species name after the details of the EAP or specialist have been documented.

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
	X		

Sensitivity Features:

Sensitivity	Feature(s)
High	Aves-Neotis ludwigii
Low	Low sensitivity
Medium	Aves-Neotis ludwigii

MAP OF RELATIVE AQUATIC BIODIVERSITY THEME SENSITIVITY

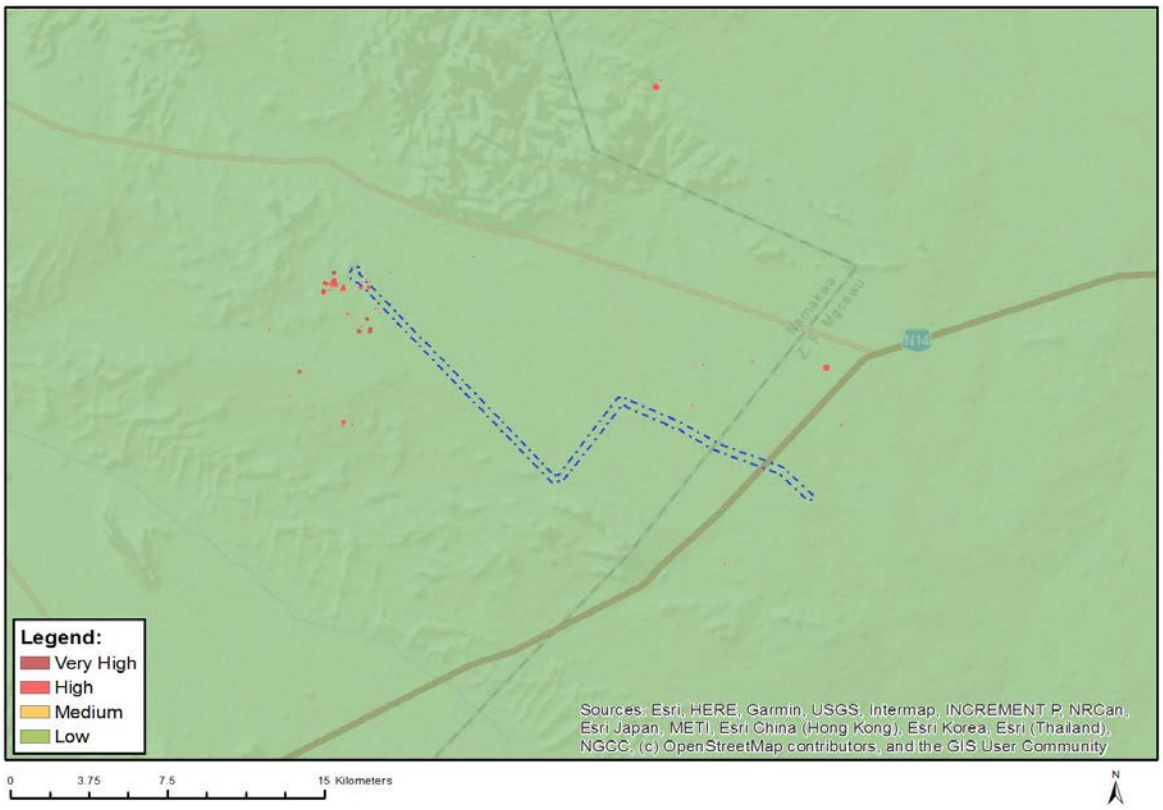


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity
Very High	Rivers
Very High	Wetlands and Estuaries
Very High	Freshwater ecosystem priority area quinary catchments

