



**GENERIC ENVIRONMENTAL MANAGEMENT PROGRAMME  
(EMPR) FOR THE DEVELOPMENT AND EXPANSION FOR  
OVERHEAD ELECTRICITY TRANSMISSION AND DISTRIBUTION  
INFRASTRUCTURE.**

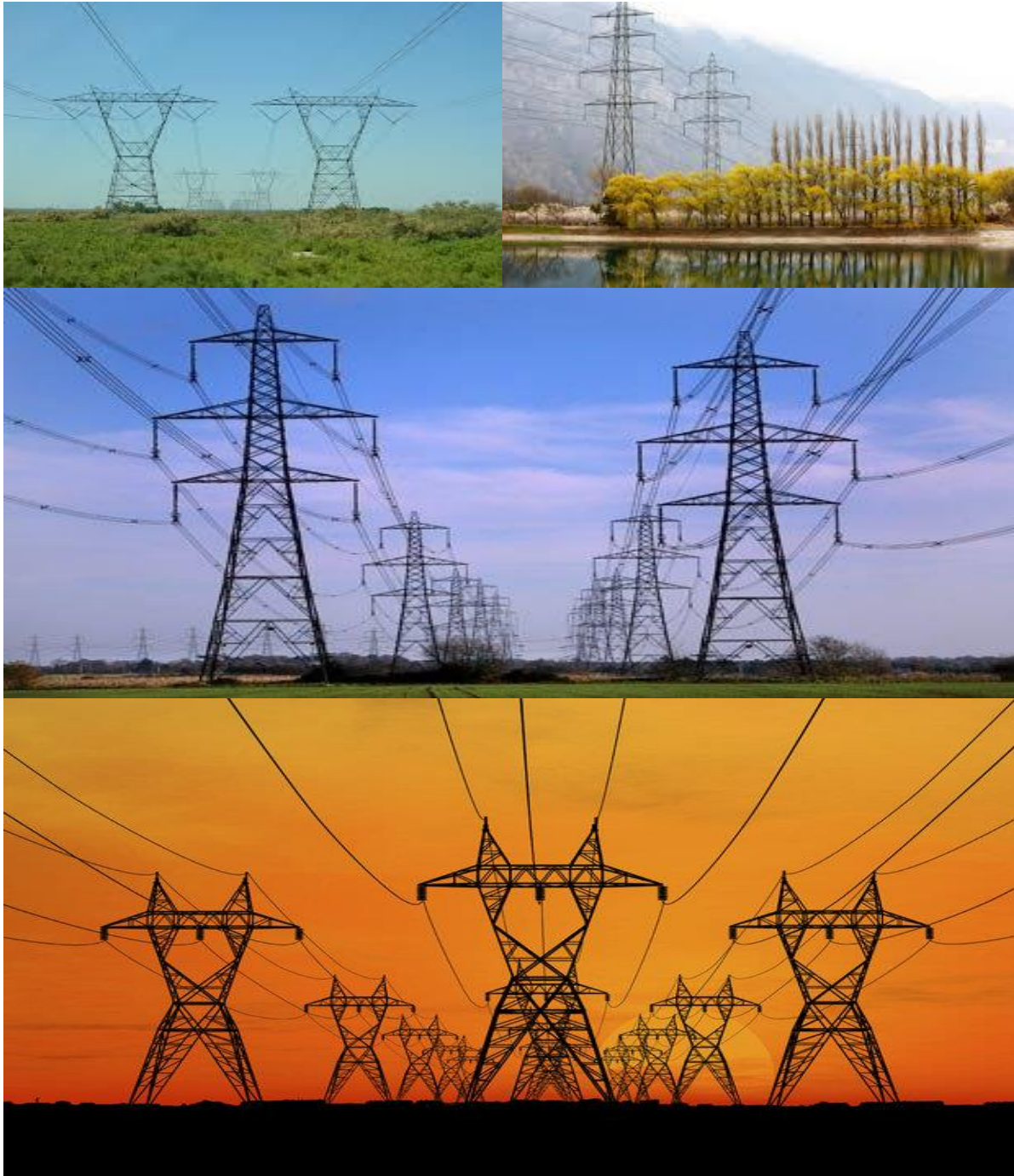
**PROPOSED SOUTRIVIER SOUTH 132kV OHL,  
UBUNTU LOCAL MUNICIPALITY,  
NORTHERN CAPE PROVINCE**

