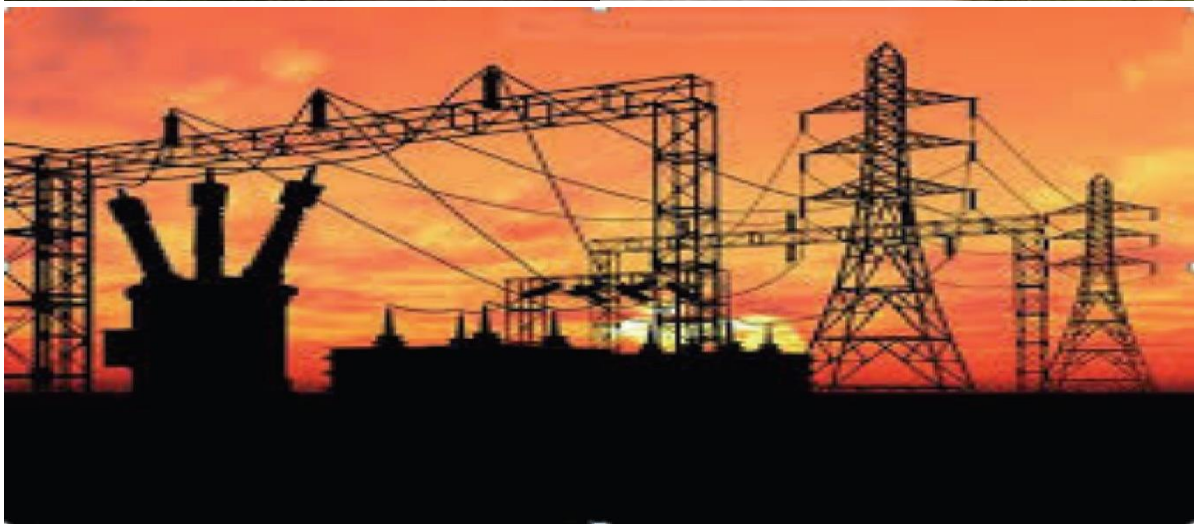


APPENDIX 1

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

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**environmental affairs**

Department:  
Environmental Affairs  
REPUBLIC OF SOUTH AFRICA

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## **INTRODUCTION**

### **1. Background**

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

### **2. Purpose**

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

### **3. Objective**

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

### **4. Scope**

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

## 5. Structure of this document

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

Part	Section	Heading	Content
A		Provides general guidance and information and is <b>not legally binding</b>	Definitions, acronyms, roles & responsibilities and documentation and reporting.
B	1	Pre-approved generic EMPr template	<p>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.</p> <p>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.</p> <p>Where an impact management outcome is not relevant, the words “not applicable” can be inserted in the template under the “responsible persons” column.</p> <p>Once completed and signed, the template represents the EMPr for the activity approved by the CA and is legally binding. The template <b>is not required</b> to be submitted to the CA as once the generic EMPr is gazetted for implementation, it has been approved by the CA.</p> <p>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.</p>
	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 template contained in <u>Part B: Section 1</u> , and understands that the impact management

Part	Section	Heading	Content
			<p>outcomes and impact management actions are <b>legally binding</b>. 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 <u>Part C</u>.</p> <p>This section <b>must be</b> 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 <u>Part B: section 2</u> not be submitted. Once approved, this Section forms part of the EMPr for the development and is legally binding.</p>
C		Site specific sensitivities/ attributes	<p>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 (<u>Part B: section 1</u>)</p> <p>This section will not be required should the site contain no specific environmental sensitivities or attributes. However, if <u>Part C</u> is applicable to the site, it <b>is required</b> 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.</p> <p>This section applies only <b>to additional</b> impact management outcomes and impact</p>

Part	Section	Heading	Content
			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 <u>Part B: section 1</u> .
Appendix 1			Contains the method statements to be prepared prior to commencement of the activity. The method statements are <b>not required</b> to be submitted to the competent authority.

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

<b>CA</b>	Competent Authority
<b>cEO</b>	Contractors Environmental Officer
<b>dEO</b>	Developer Environmental Officer
<b>DPM</b>	Developer Project Manager
<b>DSS</b>	Developer Site Supervisor
<b>EAR</b>	Environmental Audit Report
<b>ECA</b>	Environmental Conservation Act No. 73 of 1989
<b>ECO</b>	Environmental Control Officer
<b>EA</b>	Environmental Authorisation
<b>EIA</b>	Environmental Impact Assessment
<b>ERAP</b>	Emergency Response Action Plan
<b>EMPr</b>	Environmental Management Programme Report
<b>EAP</b>	Environmental Assessment Practitioner
<b>FPA</b>	Fire Protection Agency
<b>HCS</b>	Hazardous chemical Substance
<b>NEMA</b>	National Environmental Management Act, 1998 (Act No. 107 of 1998)
<b>NEMBA</b>	National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)
<b>NEMWA</b>	National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)
<b>MSDS</b>	Material Safety Data Sheet
<b>RI&amp;AP's</b>	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)	<p><u>Role</u></p> <p>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.</p> <p><u>Responsibilities</u></p> <ul style="list-style-type: none"><li>- Be fully conversant with the conditions of the EA;</li><li>- Ensure that all stipulations within the EMPr are communicated and adhered to by the Developer and its Contractor(s);</li><li>- Issuing of site instructions to the Contractor for corrective actions required;</li><li>- 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</li><li>- Ensure that periodic environmental performance audits are undertaken on the project implementation.</li></ul>
Developer Site Supervisor (DSS)	<p><u>Role</u></p>

Responsible Person (s)	Role and Responsibilities
	<p>The DSS reports directly to the DPM, oversees site works, liaises with the contractor(s) and the ECO. The DSS is responsible for the day to day implementation of the EMPr and for ensuring the compliance of all contractors with the conditions and requirements stipulated in the EMPr.</p> <p><u>Responsibilities</u></p> <ul style="list-style-type: none"> <li>- Ensure that all contractors identify a contractor's Environmental Officer (cEO);</li> <li>- Must be fully conversant with the conditions of the EA. Oversees site works, liaison with Contractor, DPM and ECO;</li> <li>- Must ensure that all landowners have the relevant contact details of the site staff, ECO and cEO;</li> <li>- Issuing of site instructions to the Contractor for corrective actions required;</li> <li>- Will issue all non-compliances to contractors; and</li> <li>- Ratify the Monthly Environmental Report.</li> </ul>
Environmental Control Officer (ECO)	<p><u>Role</u></p> <p>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.</p> <p>The ECO provides feedback to the DSS and Project Manager, who in turn reports back to the Contractor and potential and Registered Interested &amp;Affected Parties' (RI&amp;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.</p>

Responsible Person (s)	Role and Responsibilities
	<p><u>Responsibilities</u></p> <p>The responsibilities of the ECO will include the following:</p> <ul style="list-style-type: none"> <li>- Be aware of the findings and conclusions of all EA related to the development;</li> <li>- Be familiar with the recommendations and mitigation measures of this EMPr;</li> <li>- Be conversant with relevant environmental legislation, policies and procedures, and ensure compliance with them;</li> <li>- 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;</li> <li>- Educate the construction team about the management measures contained in the EMPr and environmental licenses;</li> <li>- Compilation and administration of an environmental monitoring plan to ensure that the environmental management measures are implemented and are effective;</li> <li>- Monitoring the performance of the Contractors and ensuring compliance with the EMPr and associated Method Statements;</li> <li>- 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;</li> <li>- Liaison between the DPM, Contractors, authorities and other lead stakeholders on all environmental concerns;</li> <li>- Compile a regular environmental audit report highlighting any non-compliance issues as well as satisfactory or exceptional compliance with the EMPr;</li> <li>- Validating the regular site inspection reports, which are to be prepared by the contractor Environmental Officer (cEO);</li> <li>- Checking the cEO's record of environmental incidents (spills, impacts, legal transgressions etc) as well as corrective and preventive actions taken;</li> <li>- Checking the cEO's public complaints register in which all complaints are recorded, as well as action taken;</li> <li>- Assisting in the resolution of conflicts;</li> <li>- Facilitate training for all personnel on the site – this may range from carrying out the training, to reviewing the training programmes of the Contractor;</li> <li>- 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;</li> <li>- Maintenance, update and review of the EMPr;</li> <li>- Communication of all modifications to the EMPr to the relevant stakeholders.</li> </ul>

Responsible Person (s)	Role and Responsibilities
developer Environmental Officer (dEO)	<p><u>Role</u></p> <p>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.</p> <p><u>Responsibilities</u></p> <ul style="list-style-type: none"> <li>- Be fully conversant with the EMPr;</li> <li>- Be familiar with the recommendations and mitigation measures of this EMPr, and implement these measures;</li> <li>- Ensure that all stipulations within the EMPr are communicated and adhered to by the Employees, Contractor(s) ;</li> <li>- Confine the development site to the demarcated area;</li> <li>- Conduct environmental internal audits with regards to EMPr and authorisation compliance (on cEO);</li> <li>- Assist the contractors in addressing environmental challenges on site;</li> <li>- Assist in incident management;</li> <li>- Reporting environmental incidents to developer and ensuring that corrective action is taken, and lessons learnt shared;</li> <li>- Assist the contractor in investigating environmental incidents and compile investigation reports;</li> <li>- Follow-up on pre-warnings, defects, non-conformance reports;</li> <li>- Measure and communicate environmental performance to the Contractor;</li> <li>- Conduct environmental awareness training on site together with ECO and cEO;</li> <li>- Ensure that the necessary legal permits and / or licenses are in place and up to date;</li> <li>- Acting as Developer's Environmental Representative on site and work together with the ECO and contractor;</li> </ul>
Contractor	<p><u>Role</u></p> <p>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</p>

Responsible Person (s)	Role and Responsibilities
	<p>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.</p> <p><u>Responsibilities</u></p> <ul style="list-style-type: none"> <li>- project delivery and quality control for the development services as per appointment;</li> <li>- 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;</li> <li>- 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;</li> <li>- attend on site meeting(s) prior to the commencement of activities to confirm the procedure and designated activity zones;</li> <li>- 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.</li> </ul>
contractor Environmental Officer (cEO)	<p><u>Role</u></p> <p>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:</p> <p><u>Responsibilities</u></p> <ul style="list-style-type: none"> <li>➤ Be on site throughout the duration of the project and be dedicated to the project;</li> <li>➤ Ensure all their staff are aware of the environmental requirements, conditions and constraints with respect to all of their activities on site;</li> <li>➤ Implementing the environmental conditions, guidelines and requirements as stipulated within the EA, EMPr and Method Statements;</li> <li>➤ Attend the Environmental Site Meeting;</li> </ul>

Responsible Person (s)	Role and Responsibilities
	<ul style="list-style-type: none"> <li>➤ Undertaking corrective actions where non-compliances are registered within the stipulated timeframes;</li> <li>➤ Report back formally on the completion of corrective actions;</li> <li>➤ Assist the ECO in maintaining all the site documentation;</li> <li>➤ Prepare the site inspection reports and corrective action reports for submission to the ECO;</li> <li>➤ Assist the ECO with the preparing of the monthly report; and</li> <li>➤ Where more than one Contractor is undertaking work on site, each company appointed as a Contractor will appoint a cEO representing that company.</li> </ul>

## **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 contractor 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
<ul style="list-style-type: none"> <li>– All staff must receive environmental awareness training prior to commencement of the activities;</li> <li>– The Contractor must allow for sufficient sessions to train all personnel with no more than 20 personnel attending each course;</li> <li>– Refresher environmental awareness training is available as and when required;</li> <li>– 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;</li> <li>– The Contractor must erect and maintain information posters at key locations on site, and the posters must include the following information as a minimum:               <ul style="list-style-type: none"> <li>a) Safety notifications; and</li> <li>b) No littering.</li> </ul> </li> <li>– Environmental awareness training must include as a minimum the following:               <ul style="list-style-type: none"> <li>a) Description of significant environmental impacts, actual or potential, related to their work activities;</li> <li>b) Mitigation measures to be implemented when carrying out specific activities;</li> <li>c) Emergency preparedness and response procedures;</li> <li>d) Emergency procedures;</li> <li>e) Procedures to be followed when working near or within sensitive areas;</li> <li>f) Wastewater management procedures;</li> </ul> </li> </ul>	➤ <b>cEO</b>	➤ <b>Environmental Induction</b> ➤ <b>Toolbox talks</b>	➤ <b>Before commencement of construction and when a new employee/sub-contractor starts work</b> ➤ <b>Toolbox Talks should be undertaken on weekly basis</b>	➤ <b>dEO</b> ➤ <b>ECO</b>	➤ <b>Monthly</b>	➤ <b>Presentations</b> ➤ <b>Signed Registers</b> ➤ <b>Site questionnaires</b>

g) Water usage and conservation; h) Solid waste management procedures; i) Sanitation procedures; j) Fire prevention; and k) Disease prevention.						
<ul style="list-style-type: none"> <li>– A record of all environmental awareness training courses undertaken as part of the EMP must be available;</li> <li>– Educate workers on the dangers of open and/or unattended fires;</li> <li>– A staff attendance register of all staff to have received environmental awareness training must be available.</li> <li>– Course material must be available and presented in appropriate languages that all staff can understand.</li> </ul>						

## 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
<ul style="list-style-type: none"> <li>– 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</li> </ul>	<ul style="list-style-type: none"> <li>➤ DSS</li> <li>➤ Contractor</li> <li>➤ CEO</li> </ul>	<ul style="list-style-type: none"> <li>➤ Layout plan of the construction camp / laydown area</li> </ul>	<ul style="list-style-type: none"> <li>➤ Before site establishment</li> </ul>	<ul style="list-style-type: none"> <li>➤ dEO</li> <li>➤ ECO</li> </ul>	<ul style="list-style-type: none"> <li>➤ Once-off</li> </ul>	<ul style="list-style-type: none"> <li>➤ Approved construction camp and area layout plan</li> </ul>

placement of staff accommodation, cooking and ablution facilities, waste and wastewater management; <ul style="list-style-type: none"> <li>– 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;</li> <li>– Sites must be located where possible on previously disturbed areas;</li> <li>– The camp must be fenced in accordance with <b>Section 5.5: Fencing and gate installation</b>; and</li> <li>– The use of existing accommodation for contractor staff, where possible, is encouraged.</li> </ul>						
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### 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
<ul style="list-style-type: none"> <li>– Identification of access restricted areas is to be informed by the environmental assessment, site walk through and any additional areas identified during development;</li> <li>– 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</li> <li>– Unauthorised access and development related activity inside access restricted areas is prohibited.</li> </ul>	<ul style="list-style-type: none"> <li>➤ DSS</li> <li>➤ Contractor</li> <li>➤ CEO</li> </ul>	<ul style="list-style-type: none"> <li>➤ No-Go Areas</li> <li>➤ signage / barriers</li> </ul>	<ul style="list-style-type: none"> <li>➤ Before site establishment</li> </ul>	<ul style="list-style-type: none"> <li>➤ dEO</li> <li>➤ ECO</li> </ul>	<ul style="list-style-type: none"> <li>➤ Before construction</li> <li>➤ Weekly basis</li> </ul>	<ul style="list-style-type: none"> <li>➤ Signage / barriers maintained in position throughout the project</li> <li>➤ No evidence of activities within the No-Go Areas</li> </ul>