MAP OF RELATIVE ARCHAEOLOGICAL AND CULTURAL HERITAGE THEME SENSITIVITY

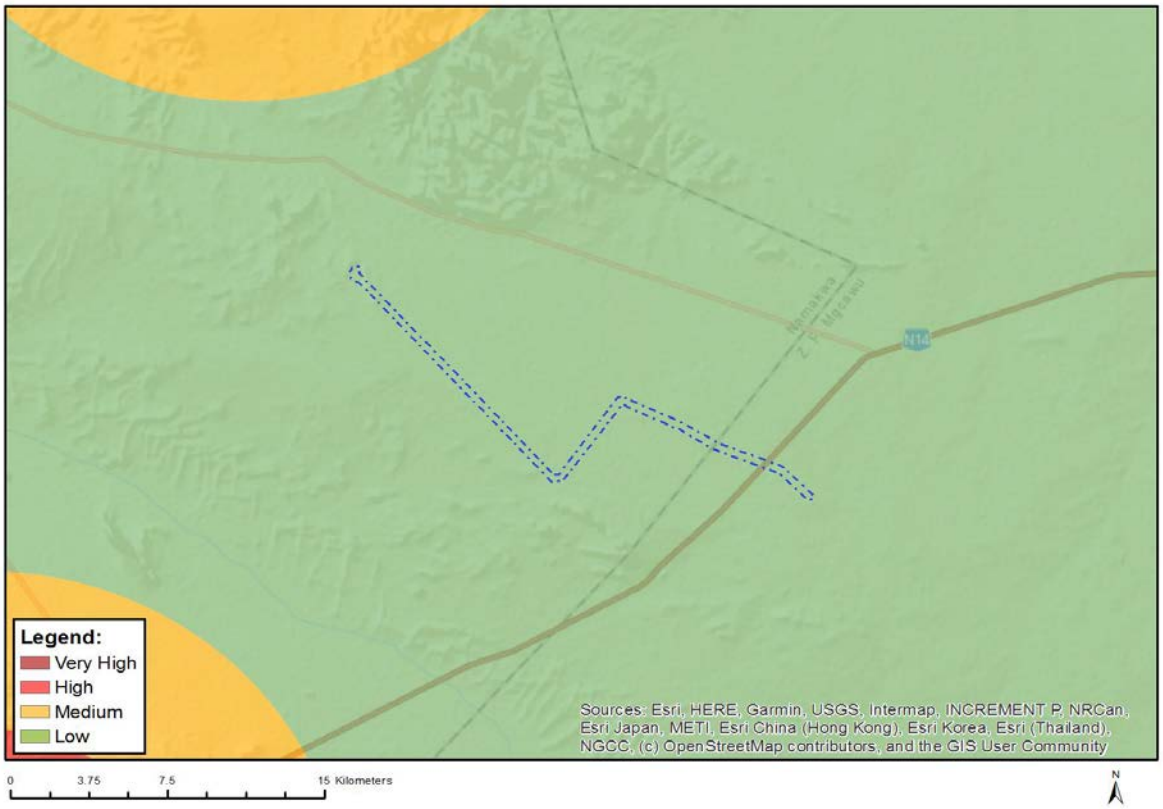


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
	X		

Sensitivity Features:

Sensitivity	Feature(s)
High	Within 100m of a Grade IIIb Heritage site
High	Within 50m of a Grade IIIc Heritage site
Low	Low sensitivity