*(DEFF REFERENCE NUMBER: TBA)*

**FEBRUARY 2023**

**APPENDIX 1**  
**GENERIC ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr) FOR THE  
DEVELOPMENT AND EXPANSION FOR OVERHEAD ELECTRICITY  
TRANSMISSION AND DISTRIBUTION INFRASTRUCTURE**

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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 outcomes and impact management actions are <b>legally binding</b> . The preliminary infrastructure layout must be finalised 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

Part	Section	Heading	Content
			<p>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> applies 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 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>.</p>
Appendix 1			<p>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.</p>



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

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

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

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

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

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

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

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

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

Sub-section 1 contains the project name, the applicant's name and contact details, the site information, which includes coordinates of the corridor in which the proposed overhead electricity transmission and distribution infrastructure are 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>BA</b>	Basic Assessment
<b>BAR</b>	Basic Assessment Report
<b>BESS</b>	Battery Energy Storage System
<b>CA</b>	Competent Authority
<b>cEO</b>	Contractors Environmental Officer
<b>CLO</b>	Community Liaison Officer
<b>CV</b>	<i>Curriculum Vitae</i>
<b>DAFF</b>	Department of Agriculture, Forestry and Fisheries
<b>dEO</b>	Developer Environmental Officer
<b>DFFE</b>	Department of Forestry, Fisheries and the Environment
<b>DM</b>	District Municipality
<b>DPM</b>	Developer Project Manager
<b>DSS</b>	Developer Site Supervisor
<b>DWS</b>	Department of Water and Sanitation
<b>EA</b>	Environmental Authorisation
<b>EAP</b>	Environmental Assessment Practitioner
<b>EAR</b>	Environmental Audit Report
<b>ECA</b>	Environmental Conservation Act No. 73 of 1989
<b>ECPHRA</b>	Eastern Cape Provincial Heritage Resources Authority
<b>ECO</b>	Environmental Control Officer
<b>EA</b>	Environmental Authorisation
<b>EIA</b>	Environmental Impact Assessment
<b>EIR</b>	Environmental Impact Report
<b>ESA</b>	Early Stone Age
<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>HVAC</b>	Heating, Ventilation and Air-Conditioning
<b>I&amp;AP</b>	Interested and/or Affected Party
<b>IPP</b>	Independent Power Producers
<b>IRP</b>	Integrated Resource Plan
<b>LILO</b>	Line-In-Line-Out
<b>LM</b>	Local Municipality
<b>LSA</b>	Later Stone Age
<b>MSA</b>	Middle Stone Age
<b>MSDS</b>	Material Safety Data Sheet

<b>MV</b>	Medium Voltage
<b>MW</b>	Megawatt
<b>MWh</b>	Megawatt hours
<b>MWp</b>	Megawatt peak
<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>NHA</b>	National Heritage Act, 1999 (Act No. 25 of 1999)
<b>NWA</b>	National Water Act, 1998 (Act No. 36 of 1998)
<b>OHL</b>	Overhead Line
<b>PPP</b>	Public Participation Process
<b>REIPP</b>	Renewable Energy Independent Power Producers
<b>RI&amp;AP's</b>	Registered Interested and affected parties <i>[also see I&amp;AP]</i>
<b>SAHRA</b>	South African Heritage Resource Agency
<b>SCC</b>	Species of Conservation Concern
<b>SMME</b>	Small, Medium and Micro Enterprises
<b>WEF</b>	Wind Energy Facility

### 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> 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> 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> </ul>

Responsible Person (s)	Role and Responsibilities
	<ul style="list-style-type: none"> <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> <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> </ul>



Responsible Person (s)	Role and Responsibilities
	<ul style="list-style-type: none"> <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-compliance, 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>
<p>developer Environmental Officer (dEO)</p>	<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> </ul>

Responsible Person (s)	Role and Responsibilities
	<ul style="list-style-type: none"> <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 on-site activities as per their contract with the Project Developer. The contractors are required, where specified, to provide Method Statements setting out in detail how the impact management actions contained in the EMPr will be implemented during the development or expansion for overhead electricity transmission and distribution infrastructure activities.</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>

Responsible Person (s)	Role and Responsibilities
	<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> <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 upon prior to commencement of the activity. The ECOs are required to sign and date the checklist, retain a copy in the EMPr file and submit a copy of the completed checklist to the DSS on a weekly basis.

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

##### 4.4 Environmental site meetings

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

#### 4.5 Required Method Statements

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

The method statement must cover applicable details with regard to:

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

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

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

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

#### 4.6 Environmental Incident Log (Diary)

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

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

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

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

The Environmental Incident Log will be captured in the EAR.