### 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
<ul style="list-style-type: none"> <li>– Access to the servitude and tower positions must be negotiated with the relevant landowner and must fall within the assessed and authorised area;</li> <li>– An access agreement must be formalised and signed by the DPM, Contractor and landowner before commencing with the activities;</li> <li>– The access roads to tower positions must be signposted after access has been negotiated and before the commencement of the activities;</li> <li>– 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</li> <li>– All contractors must be made aware of all these access routes.</li> <li>– Any access route deviation from that in the written agreement must be closed and re-vegetated immediately, at the contractor's expense;</li> <li>– Maximum use of both existing servitudes and existing roads must be made to minimize further disturbance through the development of new roads;</li> <li>– In circumstances where private roads must be used, the condition of the said roads must be recorded in accordance with <b>section 4.9: photographic record</b>; prior to use and the condition thereof agreed by the landowner, the DPM, and the contractor;</li> <li>– Access roads in flattish areas must follow fence lines and tree belts to avoid fragmentation of vegetated areas or croplands</li> <li>– Access roads must only be developed on pre-planned and approved roads.</li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>DPM</b></li> <li>➤ <b>Contractor</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Written access road agreement</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Before site establishment</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>dEO</b></li> <li>➤ <b>ECO</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Monthly</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Verifying access roads used for the project</b></li> </ul>

## 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
<ul style="list-style-type: none"> <li>– Use existing gates provided to gain access to all parts of the area authorised for development, where possible;</li> <li>– Existing and new gates to be recorded and documented in accordance with <b>section 4.9: photographic record</b>;</li> <li>– All gates must be fitted with locks and be kept locked at all times during the development phase, unless otherwise agreed with the landowner;</li> <li>– 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;</li> <li>– 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;</li> <li>– Where gates are installed in jackal proof fencing, a suitable reinforced concrete sill must be provided beneath the gate;</li> <li>– Original tension must be maintained in the fence wires;</li> <li>– All gates installed in electrified fencing must be re-electrified;</li> <li>– All demarcation fencing and barriers must be maintained in good working order for the duration of overhead transmission and distribution electricity infrastructure development activities;</li> <li>– Fencing must be erected around the camp, batching plants, hazardous storage areas, and all designated access restricted</li> </ul>	<ul style="list-style-type: none"> <li>➤ DPM</li> <li>➤ Contractor</li> </ul>	<ul style="list-style-type: none"> <li>➤ Access control measures</li> </ul>	<ul style="list-style-type: none"> <li>➤ Before site establishment</li> <li>➤ Throughout project cycle</li> </ul>	<ul style="list-style-type: none"> <li>➤ dEO</li> <li>➤ ECO</li> </ul>	<ul style="list-style-type: none"> <li>➤ Monthly</li> </ul>	<ul style="list-style-type: none"> <li>➤ Evidence of access control measures implemented</li> </ul>

<p>areas, where appropriate and would not cause harm to the sensitive flora;</p> <ul style="list-style-type: none"> <li>– Any temporary fencing to restrict the movement of life-stock must only be erected with the permission of the land owner.</li> <li>– All fencing must be developed of high quality material bearing the SABS mark;</li> <li>– The use of razor wire as fencing must be avoided;</li> <li>– 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;</li> <li>– On completion of the development phase all temporary fences are to be removed;</li> <li>– The contractor must ensure that all fence uprights are appropriately removed, ensuring that no uprights are cut at ground level but rather removed completely.</li> </ul>						
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## 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
<ul style="list-style-type: none"> <li>– 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;</li> <li>– The Contractor must ensure the following: <ul style="list-style-type: none"> <li>a. The vehicle abstracting water from a river does not enter or cross it and does not operate from within the river;</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>➤ DSS Contractor</li> <li>➤ cEO</li> </ul>	<ul style="list-style-type: none"> <li>➤ Water Use Agreement</li> <li>➤ Evidence of register/slips if water is purchased</li> <li>➤ Monitoring of levels of water sources if water is</li> </ul>	<ul style="list-style-type: none"> <li>➤ Before site establishment</li> <li>➤ Throughout project cycle</li> </ul>	<ul style="list-style-type: none"> <li>➤ dEO</li> <li>➤ ECO</li> </ul>	<ul style="list-style-type: none"> <li>➤ Monthly</li> </ul>	<ul style="list-style-type: none"> <li>➤ Water Monitoring records</li> <li>➤ Water Use License</li> <li>➤ Water Use Agreement</li> </ul>

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.		<b>obtained from the natural environment</b>				
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## 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
<ul style="list-style-type: none"> <li>– 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;</li> <li>– 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;</li> <li>– 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;</li> </ul>	<ul style="list-style-type: none"> <li>➤ DSS</li> <li>➤ Contractor</li> <li>➤ cEO</li> </ul>	<ul style="list-style-type: none"> <li>➤ Availability of spill kit and waste storage facility</li> <li>➤ Bunded cement mixing area</li> <li>➤ Disposal of contaminated water at suitable facility</li> </ul>	➤ Throughout project cycle	<ul style="list-style-type: none"> <li>➤ dEO</li> <li>➤ ECO</li> </ul>	➤ Monthly	<ul style="list-style-type: none"> <li>➤ Waste disposal records</li> <li>➤ No evidence of soil and water contamination</li> <li>➤ Evidence of relevant Toolbox Talks topics</li> </ul>

<ul style="list-style-type: none"> <li>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.</li> </ul>						
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## 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
<ul style="list-style-type: none"> <li>All measures regarding waste management must be undertaken using an integrated waste management approach;</li> <li>Sufficient, covered waste collection bins (scavenger and weatherproof) must be provided;</li> <li>A suitably positioned and clearly demarcated waste collection site must be identified and provided;</li> <li>The waste collection site must be maintained in a clean and orderly manner;</li> <li>Waste must be segregated into separate bins and clearly marked for each waste type for recycling and safe disposal;</li> <li>Staff must be trained in waste segregation;</li> <li>Bins must be emptied regularly;</li> <li>General waste produced onsite must be disposed of at registered waste disposal sites/ recycling company;</li> </ul>	<ul style="list-style-type: none"> <li>DSS</li> <li>Contractor</li> <li>cEO</li> </ul>	<ul style="list-style-type: none"> <li>Availability of Spill kit and drip trays</li> <li>Bunded and secured hazardous storage facility</li> <li>Waste disposal bins</li> <li>Waste skips</li> <li>Appointment of a Registered waste service provider</li> <li>Daily to weekly housekeeping</li> </ul>	<ul style="list-style-type: none"> <li>Throughout project cycle</li> </ul>	<ul style="list-style-type: none"> <li>dEO</li> <li>ECO</li> </ul>	<ul style="list-style-type: none"> <li>Monthly</li> </ul>	<ul style="list-style-type: none"> <li>Waste disposal records</li> <li>No evidence of soil and water contamination</li> <li>Evidence of good housekeeping on site</li> <li>Evidence of relevant Toolbox Talks topics</li> </ul>

<ul style="list-style-type: none"> <li>– Hazardous waste must be disposed of at a registered waste disposal site;</li> <li>– Certificates of safe disposal for general, hazardous and recycled waste must be maintained.</li> </ul>						
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## 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
<ul style="list-style-type: none"> <li>– 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;</li> <li>– In the event of a spill, prompt action must be taken to clear the polluted or affected areas;</li> <li>– Where possible, no development equipment must traverse any seasonal or permanent wetland</li> <li>– No return flow into the estuaries must be allowed and no disturbance of the Estuarine Functional Zone should occur;</li> <li>– Development of permanent watercourse or estuary crossing must only be undertaken where no alternative access to tower position is available;</li> <li>– There must not be any impact on the long term morphological dynamics of watercourses or estuaries;</li> <li>– Existing crossing points must be favored over the creation of new crossings (including temporary access)</li> </ul>	<ul style="list-style-type: none"> <li>➤ DSS</li> <li>➤ Contractor</li> <li>➤ cEO</li> </ul>	<ul style="list-style-type: none"> <li>➤ Construction camp / laydown area located at least 100m from wetland/ watercourses</li> <li>➤ Watercourses to be off-limits for construction</li> <li>➤ Availability of spill kit and hazardous storage facility</li> <li>➤ Spills cleaned promptly to prevent water contamination</li> </ul>	<ul style="list-style-type: none"> <li>➤ Throughout project cycle</li> </ul>	<ul style="list-style-type: none"> <li>➤ dEO</li> <li>➤ ECO</li> </ul>	<ul style="list-style-type: none"> <li>➤ Monthly</li> </ul>	<ul style="list-style-type: none"> <li>➤ No evidence of water contamination from site activities</li> <li>➤ Evidence of relevant Toolbox Talks topics</li> </ul>

<ul style="list-style-type: none"> <li>When working in or near any watercourse or estuary, the following environmental controls and consideration must be taken: <ul style="list-style-type: none"> <li>a) Water levels during the period of construction; No altering of the bed, banks, course or characteristics of a watercourse</li> <li>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;</li> <li>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</li> <li>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.</li> </ul> </li> </ul>						
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### 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
<b>General:</b> <ul style="list-style-type: none"> <li>Indigenous vegetation which does not interfere with the development must be left undisturbed;</li> </ul>	<ul style="list-style-type: none"> <li>➤ DSS</li> <li>➤ Contractor</li> <li>➤ cEO</li> </ul>	<ul style="list-style-type: none"> <li>➤ SCC shall be clearly marked and the areas barricaded as a no-go zone</li> </ul>	<ul style="list-style-type: none"> <li>➤ Before site establishment</li> <li>➤ Throughout project cycle</li> </ul>	<ul style="list-style-type: none"> <li>➤ dEO</li> <li>➤ ECO</li> </ul>	<ul style="list-style-type: none"> <li>➤ Weekly</li> </ul>	<ul style="list-style-type: none"> <li>➤ Permits for protected trees</li> <li>➤ No evidence of introduction of alien plants</li> </ul>

<ul style="list-style-type: none"> <li>– Protected or endangered species may occur on or near the development site. Special care should be taken not to damage such species;</li> <li>– 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;</li> <li>– 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;</li> <li>– 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;</li> <li>– Trees felled due to construction must be documented and form part of the Environmental Audit Report;</li> <li>– Rivers and watercourses must be kept clear of felled trees, vegetation cuttings and debris;</li> <li>– 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;</li> <li>– A daily register must be kept of all relevant details of herbicide usage;</li> <li>– No herbicides must be used in estuaries;</li> <li>– All protected species and sensitive vegetation not removed must be clearly marked and such areas fenced off in accordance to <b>Section 5.3: Access restricted areas.</b></li> </ul> <p><b>Servitude:</b></p> <ul style="list-style-type: none"> <li>– 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;</li> </ul>		<ul style="list-style-type: none"> <li>➤ <b>Applicant must apply for a permit from DFFE to cut, disturb or remove number of protected tree species</b></li> <li>➤ <b>Indigenous vegetation which does not interfere with the development must be left undisturbed</b></li> </ul>				<ul style="list-style-type: none"> <li>➤ <b>Alien plants controlled</b></li> <li>➤ <b>Evidence of relevant Toolbox Talks topics</b></li> </ul>
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<ul style="list-style-type: none"> <li>– 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</li> <li>– 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;</li> <li>– 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;</li> <li>– 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;</li> <li>– 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.</li> </ul>						
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### 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

<ul style="list-style-type: none"> <li>- No interference with livestock must occur without the landowner's written consent and with the landowner or a person representing the landowner being present;</li> <li>- The breeding sites of raptors and other wild birds species must be taken into consideration during the planning of the development programme;</li> <li>- 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;</li> <li>- Nesting sites on existing parallel lines must be documented;</li> <li>- Special recommendations of the avian specialist must be adhered to at all times to prevent unnecessary disturbance of birds;</li> <li>- Bird guards and diverters must be installed on the new line as per the recommendations of the specialist;</li> <li>- 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;</li> <li>- No deliberate or intentional killing of fauna is allowed;</li> <li>- 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</li> <li>- 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.</li> </ul>	<ul style="list-style-type: none"> <li>➤ DSS</li> <li>➤ Contractor</li> <li>➤ cEO</li> </ul>	<ul style="list-style-type: none"> <li>➤ Areas of natural vegetation that provide habitat for animals not to be disturbed clearly demarcated and protected</li> <li>➤ Implementation of training to prohibit hunting</li> </ul>	<ul style="list-style-type: none"> <li>➤ Before site establishment</li> <li>➤ Throughout project cycle</li> </ul>	<ul style="list-style-type: none"> <li>➤ dEO</li> <li>➤ ECO</li> </ul>	<ul style="list-style-type: none"> <li>➤ Weekly</li> </ul>	<ul style="list-style-type: none"> <li>➤ No evidence of hunting or trapping animals on Site</li> <li>➤ Evidence of relevant Toolbox Talks topics</li> </ul>
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## 5.12 Protection of heritage resources

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

Impact Management Actions	Implementation	Monitoring
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	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> <li>Identify, demarcate and prevent impact to all known sensitive heritage features on site in accordance with the No-Go procedure in <b>Section 5.3: Access restricted areas</b>;</li> <li>Carry out general monitoring of excavations for potential fossils, artefacts and material of heritage importance;</li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>➤ DSS</li> <li>➤ Contractor</li> <li>➤ cEO</li> </ul>	<ul style="list-style-type: none"> <li>➤ Contractor must be trained to recognize any heritage features</li> <li>➤ Training of Chance find protocol</li> </ul>	<ul style="list-style-type: none"> <li>➤ Before site establishment</li> <li>➤ Throughout project cycle</li> </ul>	<ul style="list-style-type: none"> <li>➤ dEO</li> <li>➤ ECO</li> </ul>	<ul style="list-style-type: none"> <li>➤ Monthly</li> </ul>	<ul style="list-style-type: none"> <li>➤ Chance finds records</li> <li>➤ Evidence of relevant Toolbox Talks topics</li> </ul>

### 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
<ul style="list-style-type: none"> <li>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.;</li> <li>All unattended open excavations must be adequately fenced or demarcated;</li> </ul>	<ul style="list-style-type: none"> <li>➤ DSS</li> <li>➤ Contractor</li> <li>➤ cEO</li> </ul>	<ul style="list-style-type: none"> <li>➤ Identify and maintain access control</li> <li>➤ Project site fenced-off and secured</li> <li>➤ Site hazards are clearly demarcated</li> </ul>	<ul style="list-style-type: none"> <li>➤ Throughout project cycle</li> </ul>	<ul style="list-style-type: none"> <li>➤ dEO</li> <li>➤ ECO</li> </ul>	<ul style="list-style-type: none"> <li>➤ Monthly</li> </ul>	<ul style="list-style-type: none"> <li>➤ Verifying site access control measures</li> <li>➤ Site hazards signage installed and maintained</li> </ul>

<ul style="list-style-type: none"> <li>– Adequate protective measures must be implemented to prevent unauthorised access to and climbing of partly constructed towers and protective scaffolding;</li> <li>– Ensure structures vulnerable to high winds are secured;</li> <li>– Maintain an incidents and complaints register in which all incidents or complaints involving the public are logged.</li> </ul>		<ul style="list-style-type: none"> <li>➤ <b>Incidents and complaints register accessible at site entrance</b></li> </ul>				
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#### 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
<ul style="list-style-type: none"> <li>– Mobile chemical toilets are installed onsite if no other ablution facilities are available;</li> <li>– 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;</li> <li>– Where mobile chemical toilets are required, the following must be ensured: <ul style="list-style-type: none"> <li>a) Toilets are located no closer than 100 m to any watercourse or water body;</li> <li>b) Toilets are secured to the ground to prevent them from toppling due to wind or any other cause;</li> <li>c) No spillage occurs when the toilets are cleaned or emptied and the contents are managed in accordance with the EMPr;</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Contractor</b></li> <li>➤ <b>cEO</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Availability of ablution facilities on site</b></li> <li>➤ <b>Chemical toilets installed if necessary</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Throughout project cycle</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>dEO</b></li> <li>➤ <b>ECO</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Weekly</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Appointment of registered waste service provider</b></li> <li>➤ <b>Waste disposal registers</b></li> </ul>