MAP OF RELATIVE CIVIL AVIATION THEME SENSITIVITY

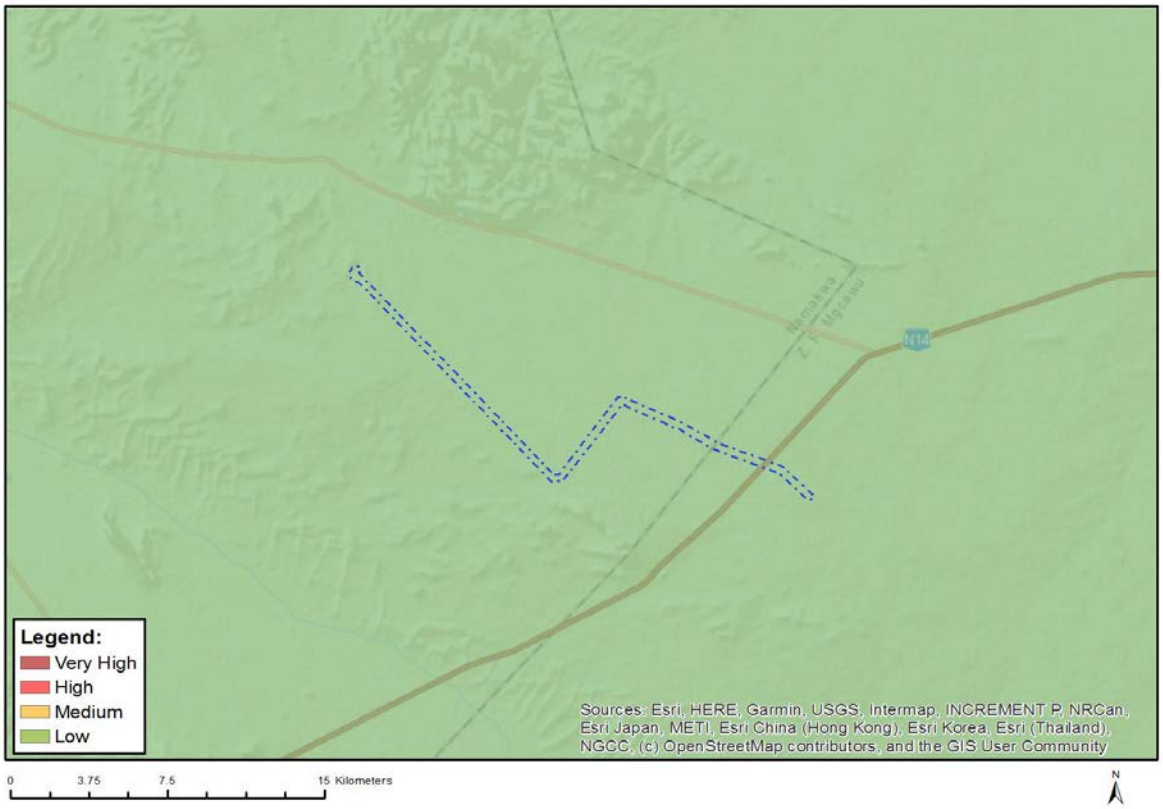


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity

MAP OF RELATIVE DEFENCE THEME SENSITIVITY

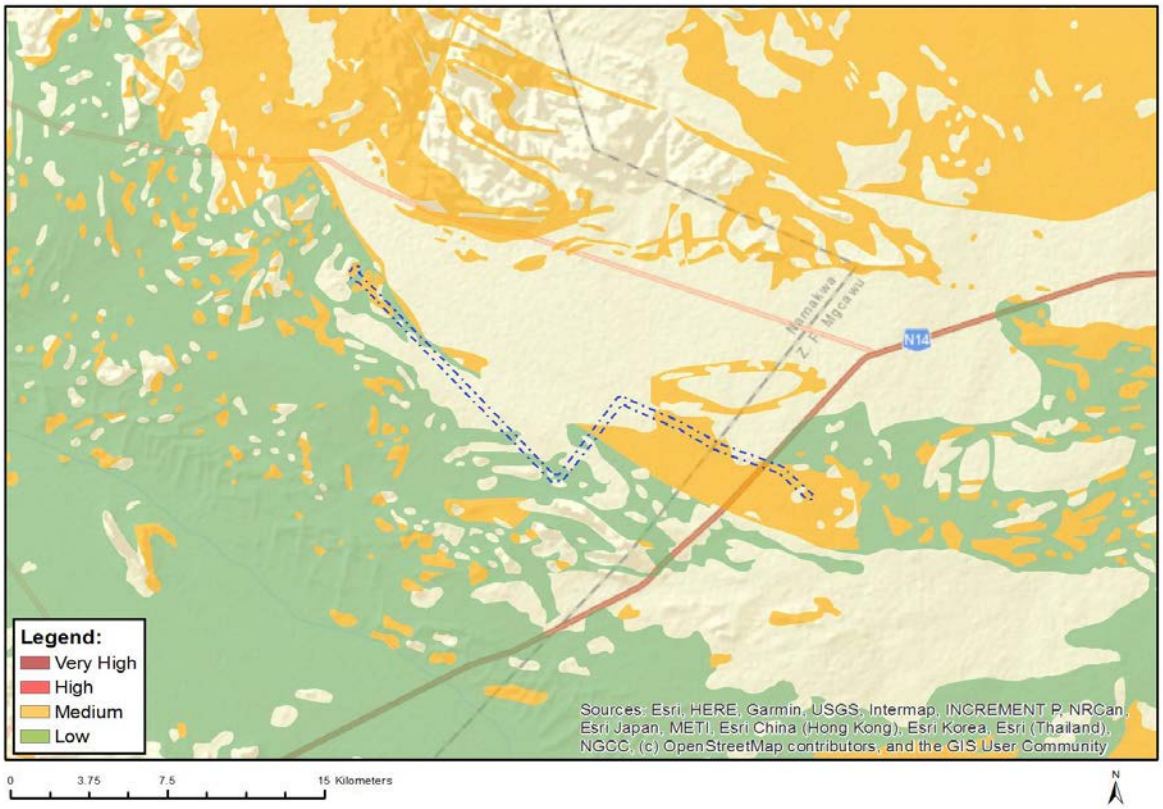