#### 4.7 Non-compliance

A non-compliance notice will be issued to the responsible Contractor by the ECOs via the DSS or Project Manager. The non-compliance notices 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-compliance;
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 (ECO's 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 with 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 on-site 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> <li>g) Water usage and conservation;</li> <li>h) Solid waste management procedures;</li> <li>i) Sanitation procedures;</li> <li>j) Fire prevention; and</li> </ul> </li> </ul>	<p><b>The Contractor and the contractor Environmental Officer (cEO).</b></p>	<ul style="list-style-type: none"> <li>• <b>Compulsory Environmental Awareness Training Sessions.</b></li> <li>• <b>Information Posters in accessible locations.</b></li> </ul>	<p><b>Pre-construction Phase and Construction Phase.</b></p>	<p><b>The appointed Environmental Control Officer (ECO).</b></p>	<p><b>Monthly.</b></p>	<p><b>An Environmental Site File should be compiled and maintained by the cEO for the duration of the construction phase. This file should include proof of training, attendance registers, etc., and a copy of this file should be provided to the ECO, to append to the monthly audit reports. The ECO should collect photographic evidence of the Information Posters.</b></p>

<p>k) Disease prevention.</p> <ul style="list-style-type: none"> <li>– A record of all environmental awareness training courses undertaken as part of the EMPr 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>						
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**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 on-site activity that includes the layout of the construction camp in the form of a plan showing the location of key infrastructure and services (where applicable), including but not limited to offices, overnight vehicle parking areas, stores, the workshop, stockpile and lay down areas, hazardous materials storage areas (including fuels), the batching plant (if one is located at the construction camp), designated access routes, equipment cleaning areas and the placement of staff accommodation, cooking and ablution facilities, waste and wastewater management;</li> <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 walkthrough;</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>	<p><b>The Contractor.</b></p>	<p><b>Submission of relevant Method Statement(s) for approval.</b></p>	<p><b>Pre-construction Phase and Construction Phase.</b></p>	<p><b>The appointed ECO.</b></p>	<p><b>As Method Statements are submitted, and monthly monitoring.</b></p>	<p><b>Evidence of compliance and copies of all approved Method Statements must be appended to the pre-construction audit report and copies of additional Method Statements should be included in the relevant audit reports. Copies of all Method Statements must be kept in the Environmental Site File.</b></p>

### 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 walkthrough, 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>	<b>The Contractor and the ECO.</b>	<b>Demarcation and the placement of relevant signage.</b>	<b>Pre-construction Phase and Construction Phase.</b>	<b>The ECO.</b>	<b>Monthly.</b>	<b>The ECO must monitor the site to ensure that all restricted areas have been demarcated (photographic evidence) and that construction is not taking place within these areas. The demarcation of access-restricted areas must be maintained throughout the Construction Phase.</b>

### 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</li> </ul>	<b>The Developer Site Supervisor (DSS), the Contractor and the affected Landowners.</b>	<b>Formal access agreement.</b>	<b>Construction Phase.</b>	<b>The ECO.</b>	<b>Once-off, and monthly reporting.</b>	<b>The Contractor must provide the ECO with a copy of the access agreement, as well as any specific (agreed-upon) conditions. A copy of the access agreement must be kept in the Environmental Site File.</b>

<ul style="list-style-type: none"> <li>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 minimise 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>						
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### 5.5 Fencing and Gate installation

<b>Impact management outcome:</b> 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</li> </ul>	<b>The Contractor.</b>	<b>Supervision.</b>	<b>Construction Phase and prior to the commencement of the Operational Phase.</b>	<b>The ECO.</b>	<b>As required and reporting monthly.</b>	<b>Photographic evidence of the existing, and any new gates and fences, should be included in the monthly audit reports.</b>



<p>order for the duration of overhead transmission and distribution electricity infrastructure development activities;</p> <ul style="list-style-type: none"> <li>– Fencing must be erected around the camp, batching plants, hazardous storage areas, and all designated access restricted areas, where appropriate and would not cause harm to the sensitive flora;</li> <li>– Any temporary fencing to restrict the movement of life-stock must only be erected with the permission of the landowner.</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