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.						
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### 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
<ul style="list-style-type: none"> <li>– Undertake environmentally-friendly pest control in the camp area;</li> <li>– Ensure that the workforce is sensitised to the effects of sexually transmitted diseases, especially HIV AIDS;</li> <li>– The Contractor must ensure that information posters on AIDS are displayed in the Contractor Camp area;</li> <li>– Information and education relating to sexually transmitted diseases to be made available to both construction workers and local community, where applicable;</li> <li>– Free condoms must be made available to all staff on site at central points;</li> <li>– Medical support must be made available;</li> <li>– Provide access to Voluntary HIV Testing and Counselling Services.</li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Contractor</b></li> <li>➤ <b>cEO</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Availability of hand sanitizer on site</b></li> <li>➤ <b>Implementation of Environmentally friendly pest control methods</b></li> <li>➤ <b>Covid screening at site access point</b></li> <li>➤ <b>Availability of first aid kit on site</b></li> <li>➤ <b>Availability of ablution facilities on site</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Throughout project cycle</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>dEO</b></li> <li>➤ <b>ECO</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Weekly</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Posters of awareness on diseases on site</b></li> <li>➤ <b>Covid screening registers</b></li> <li>➤ <b>Evidence of relevant Toolbox Talks topics</b></li> </ul>

### 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
<ul style="list-style-type: none"> <li>– Compile an Emergency Response Action Plan (ERAP) prior to the commencement of the proposed project;</li> <li>– The Emergency Plan must deal with accidents, potential spillages and fires in line with relevant legislation;</li> <li>– All staff must be made aware of emergency procedures as part of environmental awareness training;</li> <li>– The relevant local authority must be made aware of a fire as soon as it starts;</li> <li>– In the event of emergency necessary mitigation measures to contain the spill or leak must be implemented (see <b>Hazardous Substances section 5.17</b>).</li> </ul>	<ul style="list-style-type: none"> <li>➤ Contractor</li> <li>➤ cEO</li> </ul>	<ul style="list-style-type: none"> <li>➤ Emergency Response and Action Plan training</li> <li>➤ Display of authority emergency response numbers</li> </ul>	<ul style="list-style-type: none"> <li>➤ Throughout project cycle</li> </ul>	<ul style="list-style-type: none"> <li>➤ dEO</li> <li>➤ ECO</li> </ul>	<ul style="list-style-type: none"> <li>➤ Weekly</li> </ul>	<ul style="list-style-type: none"> <li>➤ Records of ERAP drill testing</li> <li>➤ Evidence of ERAP training</li> <li>➤ Emergency response numbers displayed</li> </ul>

### 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

<ul style="list-style-type: none"> <li>- The use and storage of hazardous substances to be minimised and non-hazardous and non-toxic alternatives substituted where possible;</li> <li>- All hazardous substances must be stored in suitable containers as defined in the Method Statement;</li> <li>- Containers must be clearly marked to indicate contents, quantities and safety requirements;</li> <li>- All storage areas must be bunded. The bunded area must be of sufficient capacity to contain a spill / leak from the stored containers;</li> <li>- Bunded areas to be suitably lined with a SABS approved liner;</li> <li>- An Alphabetical Hazardous Chemical Substance (HCS) control sheet must be drawn up and kept up to date on a continuous basis;</li> <li>- All hazardous chemicals that will be used on site must have Material Safety Data Sheets (MSDS);</li> <li>- All employees working with HCS must be trained in the safe use of the substance and according to the safety data sheet;</li> <li>- 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;</li> <li>- The Contractor must ensure that diesel and other liquid fuel, oil and hydraulic fluid is stored in appropriate storage tanks or in bowzers;</li> <li>- The tanks/ bowzers 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/ bowzers (110% statutory requirement plus an allowance for rainfall);</li> <li>- The floor of the bund must be sloped, draining to an oil separator;</li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>DSS</b></li> <li>➤ <b>Contractor</b></li> <li>➤ <b>cEO</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Provision of MSDSs for all hazardous chemicals</b></li> <li>➤ <b>Availability of Spill kit and drip trays</b></li> <li>➤ <b>Bunded and secured hazardous storage facility</b></li> <li>➤ <b>Appointment of a Registered Hazardous waste service provider</b></li> <li>➤ <b>Disposal of hazardous waste at a registered hazardous disposal site</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Throughout project cycle</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>dEO</b></li> <li>➤ <b>ECO</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Monthly</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Incident register and action plan for spills</b></li> <li>➤ <b>Hazardous Waste disposal records</b></li> <li>➤ <b>No evidence of soil and water contamination</b></li> <li>➤ <b>Labelled hazardous facility and containers</b></li> <li>➤ <b>Availability of MSDSs for all hazardous chemicals</b></li> <li>➤ <b>Hazardous waste disposal registers</b></li> <li>➤ <b>Evidence of relevant Toolbox Talks topics</b></li> </ul>
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<ul style="list-style-type: none"> <li>– 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;</li> <li>– All empty externally dirty drums must be stored on a drip tray or within a bunded area;</li> <li>– No unauthorised access into the hazardous substances storage areas must be permitted;</li> <li>– No smoking must be allowed within the vicinity of the hazardous storage areas;</li> <li>– Adequate fire-fighting equipment must be made available at all hazardous storage areas;</li> <li>– 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;</li> <li>– 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;</li> <li>– The responsible operator must have the required training to make use of the spill kit in emergency situations;</li> <li>– An appropriate number of spill kits must be available and must be located in all areas where activities are being undertaken;</li> <li>– 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 <b>Section 5.7</b> for procedures concerning <b>storm and waste water management</b> and <b>5.8</b> for <b>solid and hazardous waste management</b>.</li> </ul>						
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#### 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
<ul style="list-style-type: none"> <li>Where possible and practical all maintenance of vehicles and equipment must take place in the workshop area;</li> <li>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;</li> <li>Leaking equipment must be repaired immediately or be removed from site to facilitate repair;</li> <li>Workshop areas must be monitored for oil and fuel spills;</li> <li>Appropriately sized spill kit kept onsite relevant to the scale of the activity taking place must be available;</li> <li>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;</li> <li>Water drainage from the workshop must be contained and managed in accordance <b>Section 5.7: storm and waste water management.</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>DSS</b></li> <li>➤ <b>Contractor</b></li> <li>➤ <b>cEO</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Layout plan indicative of designated workshop / storage area</b></li> <li>➤ <b>Dedicated vehicle servicing facility with Impermeable floor</b></li> <li>➤ <b>Availability of Spill kit and drip trays</b></li> <li>➤ <b>Storage of hazardous waste from workshop at a bunded and secured hazardous storage facility</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Throughout project cycle</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>dEO</b></li> <li>➤ <b>ECO</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Monthly</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Approved layout plan</b></li> <li>➤ <b>Records of servicing and/or workshop incidents</b></li> <li>➤ <b>Usage of spill kit and drip trays</b></li> <li>➤ <b>No evidence of soil and water contamination from workshop activities</b></li> <li>➤ <b>chemicals</b></li> <li>➤ <b>Evidence of relevant Toolbox Talks topics</b></li> </ul>

### 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

<ul style="list-style-type: none"> <li>– Concrete mixing must be carried out on an impermeable surface;</li> <li>– Batching plants areas must be fitted with a containment facility for the collection of cement laden water.</li> <li>– Dirty water from the batching plant must be contained to prevent soil and groundwater contamination</li> <li>– Bagged cement must be stored in an appropriate facility and at least 10 m away from any water courses, gullies and drains;</li> <li>– A washout facility must be provided for washing of concrete associated equipment. Water used for washing must be restricted;</li> <li>– Hardened concrete from the washout facility or concrete mixer can either be reused or disposed of at an appropriate licenced disposal facility;</li> <li>– Empty cement bags must be secured with adequate binding material if these will be temporarily stored on site;</li> <li>– Sand and aggregates containing cement must be kept damp to prevent the generation of dust (Refer to <b>Section 5.20: Dust emissions</b>)</li> <li>– 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;</li> <li>– Temporary fencing must be erected around batching plants in accordance with <b>Section 5.5: Fencing and gate installation</b>.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Contractor</li> <li>➤ cEO</li> </ul>	<ul style="list-style-type: none"> <li>➤ Concrete mixing carried out on an impermeable surface</li> </ul>	<ul style="list-style-type: none"> <li>➤ Throughout project cycle</li> </ul>	<ul style="list-style-type: none"> <li>➤ dEO</li> <li>➤ ECO</li> </ul>	<ul style="list-style-type: none"> <li>➤ Monthly</li> </ul>	<ul style="list-style-type: none"> <li>➤ Verifying bunded and impermeable concrete mixing facilities on site</li> <li>➤ Evidence of relevant Toolbox Talks topics</li> </ul>
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## 5.20 Dust emissions

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

Impact Management Actions	Implementation	Monitoring
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	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> <li>– Take all reasonable measures to minimise the generation of dust as a result of project development activities to the satisfaction of the ECO;</li> <li>– 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;</li> <li>– Excavation, handling and transport of erodible materials must be avoided under high wind conditions or when a visible dust plume is present;</li> <li>– 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;</li> <li>– Where possible, soil stockpiles must be located in sheltered areas where they are not exposed to the erosive effects of the wind;</li> <li>– Where erosion of stockpiles becomes a problem, erosion control measures must be implemented at the discretion of the ECO;</li> <li>– Vehicle speeds must not exceed 40 km/h along dust roads or 20 km/h when traversing unconsolidated and non-vegetated areas;</li> <li>– Straw stabilisation must be applied at a rate of one bale/10 m<sup>2</sup> and harrowed into the top 100 mm of top material, for all completed earthworks;</li> <li>– For significant areas of excavation or exposed ground, dust suppression measures must be used to minimise the spread of dust.</li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Contractor</b></li> <li>➤ <b>cEO</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Undertaking of regular dust suppression</b></li> <li>➤ <b>Covering of soils stockpiles during windy periods</b></li> <li>➤ <b>Grading of access gravel roads to reduce dust</b></li> <li>➤ <b>Speed control of construction vehicles</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Throughout project cycle</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>dEO</b></li> <li>➤ <b>ECO</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Daily / Weekly</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Evidence of regular dust suppression</b></li> <li>➤ <b>Covered soils stockpiles during windy periods</b></li> <li>➤ <b>Graded of access gravel roads</b></li> <li>➤ <b>Speed control measure on site</b></li> <li>➤ <b>Evidence of relevant Toolbox Talks topics</b></li> </ul>

### 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
<ul style="list-style-type: none"> <li>Any blasting activity must be conducted by a suitably licensed blasting contractor; and</li> <li>Notification of surrounding landowners, emergency services site personnel of blasting activity 24 hours prior to such activity taking place on Site.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Contractor</li> <li>➤ cEO</li> </ul>	<ul style="list-style-type: none"> <li>➤ Provision of Blasting Method statement</li> <li>➤ Use only low impact blasting</li> </ul>	<ul style="list-style-type: none"> <li>➤ Throughout project cycle</li> </ul>	<ul style="list-style-type: none"> <li>➤ dEO</li> <li>➤ ECO</li> </ul>	<ul style="list-style-type: none"> <li>➤ Weekly</li> </ul>	<ul style="list-style-type: none"> <li>➤ Approved blasting method statement</li> <li>➤ Evidence of soft blasting methods</li> <li>➤ Evidence of notifications to adjacent communities.</li> <li>➤ Evidence of relevant Toolbox Talks topics</li> </ul>

### 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
<ul style="list-style-type: none"> <li>The Contractor must keep noise level within acceptable limits, Restrict the use of sound amplification equipment for communication and emergency only;</li> </ul>	<ul style="list-style-type: none"> <li>➤ DSS</li> <li>➤ Contractor</li> <li>➤ cEO</li> </ul>	<ul style="list-style-type: none"> <li>➤ Staff code of conduct training</li> </ul>	<ul style="list-style-type: none"> <li>➤ Throughout project cycle</li> </ul>	<ul style="list-style-type: none"> <li>➤ dEO</li> <li>➤ ECO</li> </ul>	<ul style="list-style-type: none"> <li>➤ Weekly</li> </ul>	<ul style="list-style-type: none"> <li>➤ Records of staff code of conduct training</li> </ul>

<ul style="list-style-type: none"> <li>– All vehicles and machinery must be fitted with appropriate silencing technology and must be properly maintained;</li> <li>– 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;</li> <li>– 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.</li> </ul>		<ul style="list-style-type: none"> <li>➤ Normal working hours to be implemented</li> <li>➤ All construction plant and other equipment kept in a good working condition</li> </ul>				<ul style="list-style-type: none"> <li>➤ Evidence of relevant Toolbox Talks topics</li> </ul>
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### 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
<ul style="list-style-type: none"> <li>– Designate smoking areas where the fire hazard could be regarded as insignificant;</li> <li>– Firefighting equipment must be available on all vehicles located on site;</li> <li>– The local Fire Protection Agency (FPA) must be informed of construction activities;</li> <li>– Contact numbers for the FPA and emergency services must be communicated in environmental awareness training and displayed at a central location on site;</li> <li>– Two way swap of contact details between ECO and FPA.</li> </ul>	<ul style="list-style-type: none"> <li>➤ DSS</li> <li>➤ Contractor</li> <li>➤ cEO</li> </ul>	<ul style="list-style-type: none"> <li>➤ Fire combat training</li> <li>➤ Training of fire prevention and management</li> <li>➤ Designated smoking areas</li> <li>➤ Servicing of firefighting equipment</li> <li>➤ Display of Emergency numbers for Fire Respondents</li> </ul>	<ul style="list-style-type: none"> <li>➤ Throughout project cycle</li> </ul>	<ul style="list-style-type: none"> <li>➤ dEO</li> <li>➤ ECO</li> </ul>	<ul style="list-style-type: none"> <li>➤ Weekly</li> </ul>	<ul style="list-style-type: none"> <li>➤ Records of staff fire combat training</li> <li>➤ Records of staff training on fire prevention and management</li> <li>➤ Serviced firefighting equipment</li> <li>➤ Displayed Emergency numbers for Fire Respondents</li> </ul>

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#### 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
<ul style="list-style-type: none"> <li>– 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;</li> <li>– All stockpiled material must be maintained and kept clear of weeds and alien vegetation growth by undertaking regular weeding and control methods;</li> <li>– Topsoil stockpiles must not exceed 2 m in height;</li> <li>– During periods of strong winds and heavy rain, the stockpiles must be covered with appropriate material (e.g. cloth, tarpaulin etc.);</li> <li>– Where possible, sandbags (or similar) must be placed at the bases of the stockpiled material in order to prevent erosion of the material.</li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Contractor</b></li> <li>➤ <b>cEO</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Locate stockpiles on the designated stockpile area</b></li> <li>➤ <b>Maintain and protect soil stockpiles to prevent erosion</b></li> <li>➤ <b>Covering materials placed on stockpiles to prevent erosion when necessary</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Throughout project cycle</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>dEO</b></li> <li>➤ <b>ECO</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Monthly</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Stockpiles located on the designated stockpile area</b></li> <li>➤ <b>Maintained and protected soils stockpiles</b></li> <li>➤ <b>Covered materials placed on stockpiles</b></li> </ul>

#### 5.25 Civil Works

**Impact management outcome:** Impact to the environment minimised during civil works to create the substation terrace.

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> <li>Where terracing is required, topsoil must be collected and retained for the purpose of re-use later to rehabilitate disturbed areas not covered by yard stone;</li> <li>Areas to be rehabilitated include terrace embankments and areas outside the high voltage yards;</li> <li>Where required, all sloped areas must be stabilised to ensure proper rehabilitation is effected and erosion is controlled;</li> <li>These areas can be 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;</li> <li>Rehabilitation of the disturbed areas must be managed in accordance with <b>Section 5.35: Landscaping and rehabilitation</b>;</li> <li>All excess spoil generated during terracing activities must be disposed of in an appropriate manner and at a recognised landfill site; and</li> <li>Spoil can however be used for landscaping purposes and must be covered with a layer of 150 mm topsoil for rehabilitation purposes.</li> </ul>	<ul style="list-style-type: none"> <li>➤ DSS</li> <li>➤ Contractor</li> <li>➤ cEO</li> </ul>	<ul style="list-style-type: none"> <li>➤ Prepare and approve a detailed terrace earthworks layout plan</li> <li>➤ Strip, stockpile and protect topsoil from all areas to be terraced</li> <li>➤ Construct terrace platforms using approved engineering designs</li> </ul>	<ul style="list-style-type: none"> <li>➤ Before construction activities</li> </ul>	<ul style="list-style-type: none"> <li>➤ dEO</li> <li>➤ ECO</li> </ul>	<ul style="list-style-type: none"> <li>➤ Once-off</li> </ul>	<ul style="list-style-type: none"> <li>➤ Approved terrace earthworks layout plan</li> <li>➤ Photographic record</li> </ul>

## 5.26 Excavation of foundation, cable trenching and drainage systems

**Impact management outcome:** No environmental degradation occurs as a result of excavation of foundation, cable trenching and drainage systems.