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity

MAP OF RELATIVE PALEONTOLOGY THEME SENSITIVITY

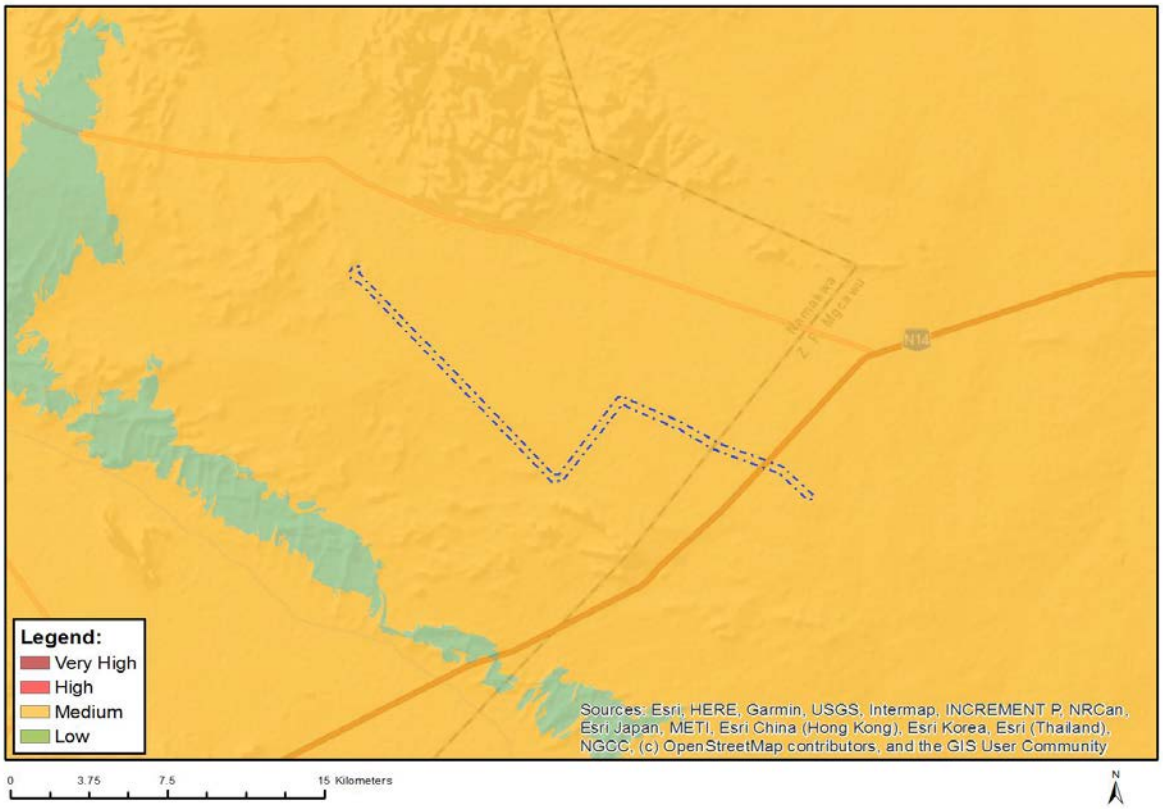


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
		X	

Sensitivity Features:

Sensitivity	Feature(s)
Low	Features with a Low paleontological sensitivity
Medium	Features with a Medium paleontological sensitivity

MAP OF RELATIVE PLANT SPECIES THEME SENSITIVITY



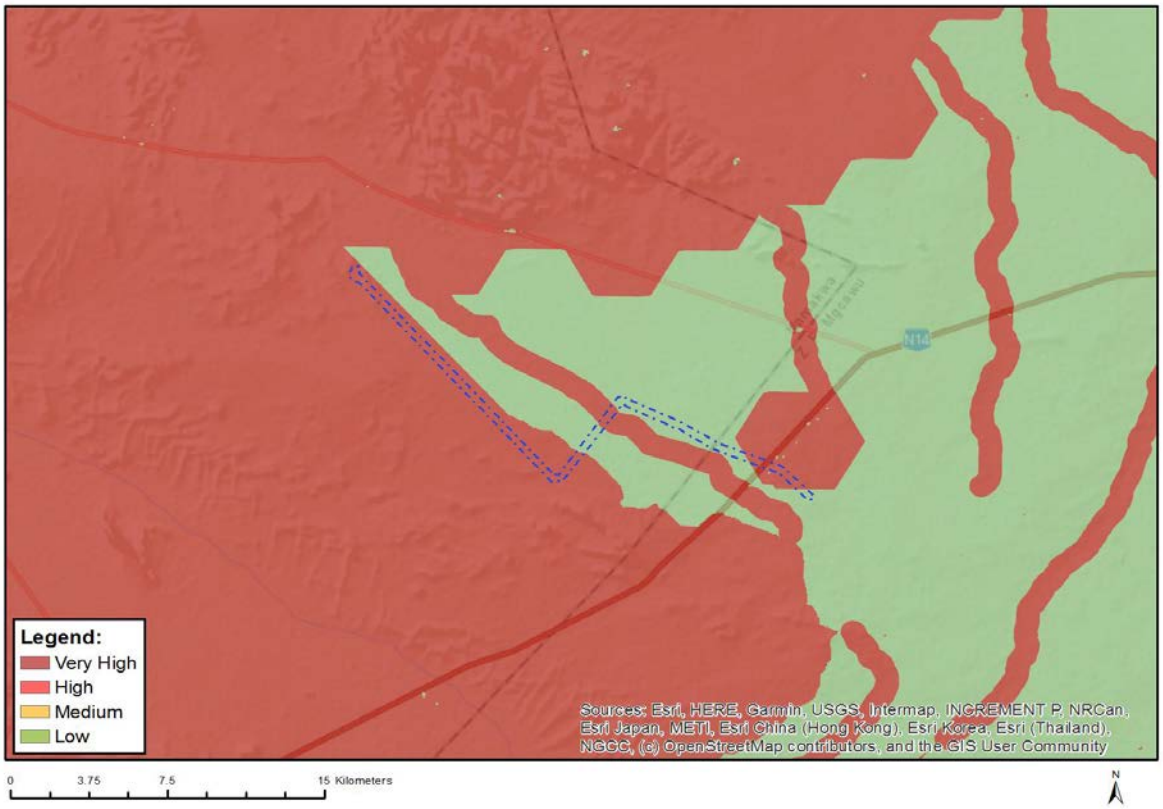
Where only a sensitive plant unique number or sensitive animal unique number is provided in the screening report and an assessment is required, the environmental assessment practitioner (EAP) or specialist is required to email SANBI at eiadatarequests@sanbi.org.za listing all sensitive species with their unique identifiers for which information is required. The name has been withheld as the species may be prone to illegal harvesting and must be protected. SANBI will release the actual species name after the details of the EAP or specialist have been documented.

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
		X	

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity
Medium	Crotalaria pearsonii
Medium	Sensitive species 144

MAP OF RELATIVE TERRESTRIAL BIODIVERSITY THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity
Very High	Critical Biodiversity Area 1
Very High	Critical Biodiversity Area 2
Very High	Ecological Support Area
Very High	Freshwater ecosystem priority area quinary catchments