Impact Management Actions	Implementation	Monitoring
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	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> <li>– 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;</li> <li>– Spoil can however be used for landscaping purposes and must be covered with a layer of 150 mm topsoil for rehabilitation purposes;</li> <li>– Management of equipment for excavation purposes must be undertaken in accordance with <b>Section 5.18: Workshop equipment maintenance and storage</b>; and</li> <li>– Hazardous substances spills from equipment must be managed in accordance with <b>Section 5.17: Hazardous substances</b>.</li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Contractor</b></li> <li>➤ <b>cEO</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Soil excavated from foundations spread over surrounding area or used as fill elsewhere (where applicable)</b></li> <li>➤ <b>Excess soil disposed at registered landfill</b></li> <li>➤ <b>Cement mixed within bunded facility</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>During construction activities</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>dEO</b></li> <li>➤ <b>ECO</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Monthly</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Proof of disposal of soil at landfill site provided</b></li> <li>➤ <b>Evidence of Cement mixing within bunded facility</b></li> </ul>

### 5.27 Installation of foundations, cable trenching and drainage systems

**Impact management outcome:** No environmental degradation occurs during the installation of foundation, cable trenching and drainage system.

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> <li>– Batching of cement to be undertaken in accordance with <b>Section 5.19: Batching plants</b>; and</li> <li>– Residual solid waste must be disposed of in accordance with <b>Section 5.8: Solid waste and hazardous management</b>.</li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Contractor</b></li> <li>➤ <b>cEO</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Prepare and use an excavation and foundation layout plan</b></li> <li>➤ <b>Mix cement and concrete only in bunded, impermeable areas</b></li> <li>➤ <b>Backfill and compact trenches</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>During construction activities</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Contractor</b></li> <li>➤ <b>dEO</b></li> <li>➤ <b>ECO</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Monthly</b></li> <li>➤ <b>Daily operational monitoring</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Photographic record</b></li> <li>➤ <b>Verifying bunded and impermeable concrete mixing facilities on site</b></li> <li>➤ <b>Evidence of relevant Toolbox Talks topics</b></li> </ul>

		using appropriate material, placing topsoil last and shaping surfaces to natural contours to support rehabilitation.				
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#### 5.28 Installation of equipment (circuit breakers, current Transformers, Isolators, Insulators, surge arresters, voltage transformers, earth switches)

**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
<ul style="list-style-type: none"> <li>– Management of dust must be conducted in accordance with <b>Section 5.20: Dust emissions</b>;</li> <li>– Management of equipment used for installation must be conducted in accordance with <b>Section 5.18: Workshop, equipment maintenance and storage</b>;</li> <li>– Management hazardous substances and any associated spills must be conducted in accordance with <b>Section 5.17: Hazardous substances</b>; and</li> <li>– Residual solid waste must be recycled or disposed of in accordance with <b>Section 5.8: Solid waste and hazardous management</b>.</li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Contractor</b></li> <li>➤ <b>cEO</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Undertaking of regular dust suppression</b></li> <li>➤ <b>Covering of soils stockpiles during windy periods</b></li> <li>➤ <b>Refer to Sections 5.8, 5.17, and 5.18</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>During construction activities</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>dEO</b></li> <li>➤ <b>ECO</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Monthly</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Photographic record</b></li> <li>➤ <b>Spoil deposit records</b></li> <li>➤ <b>Maintenance and spill response records</b></li> </ul>

#### 5.29 Steelwork Assembly and Erection

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

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> <li>During assembly, care must be taken to ensure that no wasted/unused materials are left on site e.g. bolts and nuts</li> <li>Emergency repairs due to breakages of equipment must be managed in accordance with <b>Section 5. 18: Workshop, equipment maintenance and storage</b> and <b>Section 5.16: Emergency procedures</b>.</li> </ul>	<ul style="list-style-type: none"> <li>➤ DSS</li> <li>➤ Contractor</li> <li>➤ cEO</li> </ul>	<ul style="list-style-type: none"> <li>➤ Notifying the community about the construction phase before establishment</li> <li>➤ Using local labor as far as possible</li> <li>➤ Community engagements as and when necessary</li> </ul>	<ul style="list-style-type: none"> <li>➤ Before site establishment</li> <li>➤ During construction activities</li> </ul>	<ul style="list-style-type: none"> <li>➤ dEO</li> <li>➤ ECO</li> </ul>	➤ Monthly	<ul style="list-style-type: none"> <li>➤ Recorded grievances complaints</li> <li>➤ Records of community engagement</li> <li>➤ Records of responses to community grievances or complaints</li> </ul>

### 5.30 Cabling and 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
<ul style="list-style-type: none"> <li>Residual solid waste (off cuts etc.) shall be recycled or disposed of in accordance with <b>Section 5.8: Solid waste and hazardous Management</b>;</li> <li>Management of equipment used for installation shall be conducted in accordance with <b>Section 5.18: Workshop, equipment maintenance and storage</b>;</li> <li>Management hazardous substances and any associated spills shall be conducted in accordance with <b>Section 5.17: Hazardous substances</b>.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Contractor</li> <li>➤ cEO</li> </ul>	<ul style="list-style-type: none"> <li>➤ Refer to Secton 5.8, 5.17, and 5.18.</li> </ul>	<ul style="list-style-type: none"> <li>➤ During Construction</li> </ul>	<ul style="list-style-type: none"> <li>➤ dEO</li> <li>➤ ECO</li> </ul>	<ul style="list-style-type: none"> <li>➤ Daily during construction</li> <li>➤ Monthly where applicable</li> </ul>	<ul style="list-style-type: none"> <li>➤ Assessing is previously disturbed areas for the siting of winch and tensioner stations were used</li> <li>➤ Assessing if minimal vegetation clearance for stringing was undertaken</li> </ul>

						➤ Evidence of no damage to existing services
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### 5.31 Testing and Commissioning (all equipment testing, earthing system, system integration)

**Impact management outcome:** No environmental degradation occurs as a result of Testing and Commissioning.

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
➤ Residual solid waste must be recycled or disposed of in accordance with <b>Section 5.8: Solid waste and hazardous management</b> .	➤ Contractor ➤ cEO	➤ Set up bunded or drip-tray-protected areas ➤ Refer to Section 5.8 for method of implementation ➤ Prevent discharge of test water, oil residues, solvents or contaminated substances into soil, stormwater, drains or natural features; use approved containers for all liquid waste. (Aligned with storm and wastewater management).	➤ During testing and commissioning activities	➤ dEO ➤ ECO	➤ Monthly environmental inspections (as required for EMPr audit reporting)	➤ Daily operational monitoring by Contractor / cEO during testing phases

### 5.32 Socio-economic

**Impact management outcome:** enhanced socio-economic development.

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> <li>➤ Develop and implement communication strategies to facilitate public participation;</li> <li>➤ Develop and implement a collaborative and constructive approach to conflict resolution as part of the external stakeholder engagement process;</li> <li>➤ Sustain continuous communication and liaison with neighboring owners and residents</li> <li>➤ Create work and training opportunities for local stakeholders; and</li> <li>➤ 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.</li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>DSS</b></li> <li>➤ <b>Contractor</b></li> <li>➤ <b>cEO</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Notifying the community about the construction phase before establishment</b></li> <li>➤ <b>Using local labor as far as possible</b></li> <li>➤ <b>Community engagements as and when necessary</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Before site establishment</b></li> <li>➤ <b>During construction activities</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>dEO</b></li> <li>➤ <b>ECO</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Monthly</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Recorded grievances complaints</b></li> <li>➤ <b>Records of community engagement</b></li> <li>➤ <b>Records of responses to community grievances complaints</b></li> </ul>

### 5.33 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
<ul style="list-style-type: none"> <li>➤ Bunds must be emptied (where applicable) and need to be undertaken in accordance with the impact management actions included in sections 5.17: <b>Hazardous substances</b> and</li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>DPM</b></li> <li>➤ <b>DSS</b></li> <li>➤ <b>Contractor</b></li> <li>➤ <b>cEO</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Compile temporary closure plan</b></li> <li>➤ <b>Implement impact management actions</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Upon temporary closure</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>dEO</b></li> <li>➤ <b>ECO</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Once-off</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Approved temporary closure plan</b></li> </ul>

<ul style="list-style-type: none"> <li>➤ <b>5.18: Workshop, equipment maintenance and storage;</b></li> <li>➤ Hazardous storage areas must be well ventilated;</li> <li>➤ Fire extinguishers must be serviced and accessible. Service records to be filed and audited at last service;</li> <li>➤ Emergency and contact details displayed must be displayed;</li> <li>➤ Security personnel must be briefed and have the facilities to contact or be contacted by relevant management and emergency personnel;</li> <li>➤ Night hazards such as reflectors, lighting, traffic signage etc. must have been checked;</li> <li>➤ Fire hazards identified and the local authority must have been notified of any potential threats e.g. large brush stockpiles, fuels etc.;</li> <li>➤ Structures vulnerable to high winds must be secured;</li> <li>➤ Wind and dust mitigation must be implemented;</li> <li>➤ Cement and materials stores must have been secured;</li> <li>➤ Toilets must have been emptied and secured;</li> <li>➤ Refuse bins must have been emptied and secured;</li> <li>➤ Drip trays must have been emptied and secured.</li> </ul>		<ul style="list-style-type: none"> <li>➤ <b>Notify relevant parties</b></li> <li>➤ <b>Ensuring site if fenced-off and secured</b></li> </ul>				<ul style="list-style-type: none"> <li>➤ <b>Notifications to relevant parties</b></li> <li>➤ <b>Site fenced-off and secured</b></li> </ul>
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### 5.34 Dismantling of old equipment

**Impact management outcome:** Impact to the environment to be minimised during the dismantling, storage and disposal of old equipment commissioning.

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> <li>➤ All old equipment removed during the project must be stored in such a way as to prevent pollution of the environment;</li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>DSS</b></li> <li>➤ <b>cEO</b></li> <li>➤ <b>Contractor</b></li> </ul>	<ul style="list-style-type: none"> <li>➤</li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>During dismantling, removal and</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>dEO</b></li> <li>➤ <b>ECO</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Monthly inspections</b></li> <li>➤ <b>Continuous</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Photographic record</b></li> <li>➤ <b>Waste disposal certificates</b></li> </ul>

<ul style="list-style-type: none"> <li>➤ Oil containing equipment must be stored to prevent leaking or be stored on drip trays;</li> <li>➤ All scrap steel must be stacked neatly and any disused and broken insulators must be stored in containers;</li> <li>➤ Once material has been scrapped and the contract has been placed for removal, the disposal Contractor must ensure that any equipment containing pollution causing substances is dismantled and transported in such a way as to prevent spillage and pollution of the environment;</li> <li>➤ The Contractor must also be equipped to contain and clean up any pollution causing spills; and</li> <li>➤ Disposal of unusable material must be at a licensed wastedisposal site.</li> </ul>			<b>disposal activities</b>		<b>monitoring during dismantling</b>	<ul style="list-style-type: none"> <li>➤ Oil spill and hazardous substance management records</li> <li>➤ Inventory/logsheet</li> <li>➤ ECO/dEO inspection reports</li> </ul>
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### 5.35 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
<ul style="list-style-type: none"> <li>➤ All areas disturbed by construction activities must be subject to landscaping and rehabilitation; All spoil and waste must be disposed of to a registered waste site;</li> <li>➤ 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</li> <li>➤ 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;</li> </ul>	<ul style="list-style-type: none"> <li>➤ DPM</li> <li>➤ DSS</li> <li>➤ Contractor</li> <li>➤ cEO</li> </ul>	<ul style="list-style-type: none"> <li>➤ Compile and implement an effective Rehabilitation Plan</li> <li>➤ Landscape and revegetate disturbed areas</li> <li>➤ Use indigenous species for rehabilitation</li> </ul>	➤ Throughout project cycle	<ul style="list-style-type: none"> <li>➤ dEO</li> <li>➤ ECO</li> </ul>	➤ Monthly	<ul style="list-style-type: none"> <li>➤ Rehabilitation plan implemented</li> <li>➤ Disturbed areas landscaped, revegetated and topsoil spread</li> <li>➤ Indigenous species used for rehabilitation</li> <li>➤ Construction equipment and</li> </ul>

<ul style="list-style-type: none"> <li>➤ 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;</li> <li>➤ 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;</li> <li>➤ Rehabilitation of access roads outside of farmland;</li> <li>➤ Indigenous species must be used for with species and/grasses to where it compliments or approximates condition;</li> <li>➤ Stockpiled topsoil must be used for rehabilitation (refer to</li> <li>➤ Section 5.24: Stockpiling and stockpiled areas);</li> <li>➤ Stockpiled topsoil must be evenly spread so as to facilitate seeding and minimise loss of soil due to erosion;</li> <li>➤ Before placing topsoil, all visible weeds from the placement area and from the topsoil must be removed;</li> <li>➤ Subsoil must be ripped before topsoil is placed;</li> <li>➤ The rehabilitation must be timed so that rehabilitation can take place at the optimal time for vegetation establishment;</li> <li>➤ Where impacted through construction related activity, all sloped areas must be stabilised to ensure proper rehabilitation is effected and erosion is controlled;</li> <li>➤ 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;</li> <li>➤ Spoil can be used for backfilling or landscaping as long as it is covered by a minimum of 150 mm of topsoil.</li> <li>➤ 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:</li> </ul>		<ul style="list-style-type: none"> <li>➤ <b>Demobilize and close-out from site</b></li> </ul>				<p><b>material removed from site</b></p> <ul style="list-style-type: none"> <li>➤ <b>Area left the same or better than prior to construction activities</b></li> </ul>
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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						
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**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: **National Transmission Company South Africa (NTCSA) SOC Ltd**

Name of applicant: **Madinare Mukhuba**

Tel No: **+27 11 516 7350**

Fax No: **N/A**

Postal Address: **PO BOX 1091, Johannesburg, Gauteng, 2000**

Physical Address: **2 Maxwell Drive, Sunninghill, Sandton, Gauteng, 2000**

Email Address: [mukhubdm@ntcsa.co.za](mailto:mukhubdm@ntcsa.co.za)

7.1.2 Details and expertise of the EAP: **John von Mayer**

Name of Company: **Environmental Impact Management Systems (Pty) Ltd**

Tel No: **(011) 789 7170**

Fax No: **(086) 571 9047**

E-mail address: [john@eims.co.za](mailto:john@eims.co.za)

Expertise of the EAP (Curriculum Vitae included):

- Profession: **EAP**
- Years of Experience: **17 Years**
- Qualification: **BSc Honours in Environmental Science**
- Registrations: **Registered EAP (EAPASA)**

**Professional Natural Scientist (SACNASP)**

Details and expertise of the EAP: **Lucien James**

Name of Company: **Environmental Impact Management Systems (Pty) Ltd**

Tel No: **(011) 789 7170**

Fax No: **(086) 571 9047**

E-mail address: [lucien@eims.co.za](mailto:lucien@eims.co.za)

Expertise of the EAP (Curriculum Vitae included):

- Profession: **Candidate EAP and Archaeologist**
- Years of Experience: **3 Years**

- Qualification: **PhD**
- Registrations: **Candidate EAP (EAPASA)**

**Professional Archaeologist (ASAPA)**

7.1.3 Project name: **PROPOSED NTCSA ARIES-PAULPUTS-KOKERBOOM 400KV LOOP-IN-LOOP-OUT POWERLINE AND SUBSTATION UPGRADE PROJECT, KHÂI-MA LOCAL MUNICIPALITY AND KAI !GARIB LOCAL MUNICIPALITY IN THE NAMAKWA AND ZF MGCAWU DISTRICT MUNICIPALITIES, NORTHERN CAPE.**

7.1.4 Description of the project:

The proposed project is for construction of a new 49km long 400kV loop-in loop-out powerline as well as an expansion of the existing Paulputs substation. The need for the project is based on the Northern Cape Strengthening for Renewable Generation Integration (IRP 2019). To provide future reliability and flexibility in the evacuation of renewable power from Paulputs Substation, an additional 400 kV infeed is proposed via a loop in loop out from the Aries – Kokerboom 400 kV line. The project is part of the group of projects identified for the Northern Cape network strengthening requirements in meeting the IRP 2019 renewables generation integration. The installed generation capacity in the Northern Cape already exceeds the peak load in the province. Generation capacity is expected to increase in the province as a result of bulk renewable energy generation capacity allocation due to favourable sun and wind conditions. Therefore, significant network infrastructure is required to enable the integration and evacuation of power from the renewable energy plants anticipated in the province.

The project falls within the promulgated Strategic Transmission Corridors as per the GN R.113 dated 16 February 2018.

The proposed project is located on Farms Blad-Grond South No. 94 Portions 3, 0 (Remaining Extent), 1 (Remaining Extent), 4 (Remaining Extent), 5 (Remaining Extent), Blad-Grond North No. 77 Portion 2 (Remaining Extent), Steyns Puts 178 Portion 1 (Remaining Extent), Lucas Vlei No. 93 Portion 4 (Remaining Extent), 5 (Remaining Extent), Scuit-Klip No. 92 Portions 0 (Remaining Extent), 1 (Remaining Extent), 2 (Remaining Extent), 4, and Konkoonies No. 91 Portion 1 and 6, in the Khâi-Ma and Kai !Garib Local Municipalities, Northern Cape. The site is approximately 30kms northeast of Pofadder. The key points of the site are proposed powerline route – Start: 28°52'43.12"S; 19°33'53.35"E; Middle: 28°52'47.57"S; 19°33'56.49"E; End: 28°51'42.17"S; 20°0'18.92"E.

7.1.5 Project location:

Table 2: Project location

NO	FARM NAME (if applicable)	FARM NUMBER (if applicable)	PORTION NUMBER	LATITUDE	LONGITUDE
1	BLAD-GROND SOUTH	94	3	28°52'20.58"S	19°58'40.55"E
2	BLAD-GROND SOUTH	94	1	28°54'49.20"S	19°58'46.66"E
3	BLAD-GROND SOUTH	94	4	28°56'8.17"S	19°56'19.65"E
4	BLAD-GROND SOUTH	94	0	28°55'56.45"S	19°54'19.37"E
5	BLAD-GROND SOUTH	94	5	28°54'2.75"S	19°53'27.71"E
6	BLAD-GROND NORTH	77	2	28°53'19.45"S	19°52'51.20"E

7	STEYNS PUTS	178	1	28°53'50.45"S	19°51'14.27"E
8	LUCAS VLEI	93	5	28°53'50.21"S	19°48'12.82"E
9	LUCAS VLEI	93	4	28°54'41.13"S	19°45'54.03"E
10	SCUIT-KLIP	92	2	28°53'40.74"S	19°43'23.03"E
11	SCUIT-KLIP	92	0	28°53'53.76"S	19°39'36.77"E
12	SCUIT-KLIP	92	1	28°52'10.95"S	19°38'13.89"E
13	KONKOONSIES	91	1	28°57'56.48"S	19°34'12.06"E
14	KONKOONSIES	91	6	28°53'17.19"S	19°33'33.30"E
15	SCUIT-KLIP	92	4	28°52'5.53"S	19°35'15.32"E

## 7.16 Preliminary technical specification of the overhead transmission and distribution:

Table 3: Preliminary Technical Specification

Description	Details
Powerline parameters	2x 400kV Powerlines between Paulputs Substation and existing Aries-Kokerboom powerline.
Substation parameters	2x 400kV Feeder Bays 100MVA busbar reactor 400kV yard
Types of towers	Guyed V Towers and Self-supporting Suspension
Number of structures	222 pylons / towers 2x400kV powerlines
Tower spacing (mean and maximum)	200-500 meters
Conductor attachment height (mean)	± 35 meters
Foundation requirements	2-3m depth
Servitude Requirements	110m wide servitude

## 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.

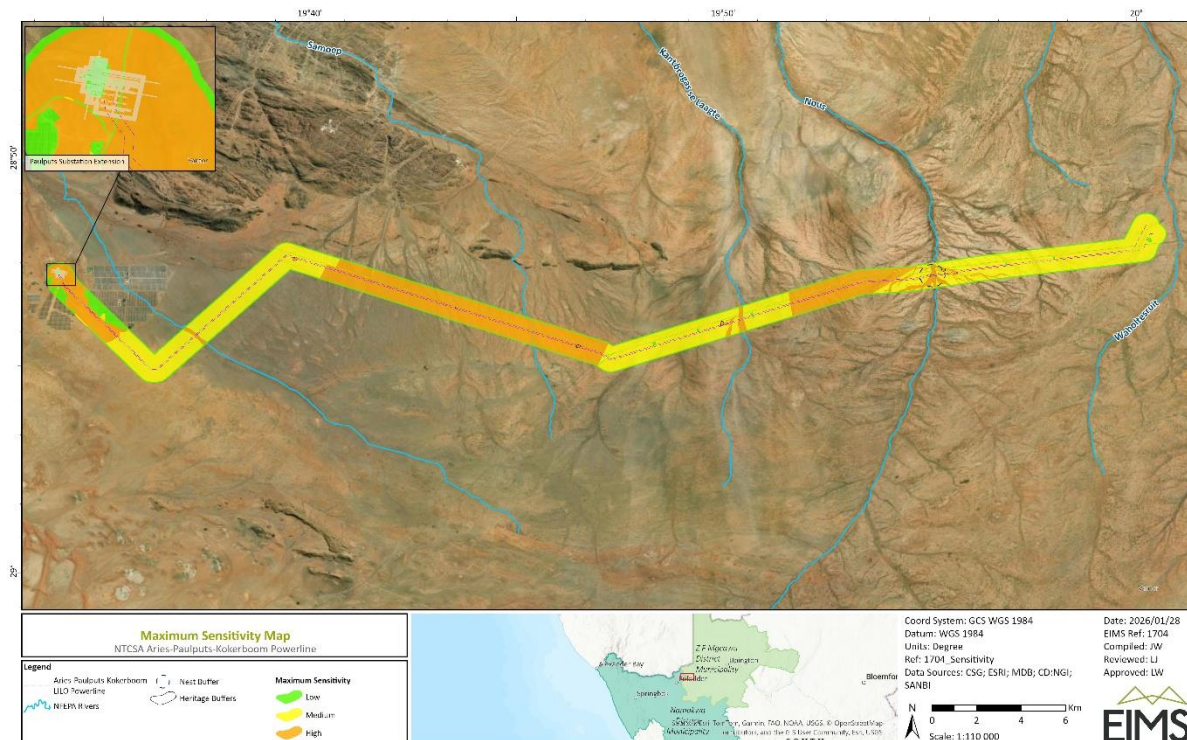


Figure 1: Site sensitivity map

Table 4: Environmental Sensitivity of Project Area as per DFFE Screening Tool

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
Palaeontology Theme			X	
Plant Species Theme			X	
Terrestrial Biodiversity Theme	X			

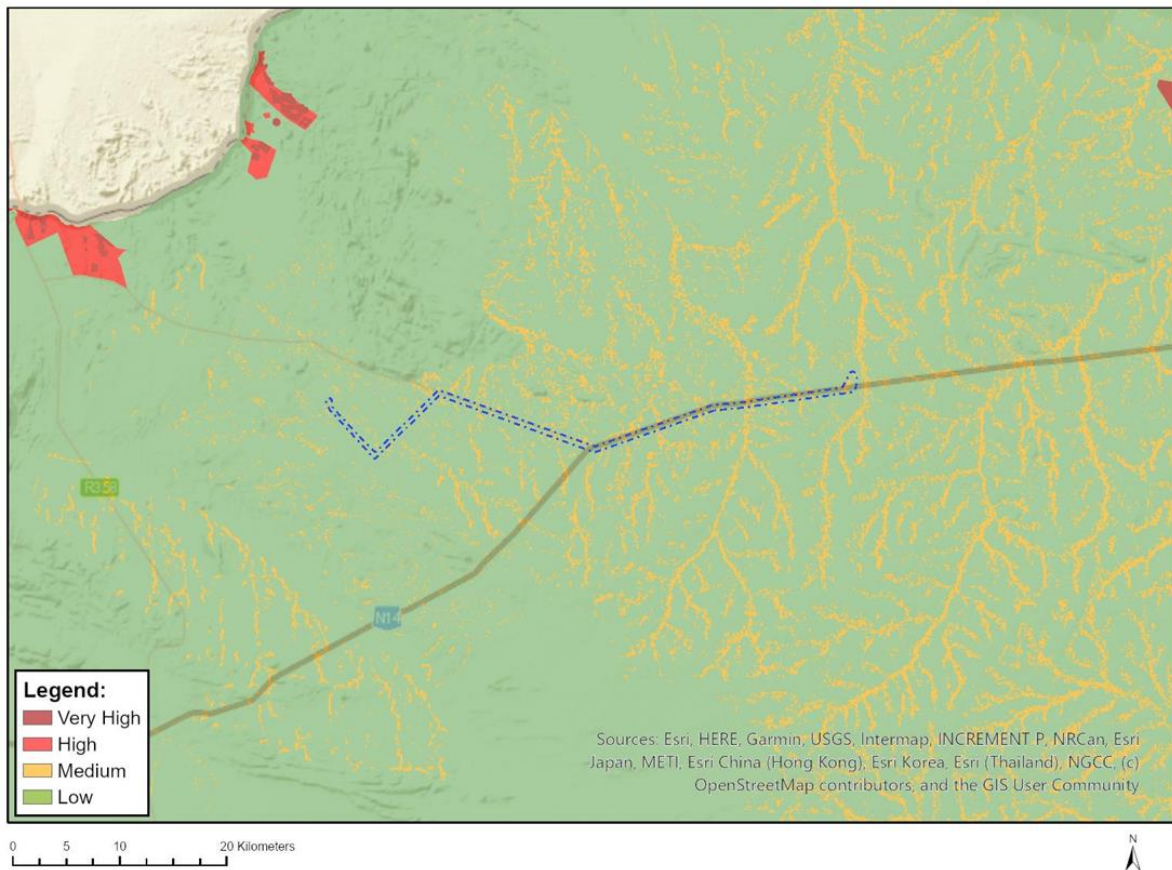


Figure 2: Map of Relative Agriculture Theme Sensitivity

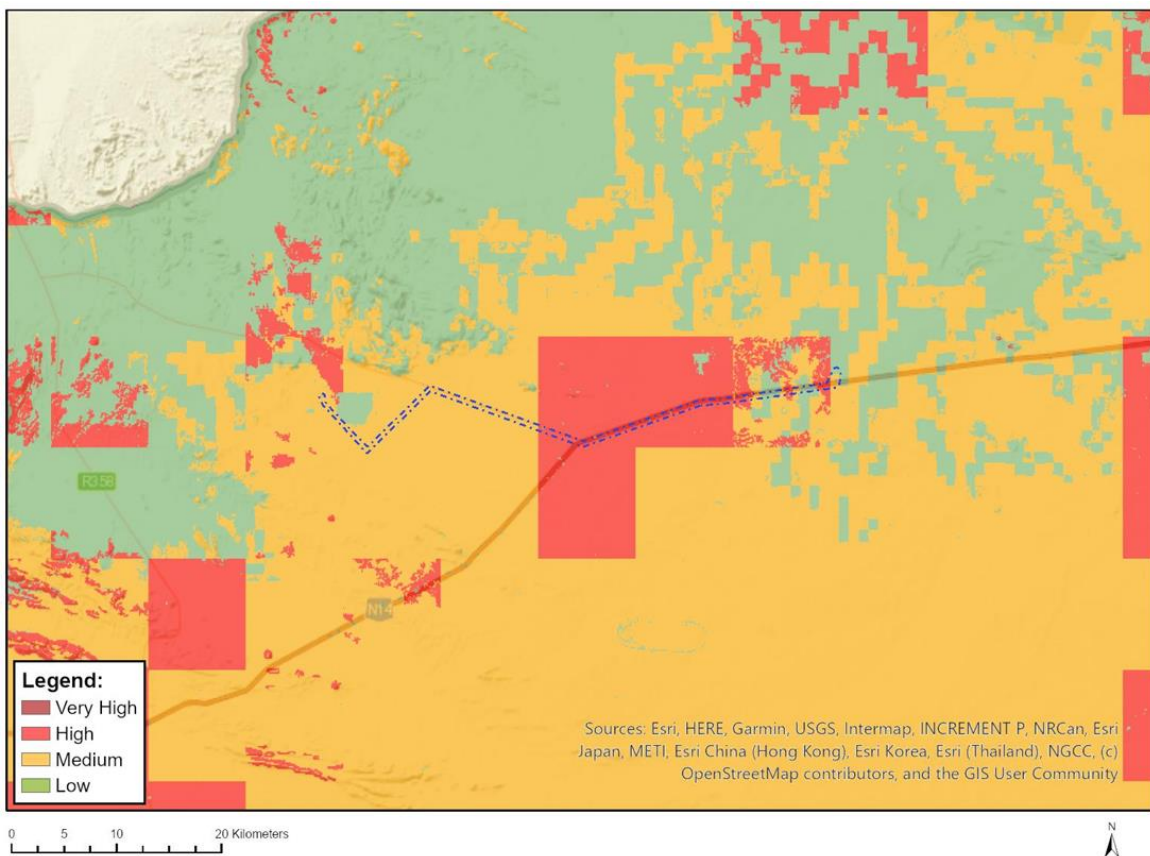


Figure 3: Map of Relative Animal Species Theme Sensitivity

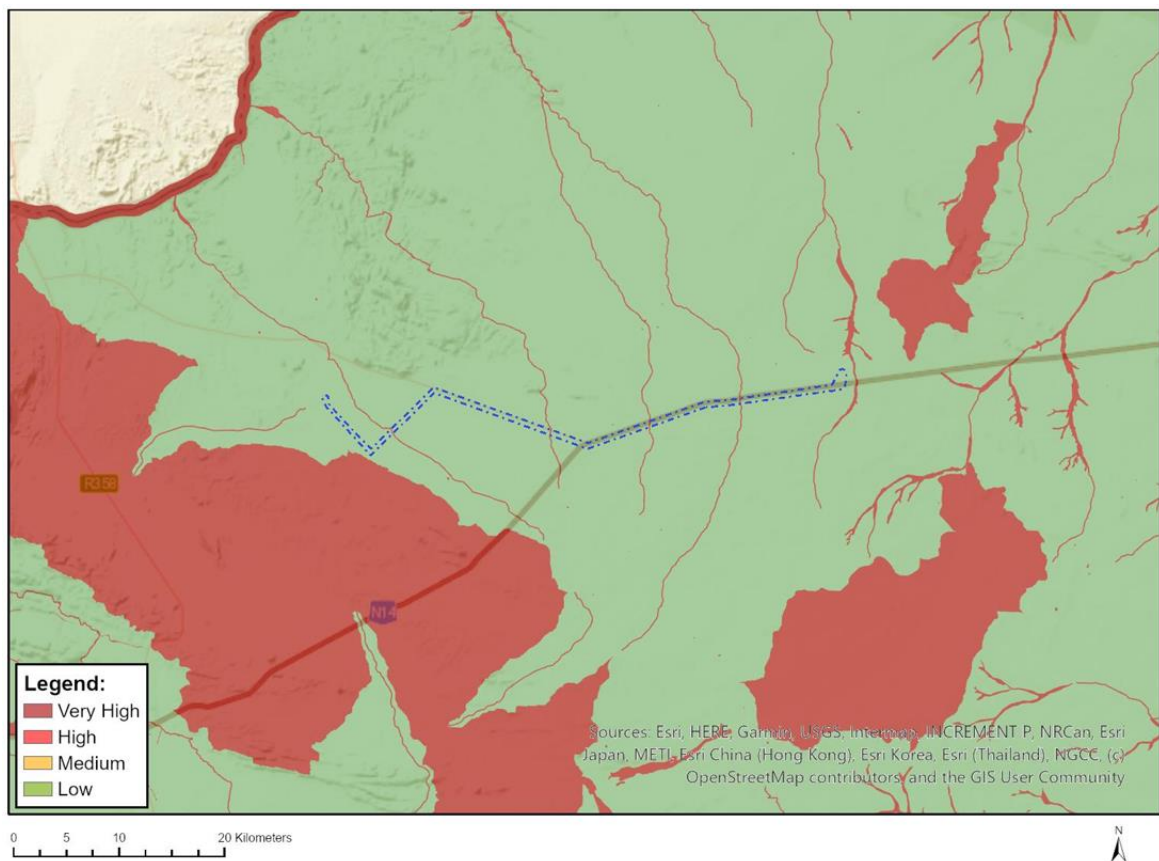


Figure 4: Map of Relative Aquatic Biodiversity Theme Sensitivity

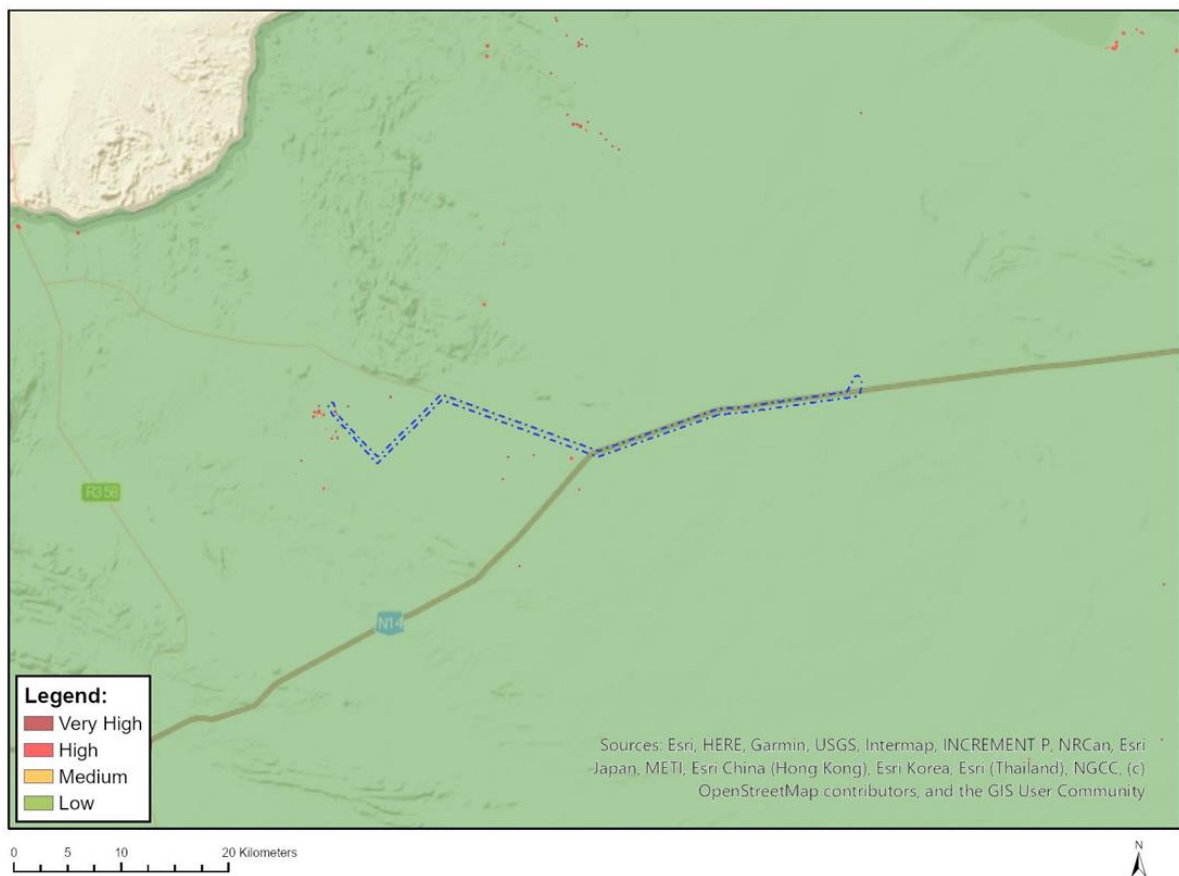


Figure 5: Map of Relative Archaeological and Cultural Heritage Theme Sensitivity

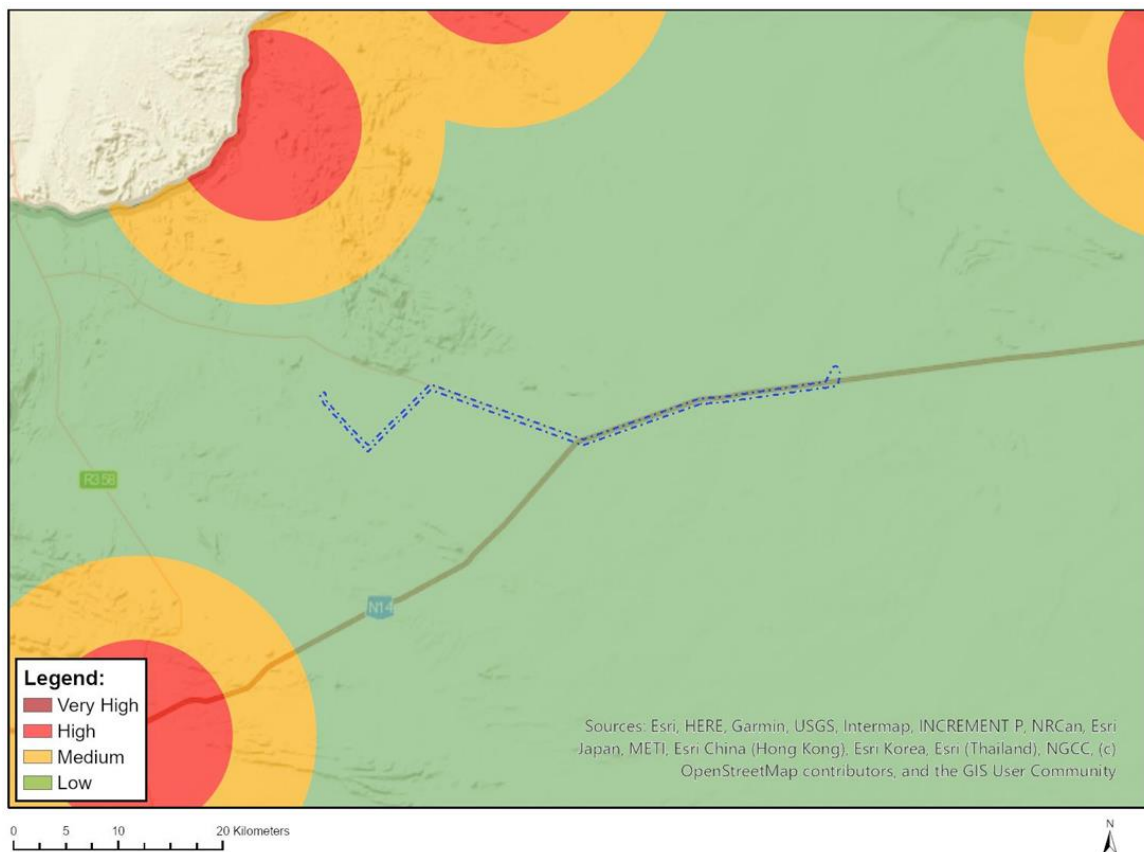


Figure 6: Map of Relative Civil Aviation Theme Sensitivity

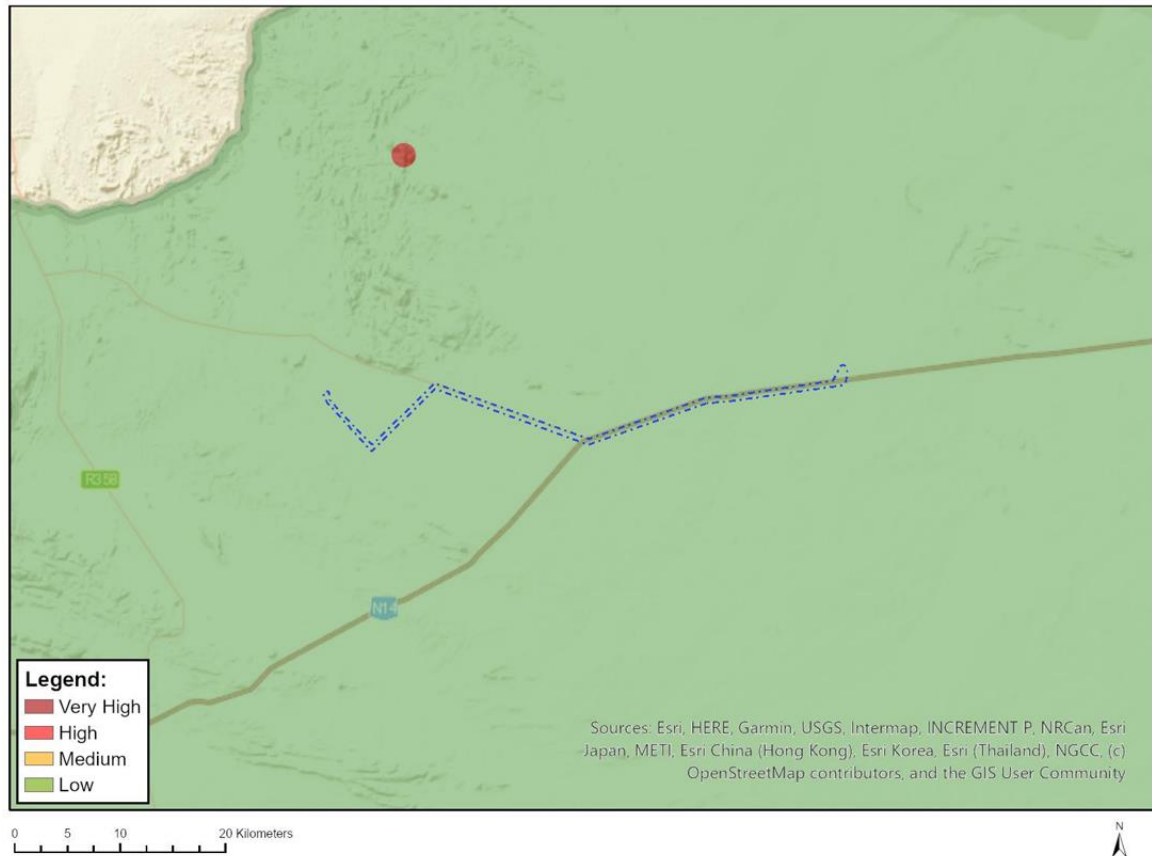


Figure 7: Map of Relative Defence Theme Sensitivity

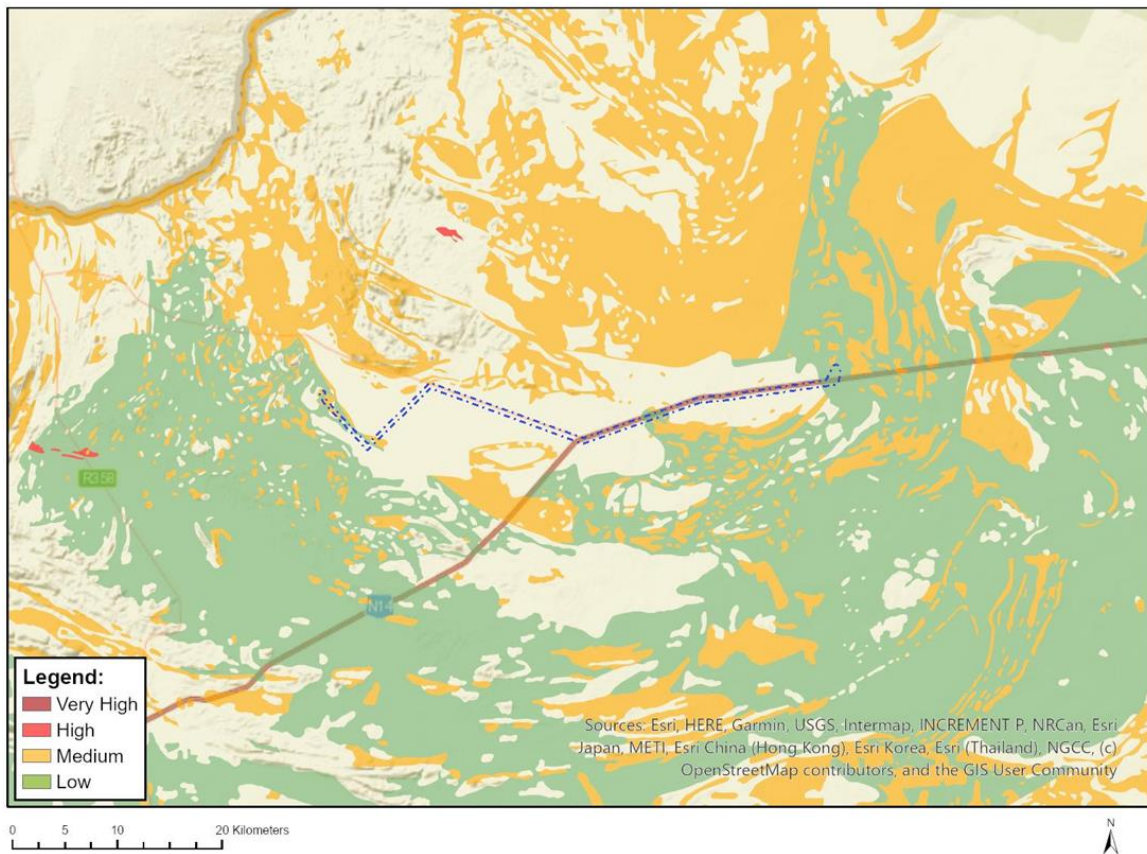


Figure 8: Map of Relative Paleontology Theme Sensitivity

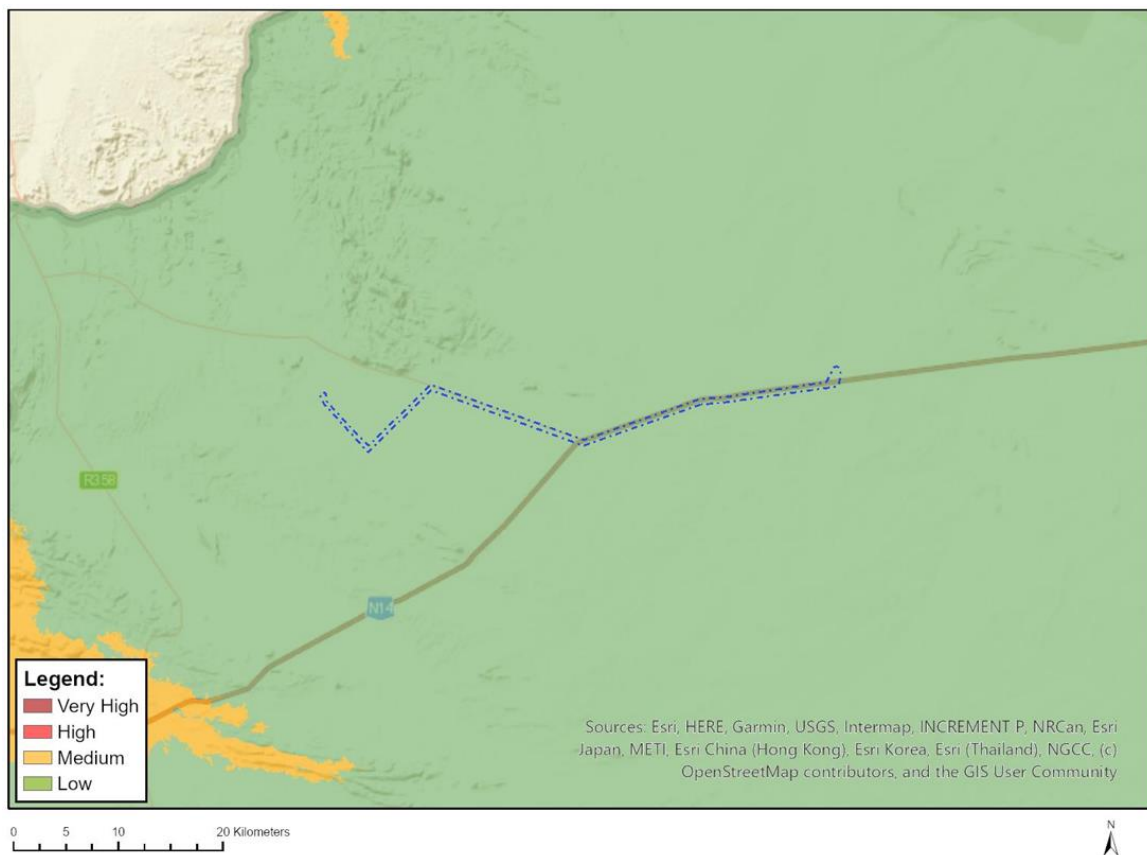


Figure 9: Map of Relative Plant Species Theme Sensitivity

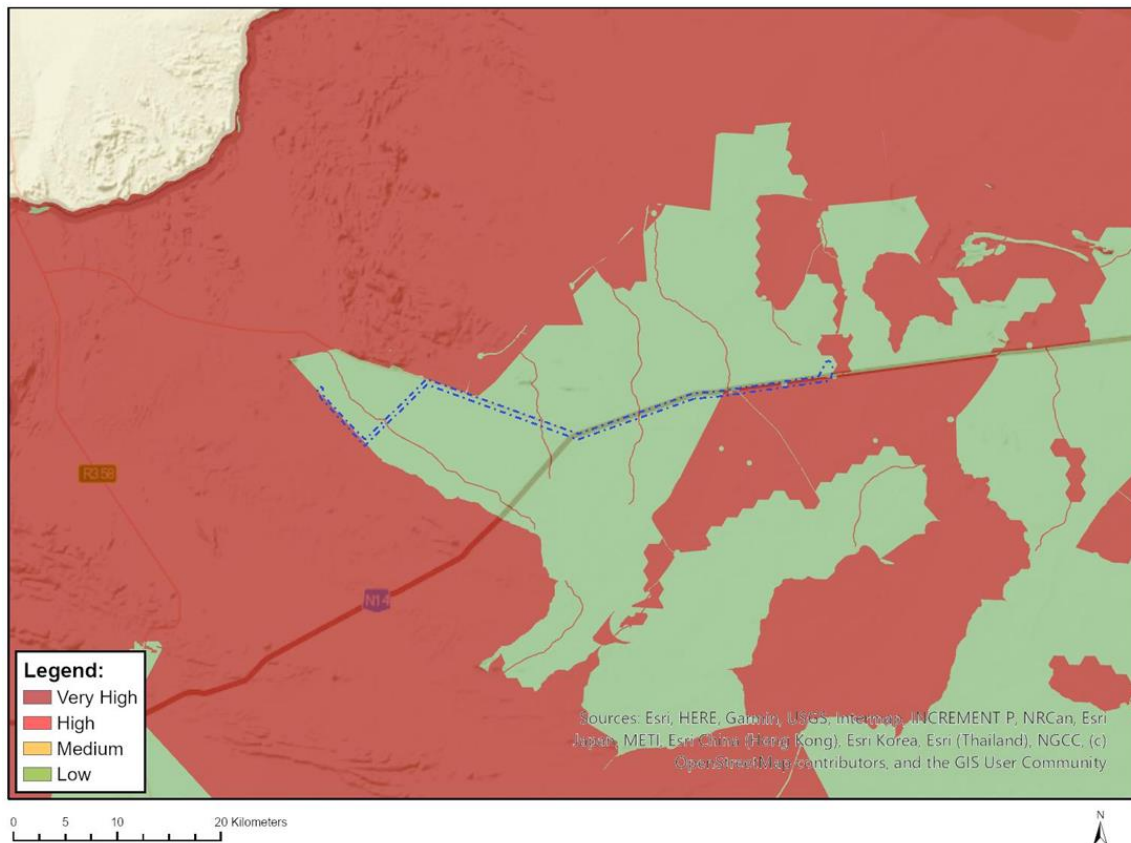


Figure 10: Map of Relative Terrestrial Biodiversity Theme Sensitivity

### 7.3 Sub-section 3: Declaration

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

Signature Proponent/applicant/ holder of EA

Date:

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

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

## PART C

### 8 SITE SPECIFIC ENVIRONMENTAL ATTRIBUTES

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

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

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

An understanding of the overall character and other sensitivities that were identified in the surrounding environment is pertinent to the project. The site specific environmental sensitivities as indicated by the specialist studies (Appendix F of the BAR) are as follows. Furthermore, site-specific tower-to-tower sensitivities were identified which are included below:

#### **A. Terrestrial Biodiversity Assessment (The Biodiversity Company, 2025):**

- The study area has high levels of persistent anthropogenic disturbance present and the overall low indigenous flora species diversity which is heavily impacted by the dominance of a wide array of weedy species and pioneers;
- Three (3) terrestrial habitat units were encountered namely, Modified Habitat, Degraded Grassland and Wet Grassland). The vegetation was found to be dominated by pioneer graminoids and exotic and alien invasive flora species, however some of the most predominant indigenous flora species recorded in the area (21 species);
- No SCC or protected flora species were observed by the specialist. Eleven (11) Exotic and Alien Invasive Species (AIS) were recorded throughout the project area. Five (5) of these are listed as Category 1b invasive species and according to legislation these must be controlled according to an AIS management plan;
- Six (6) mammal species were recorded, and no herpetofauna species were observed during the survey; and
- Four (4) avifauna habitats namely, Transformed, Agriculture, Grasslands and Water Resources were defined for the 2 km buffer region of the project area. During this assessment, 68 species including the *Phoeniconaias minor* (Lesser Flamingo) and *Phoenicopterus roseus* (Greater Flamingo) were recorded in the point counts and 55 during incidental records, with a total of 85 unique species observed. Four (4) SCC were

recorded during the survey. The installation of anticollision devices (standard bird flight diverters) in avifauna corridors, energised parts and/or grounded parts can be insulated appropriately to avoid incidental contact by birds, and perch discouragers can be used such as perch guards or spikes is recommended.

**B. Wetland and Baseline Risk Assessment (The Biodiversity Company, 2025):**

- Two (2) hydrogeomorphic (HGM) HGM units were identified within the 100m of the study area, namely, 14 seep (HGM1 – HGM 14) wetlands and four (4) unchannelled valley bottom (HGM15 – HGM18);
- The units ranged from a Present Ecological Importance (PEI) of C (Moderately modified) to E (Seriously modified) while the Site Ecological Importance (SEI) ranged from Very High (A) to Low (D); and
- Based on the results and conclusions presented in Wetland Baseline and Impact Assessment Report, it is of the specialists' opinion that if all mitigation measures are met with the placement of the pylons and use of existing roads, it is expected that the proposed activities will pose low risks on the wetlands and thus no fatal flaw was identified for the project.

**C. Soils and Agriculture Impact Assessment (The Biodiversity Company, 2025):**

- The three most sensitive soils forms which were identified in the proposed project area include, Hutton, Bainsvlei and Avalon soil forms;
- Impacts such impacts as soil erosion losses, loss of potential land capability, spillages and soil compaction will be limited. The direct, permanent, physical footprint of the development that has any potential to interfere with agriculture, is restricted to pylon bases with a limited impact;
- Areas with actively cultivated areas with high production agricultural resources were also identified in the extended corridor by the specialist, but are not within the direct proposed development area.

**D. Landscape and Visual Impact Assessment (Environmental Planning and Design, 2025)**

- The proposed power 400kV powerline is generally located within a largely natural landscape with relatively minor electrical infrastructure including smaller medium voltage powerlines largely beside roads.
- The western most section of the proposed 400kV powerline is aligned away from roads and settlement. The eastern most section is aligned close to the N14 as well as a number of homesteads including a single homestead to the east of the N14 and the Uitkyk Hamlet that is located close to the western side of the N14.
- With mitigation measures all possible landscape impacts were assessed as likely to have a low significance.

**E. Palaeontological Impact Assessment (Banzai Environmental, 2025):**

- The geology of the proposed development site as depicted on the 1: 250 000 East-Rand 2628 (1986) Geological Map (Council for Geosciences, Pretoria) indicates that the study

area is underlain by the Vryheid Formation (Ecca Group) with small areas of Jurassic dolerite. The PalaeoMap of the South African Heritage Resources Information System (SAHRIS) indicates that the Palaeontological Sensitivity of the Vryheid Formation (Ecca Group, Karoo Supergroup) is Very High, while that of Jurassic dolerite is Zero;

- Based on site investigation and desktop research, fossil heritage of scientific and conservation relevance is rather uncommon in the total development footprint;
- A Chance Find Protocol must be implemented for any new discoveries; and
- Any discovered artefacts shall not be removed under any circumstances. Any destruction of a site can only be allowed once a permit is obtained and the site has been mapped and noted. Permits must be obtained from the South African Heritage Resources Agency (SAHRA).

***F. Phase I Archaeological and Cultural Heritage Impact Assessment (EIMS, 2025)***

- A total of four heritage features and resources were identified within the study area. These consist of three burial grounds and one locality with a recent historic structure. The burial grounds are rated as having a high heritage significance and will require further mitigation work before the project can continue if these may be impacted upon;
- Known sites should be located and isolated, e.g., by fencing them off. All residents and their visitors should be informed that these are no-go areas, unless accompanied by the individual or persons representing the ECO;
- A Chance Find Protocol must be implemented for any new discoveries; and
- Any discovered artefacts shall not be removed under any circumstances. Any destruction of a site can only be allowed once a permit is obtained and the site has been mapped and noted. Permits must be obtained from the South African Heritage Resources Agency (SAHRA).

## APPENDIX 1: METHOD STATEMENTS

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

**APPENDIX 2: CV OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER**

## CURRICULUM VITAE

<b>Name:</b>	<b>John Paul von Mayer</b>
<b>Nationality:</b>	South African
<b>Date of Birth:</b>	24 September 1984
<b>Profession:</b>	Environmental Scientist
<b>Professional Qualification/ Training:</b>	BSc Honours Environmental Science; University of the Witwatersrand, 2007
	BSc Environmental Science; University of the Witwatersrand, 2006
	Certificate in Environmental Law, Rhodes University, 2011
<b>Professional Membership/ Registrations:</b>	Registered Professional Natural Scientist (SACNSP- #400336/11) EAPASA Registered Environmental Assessment Practitioner (2019/1247)
<b>Current Employer:</b>	Environmental Impact Management Services (Pty) Ltd.

## KEY EXPERIENCE

Mr John von Mayer is a senior consultant at EIMS and has been involved in numerous significant projects the past 14 years. He has experience in Project Management, small to large scale Environmental Impact Assessments, Environmental Auditing, Water Use Licensing, and Public Participation. He is a Registered Professional Natural Scientist (400336/11) with the South African Council Natural and Scientific Professions (SACNASP) as well as a registered EAPASA Environmental Practitioner (2019/1247) His key experience includes:

- Experience with identification and assessment of environmental impacts.
- Experience in environmental compliance and monitoring.
- Knowledge of environmental legislation and policies, planning process and regulatory frameworks.
- Knowledge and experience of public participation process.
- Strong competencies in the assessment of renewable energy and mining projects.
- Project management.

## CAREER SUMMARY

<b>Period: November 2016 - Present:</b>	<b>Organisation: EIMS</b>	<b>Position: Senior Environmental Assessment Practitioner</b>
<b>Key Projects/Assignments</b>	<u>Senior EAP:</u> Responsible for managing various projects. Main responsibilities include: <ul style="list-style-type: none"> <li>• Compilation of EIA reports</li> </ul>	



	<ul style="list-style-type: none"> <li>• Environmental audits and compliance reporting</li> <li>• Compilation of Environmental Management Plans</li> <li>• Various licensing and permitting applications</li> </ul> <p>Currently involved in a number of ongoing projects, EIAs, etc.</p> <p>Selected Project Experience:</p> <ul style="list-style-type: none"> <li>• Update of Environmental Management Plans for three of Harmony's Freestate Gold Mining Operations.</li> <li>• Eloff Phase 3 Coal Mine extension EIA.</li> <li>• Vlakvarkfontein Coal Mine extension EIA and WULA.</li> <li>• EA Basic Assessment application for Searcher 3D Seismic Survey Reconnaissance project off the West Coast of South Africa.</li> <li>• Droogvallei Coal Mine Water Use Licence Application.</li> <li>• Elandsfontein mine extension EIA and Water Use Licence Application near Delmas Mpumalanga Province.</li> <li>• Proxa Eastern Basin Treatment Plant EA / EMPr Audit.</li> <li>• Harmony Mispah and Kareerand Pipelines EA and WULAs for various Harmony mines throughout Free-State</li> <li>• External Environmental Compliance Audits for various Eskom power stations (Matimba, Medupi, Kusile etc).</li> <li>• Updates to Manungu Mine Rehabilitation Strategy and Implementation Plan</li> <li>• Amendment of Environmental Authorization for Harmony Gold Mining Kalgold operations</li> <li>• EMPr amendment for Harmony Moab mine</li> <li>• Environmental Compliance Audit for the Amakhala Emoyeni Wind Farm.</li> <li>• Environmental Compliance Audit for various coal mines including Canyon Coal's Hokhana Coal Mine.</li> <li>• Tetra4 EA / EMPr / WUL compliance audits for Cluster 1 exploration activities.</li> <li>• Harmony Valley Tailings Storage Facility EIA and WULA near Welkom.</li> <li>• Various EIAs and EMPrs for Glencore Solar PV facilities at Wonderkop smelter, Lydenburg smelter and Rhovan vanadium mine.</li> <li>• EMPr Performance assessment audits at various Harmony Free-State operations</li> </ul>		
<b>Period: June 2008 – June 2012 and October 2014 – November 2016</b>	<table> <tr> <td data-bbox="531 1895 970 2045"> <b>Organisation:</b> Savannah Environmental </td><td data-bbox="970 1895 1444 2045"> <b>Position:</b> Senior Environmental Assessment Practitioner </td></tr> </table>	<b>Organisation:</b> Savannah Environmental	<b>Position:</b> Senior Environmental Assessment Practitioner
<b>Organisation:</b> Savannah Environmental	<b>Position:</b> Senior Environmental Assessment Practitioner		



<b>Key Projects/Assignments</b>	<p>Project Manager and Environmental Assessment Practitioner for the following:</p> <ul style="list-style-type: none"> <li>• Environmental Impact Assessment for the Hopefield Wind Energy Facility, Western Cape Province in line with WB / IFC standards</li> <li>• Environmental Impact Assessment for a Wind Energy Facility near Cookhouse, Eastern Cape Province in line with WB / IFC standards</li> <li>• Basic Assessment for Cookhouse II Wind Energy Facility expansion project, Eastern Cape Province in line with WB / IFC standards</li> <li>• Provision of Environmental Consulting Services for the Implementation and Compliance Monitoring of the Cookhouse Wind Energy Facility</li> <li>• Environmental Post Construction Audits for Wind Monitoring Masts near Cookhouse and Oyster Bay</li> <li>• Environmental Impact Assessments for the Amakhala Emoyeni Wind Energy Facilities near Bedford, Eastern Cape Province in line with WB / IFC standards.</li> <li>• Environmental Impact Assessments and Environmental Management Plans for Wind Energy Facilities near Indwe and Sterkstroom, Eastern Cape Province</li> <li>• Environmental Impact Assessment and Management Plan for Happy Valley Wind Energy Facility near Humansdorp, Eastern Cape Province</li> <li>• Environmental Impact Assessment and Management Plan for Deep River Wind Energy Facility near Humansdorp, Eastern Cape Province</li> <li>• Environmental Impact Assessment and Management Plan for 200km of Eskom Transmission Lines in Limpopo Province: Mokopane Integration Project</li> <li>• Environmental Impact Assessment and Management Plan for Tsitsikamma Community Wind Energy Facility in the Eastern Cape Province</li> <li>• Integrated Environmental Impact Assessment and Management Plan for Tshivhaso Coal Fired power Plant near Lephalale</li> <li>• Environmental Audits and Compliance Monitoring for Eskom Duvha Mine Water Recovery Project</li> <li>• Completed Regional Siting Assessments for proposed Wind Energy Facilities on the West Coast for Investec</li> <li>• Numerous Basic Assessments including: Qoboshane Road and Access Bridge Project, Various 132kV power line projects throughout the country, Wastewater treatment facility for Harmony's Doornkop Mine, Camco PV project at Thaba Eco Lodge.</li> <li>• Legal Review and Licenses Audit for Eskom Generation, Duvha Power Station.</li> <li>• Legal Review and License Audit for Eskom Generation, Hendrina Power Station.</li> <li>• External WUL and NEMA Performance Assessment for the Hakhano Colliery in Middelburg.</li> </ul>
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	<ul style="list-style-type: none"> <li>Annual Environmental Compliance, Equator Principles, IFC Performance Standards and World Bank EHS Guidelines Auditing for the construction of the 138MW Amakhala Emoyeni Project 1 Wind Energy Facility near Bedford, Eastern Cape Province.</li> </ul>	
June 2012 – October 2014: Senior Environmental Scientist;	<b>Organisation: Mills and Otten</b>	<b>Position: Environmental Scientist</b>
<b>Key Projects/Assignments</b>	Environmental Scientist at Mills and Otten. Worked on the following projects: <ul style="list-style-type: none"> <li>Phase 1 and Phase 2 contamination assessments for BP, BP RM, Engen and Total SA at various filling stations and fuel installations throughout the country.</li> <li>Remediation monitoring and Remediation Action Plans for various filling stations in Johannesburg for BP RM and Total SA.</li> <li>Various Waste and Water Use License Applications</li> </ul>	

## LANGUAGE CAPABILITY

Language	Speak	Read	Write
English	Excellent	Excellent	Excellent
Afrikaans	Average	Good	Average

## DECLARATION

I confirm that the above information contained in the CV is an accurate description of my experience and qualifications and that, at the time of signature.

\_\_\_\_\_  
Signature of Staff Member

\_\_\_\_\_  
Date

**Environmental Assessment  
Practitioners Association  
of South Africa**



**Registration No. 2019/1247**

**Herewith certifies that**

**JOHN VON MAYER**

**is registered as an**

**Environmental Assessment Practitioner**

**Registered in accordance with the prescribed criteria of Regulation 15. (1)  
of the Section 24H Registration Authority Regulations  
(Regulation No. 849, Gazette No. 40154 of 22 July 2016, of the  
National Environmental Management Act (NEMA), Act No. 107 of 1998, as amended).**

**Effective: 01 March 2025**

**Expires: 31 March 2026**

*Chairperson*

*Registrar*



# SACNASP

South African Council for Natural Scientific Professions

**herewith certifies that**

**John Paul von Mayer**

Registration Number: 400336/11

**is a registered scientist**

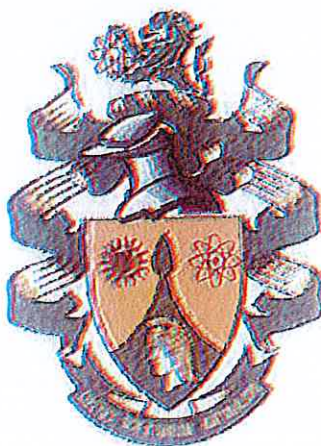
in terms of section 20(3) of the Natural Scientific Professions Act, 2003  
(Act 27 of 2003)

in the following field(s) of practice (Schedule 1 of the Act)

Environmental Science (Professional Natural Scientist)

Effective 31 August 2011

Expires 31 March 2026



A handwritten signature in blue ink.

Chairperson

A handwritten signature in blue ink.

Chief Executive Officer



To verify this certificate scan this code



# UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

At a congregation of the University

held on 10 April 2008

***John Paul Von Mayer***

was admitted to the Degree of

**Bachelor of Science with Honours**

**(Geography)**

R Veale

*(Acting) Dean, Faculty of Science*

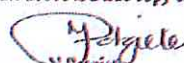
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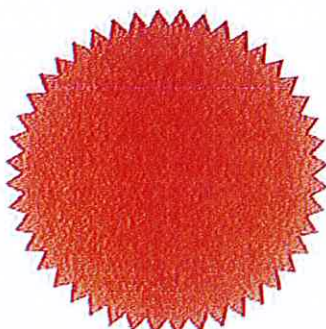
*Vice-Chancellor and Principal*

DK Swemmer

*Registrar*

This is to certify that the above is a true copy of the original

  
N. P. P. P.  
Deputy Registrar



## CURRICULUM VITAE

<b>Name:</b>	<b>Lucien Nicolas James</b>
Nationality:	South African
Date of Birth:	4 May 1993
Profession:	Environmental Consultant and Archaeologist
Professional Qualification/ Training:	BA (Archaeology and Geography); Wits University, 2017
	BSc (Hons) Geography, Archaeology and Environmental Studies; Wits University, 2018
	MSc (Geography); Wits University, 2021
	Ph. D. (Geography); Wits University, 2024
Professional Membership/ Registrations:	Registered Candidate Environmental Assessment Practitioner (EAPASA reg. no. 2023/6772)
	Accredited Professional Archaeologist (ASAPA member no. 0619)
Publications:	James, L. & Simatele, M.D. 2024. Bystanders or active participants? Mobilising meaningful participation in River Basin Management: Lessons from the Gauteng Province, South Africa. <i>International Journal of River Basin Management</i> . <a href="https://doi.org/10.1080/15715124.2024.2417405">https://doi.org/10.1080/15715124.2024.2417405</a> .
Current Employer:	Environmental Impact Management Services (Pty) Ltd.

## KEY EXPERIENCE

Lucien James is an environmental consultant and archaeologist with experience in different fields across the Arts, Social Science, Natural Science, and academia in general. He has been employed by EIMS as an environmental consultant since March 2023 working on several projects under various roles. He is registered with EAPASA as a Candidate EAP. Lucien has obtained a BSc (Hons) in Geography, Archaeology and Environmental Studies (Archaeology-focused) and is accredited as a Professional Archaeologist with Association of South African Professional Archaeologists (ASAPA). He holds a MSc in Geography having done research on phytoremediation and the mining industry. In 2024, he completed his Ph.D. through research with a focus on collaborative River Basin Management in South Africa. He has worked as a Teaching Assistant (TA) and researcher since 2018 and engages in academic work through publications and conferences. He has taught 1<sup>st</sup> year, 2<sup>nd</sup> year, 3<sup>rd</sup> year and Honour's Archaeology and Geography courses. His research has been funded by the National Research Foundation (NRF) and the Water Research Commission (WRC). He has also published his research in an international academic journal. He has presented his research at a national level through various conferences in South Africa and has participated in other conferences and workshops on Climate Change and Climate Change Adaptation.



## CAREER SUMMARY

Period: Current	Organisation: EIMS	Position: Environmental Consultant and Archaeologist
Key Projects/Assignments	<p><u>Project experience:</u></p> <ul style="list-style-type: none"> <li>• AEMFC Herbert Prospecting Basic Assessment – Public Participation</li> <li>• Aries-Kronos 400kV Powerline Upgrade – Project Assistance, on-site specialist oversight, Water Use License</li> <li>• Block 3B/4B Oil and Gas Offshore Exploration EIA – Public Participation</li> <li>• ENEL Solar PV – External Audit</li> <li>• Harmony Freddie's to Target Pipeline Part 1 EA Amendment and WUL Amendment – Project Management</li> <li>• Harmony FSN Pipeline Basic Assessment – Public Participation</li> <li>• Harmony Kusasaletu Pipeline Basic Assessment – Public Participation</li> <li>• Harmony Mispah Pipeline Basic Assessment – Public Participation</li> <li>• Harmony Nooitgedacht TSF EIA – Public Participation</li> <li>• Harmony Valley TSF EIA – Public Participation</li> <li>• Kusile Power Station Temporary Stacks MES Postponement and AEL Variation Application</li> <li>• Mine Waste Solutions Kareerand Pipeline Basic Assessment – Public Participation</li> <li>• Mooiplaats WUL Amendment – Project Management</li> <li>• Mulilo Struisbult PV2 EMPR Amendment – Public Participation</li> <li>• Mulilo Struisbult PV2 Grid Connection Basic Assessment – Public Participation</li> <li>• NTCSA Greater East London Phase 4 (Pembroke to Poseidon) 400kV Powerline Walkdown – Project oversight, Heritage Component, EMPR Addendum</li> <li>• Selkirk Avenue Development Pipeline Basic Assessment and EMPR – Project Assistance</li> <li>• Sibanye KDT1 Remining EIA – Public Participation and Heritage Impact Assessment (Exemption)</li> <li>• Sibanye Western Limb Tailings Re-treatment Facility Retrofitting Basic Assessment – Public Participation</li> <li>• Tetra4 Cluster 2 Gas Production EIA – Public Participation</li> <li>• Tetra4 Powerline Basic Assessment – Public Participation</li> </ul>	



	<ul style="list-style-type: none"> <li>Thungela Lephalale CBM EIA – Public Participation and Water Use License</li> </ul>
<b>Heritage Project/ Assignments</b>	<ul style="list-style-type: none"> <li>Motouane RBD12 Pre-drill Survey Heritage Reporting</li> <li>Glencore RCM Phase 1 HIA</li> <li>BMM Sandgat Prospecting Desktop HIA</li> <li>BMM Oubip Prospecting Desktop HIA</li> <li>Aqua Farming Droogfontein Pivot Agriculture Phase 1 HIA</li> <li>Genade Boerdery Pivot Agriculture Phase 1 HIA</li> <li>Motuoane Exploration Right 369 Desktop HIA</li> <li>NTCSA Pembroke-Poseidon 400kV Powerline Heritage Walkdown</li> </ul>

## LANGUAGE CAPABILITY

Language	Speak	Read	Write
English	Excellent	Excellent	Excellent
Afrikaans	Basic	Intermediate	Intermediate
French	Excellent	Excellent	Excellent
Spanish	Basic	Intermediate	Intermediate
Latin	N/A	Basic	Basic

## DECLARATION

I confirm that the above information contained in the CV is an accurate description of my experience and qualifications at the time of signature.

\_\_\_\_\_  
Signature of Staff Member

\_\_\_\_\_  
Date

**Environmental Assessment  
Practitioners Association  
of South Africa**



Registration No. 2023/6772

**Herewith certifies that**

**LUCIEN JAMES**

**is registered as an**

**Candidate Environmental Assessment Practitioner**

**Registered in accordance with the prescribed criteria of Regulation 15. (1)  
of the Section 24H Registration Authority Regulations  
(Regulation No. 849, Gazette No. 40154 of 22 July 2016, of the  
National Environmental Management Act (NEMA), Act No. 107 of 1998, as amended).**

**Effective: 01 March 2025**

**Expires: 31 March 2026**

*Chairperson*

*Registrar*





# UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

At a congregation of the University

held on 08 July 2024

*Lucien Nicolas James*

was admitted to the Degree of

**Doctor of Philosophy**



  
Dean: Faculty of Science

  
Vice-Chancellor and Principal

  
Registrar

2024N05067

109  
1922  
2022

# << archaeologists

ASSOCIATION OF SOUTHERN AFRICAN PROFESSIONAL ARCHAEOLOGISTS

This is to certify that:

**Lucien Nicolas James**

**9305045042086**

Having satisfied all requirements of the

**Association of Southern African Professional  
Archaeologists**

for certification and on 24 May 2024 been duly  
registered by ASAPA as a

**Professional Member**

Designation valid from 12 Dec 2023 until 12 Dec 2024

<<archaeologists

THE ASSOCIATION OF SOUTHERN AFRICAN PROFESSIONAL ARCHAEOLOGISTS

## CERTIFICATE OF MEMBERSHIP

HEREBY CONFIRMS THAT

LUCIEN NICOLAS JAMES

Valid April 2025  
March 2026

Is a Professional Member (No 0619) of  
the Association of Southern African Professional  
Archaeologists and is in good standing  
with the organisation



WOUTER FOURIE  
CHAIRPERSON

SHAHZAADEE KHAN  
TREASURER



# UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

At a congregation of the University

held on 15 December 2021


***Lucien Nicolas James***

was admitted to the Degree of

**Master of Science**

**(Geography, Archaeology and Environmental  
Studies)**



  
Dean: Faculty of Science

  
Vice-Chancellor

  
Registrar

2021N09149



# UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

At a congregation of the University

held on 20 March 2019

***Lucien Nicolas James***

was admitted to the Degree of

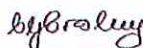
**Bachelor of Science Honours**

**(Geography, Archaeology and Environmental  
Studies)**



  
Acting Dean : Faculty of Science

  
Vice-Chancellor and Principal

  
Registrar

2019N00363



# UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

At a congregation of the University

held on 04 July 2018

***Lucien Nicolas James***

was admitted to the Degree of

**Bachelor of Arts**



*R. Coman*  
Dean: Faculty of Humanities

*Chris Hlengiwe*  
Vice-Chancellor and Principal

*by Brodie*  
Registrar

GEREGISTREERDE WOON- EN POSADRES

1. Bewaar die bewys van u GEREGISTREERDE WOON- EN POSADRES in hierdie sakke.

2. Indien u van adres verander het, of indien besonderhede van u huidige adres, bv. straatnaam en of -nommer, ens. verander het, moet die vorm KENNISGEWING VAN ADRESVERANDERING, wat in die sakke agter in die identiteitsdokument is, gebruik word om die verandering aan te meld en moet dit ingedien word by of gepos word aan die naaste streek-distrikkantoor van die DEPARTEMENT VAN BINNELANDSE SAKE.

REGISTERED RESIDENTIAL AND POSTAL ADDRESS

1. Keep the proof of your REGISTERED RESIDENTIAL AND POSTAL ADDRESS in this pocket.

2. If you have changed your address, or, if particulars of your present address, e.g. name of street and or street number, etc., have been changed, the NOTICE OF CHANGE OF ADDRESS form in the pocket at the back of the identity document must be used to report the change, and it must be handed in at or posted to the nearest regional/district office of the DEPARTMENT OF HOME AFFAIRS.

I.D.No. 930504 5042 08 6



S.A.BURGER/S.A.CITIZEN

VAN/SURNAME

JAMES

VOORNAME/FORENAMES

LUCIEN NICOLAS

GEBOORTEDISTRIK OF LAND/  
DISTRICT OR COUNTRY OF BIRTH

SOUTH AFRICA

GEBOORTEDATUM/  
DATE OF BIRTH

1993-05-04

DATUM UITGEREIK  
DATE ISSUED

2010-02-08



UITGEREIK OF GESEAG VAN DIE  
DIRKTYUR-GENERAAL:  
BINNELANDSE SAKE

ISSUED BY AUTHORITY OF THE  
DIRECTOR-GENERAL:  
HOME AFFAIRS