<b>Impact management outcome:</b> 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 boreholes 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:               <ol 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> <li>b. No damage occurs to the riverbed or banks and that the abstraction of water does not entail stream diversion activities; and</li> <li>c. All reasonable measures to limit pollution or sedimentation of the downstream watercourse are implemented.</li> </ol> </li> </ul>	<b>The Contractor.</b>	<ul style="list-style-type: none"> <li>• Environmental Awareness Training.</li> <li>• Water Use Application(s).</li> <li>• Monitoring and supervision.</li> </ul>	<b>Construction Phase.</b>	<b>The cEO and the ECO.</b>	<b>Daily (cEO) and monthly (ECO).</b>	<b>The cEO should report to the ECO and photographic evidence should be included in the monthly audit reports. Copies of the relevant Water Use Authorisations must be kept in the Environmental Site File</b>

<ul style="list-style-type: none"> <li>– Ensure water conservation is being practiced by:               <ul style="list-style-type: none"> <li>a. Minimising water use during cleaning of equipment;</li> <li>b. Undertaking regular audits of water systems; and</li> <li>c. Including a discussion on water usage and conservation during environmental awareness training.</li> <li>d. The use of greywater is encouraged.</li> </ul> </li> </ul>						and all relevant conditions included in the audit checklist.
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### 5.7 Storm- and wastewater management

<b>Impact management outcome:</b> Impacts on the environment caused by stormwater and wastewater discharges during construction are avoided.						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<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 stormwater runoff not contaminated during the development and clean water can be discharged directly to watercourses and water bodies, subject to the Project Manager’s approval and support by the ECO;</li> <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>	<b>The Contractor.</b>	<b>The implementation of the Stormwater Management Plan.</b>	<b>Construction Phase.</b>	<b>The cEO and the ECO.</b>	<b>Monthly.</b>	<b>Photographic evidence should be included in the monthly audit reports. The ECO should monitor the Contractor’s compliance with the Stormwater Management Plan for the Soutrivier South Wind Energy Facility (WEF) and Associated Infrastructure.</b>

### 5.8 Solid and hazardous waste management

<b>Impact management outcome:</b> 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 on-site must be disposed of at registered waste disposal sites/ recycling company;</li> <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>	<b>The Contractor.</b>	<b>The implementation of the Waste Management Plan.</b>	<b>Construction Phase.</b>	<b>The ECO.</b>	<b>Monthly.</b>	<b>Copies of the waste disposal certificates must be submitted to the ECO for inclusion in the audit reports and copies should be included in the Environmental Site File. The ECO should monitor the Contractor's compliance with the Waste Management Plan for the Soutrivier South WEF and Associated Infrastructure.</b>

### 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</li> </ul>	<b>The Contractor.</b>	<b>Adherence to the conditions of all General Authorisations and/or Water Use Licenses.</b>	<b>Construction Phase.</b>	<b>The ECO.</b>	<b>Monthly.</b>	<b>Copies of the Water Use Authorisations should be included in the Environmental Site File. All conditions of the General</b>

<p>Estuarine Functional Zone should occur;</p> <ul style="list-style-type: none"> <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 favoured over the creation of new crossings (including temporary access)</li> <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;</li> <li>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>					<p><b>Authorisations and/or Water Use Licenses must be included in the ECO's audit checklist. Where necessary, photographic evidence should be included in the monthly audit reports.</b></p>
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**5.10 Vegetation clearing**

<p><b>Impact management outcome:</b> Vegetation clearing is restricted to the authorised development footprint of the proposed infrastructure.</p>						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<p><b>General:</b></p> <ul style="list-style-type: none"> <li>- Indigenous vegetation which does not interfere with the development must be left undisturbed;</li> <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</li> </ul>	<p><b>The Contractor and a Botanical Specialist (appointed to undertake Floral Search and Rescue).</b></p>	<ul style="list-style-type: none"> <li>• Applications for all necessary permits.</li> <li>• Implementation of the Alien Vegetation Management Plan.</li> </ul>	<p><b>Pre-Construction and Construction Phases.</b></p>	<p><b>The ECO.</b></p>	<p><b>Monthly.</b></p>	<p><b>Copies of all relevant permits must be included in the pre-construction audit report and in the Environmental</b></p>

<p>clearing;</p> <ul style="list-style-type: none"> <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; and</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> <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 landowner 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> </ul>		<ul style="list-style-type: none"> <li>• <b>Thorough Floral Search and Rescue by a suitably qualified specialist.</b></li> <li>• <b>Compilation of a list of all species which require rescue and replanting, including the identification of a suitable location for replanting.</b></li> <li>• <b>Monitoring.</b></li> </ul>				<p><b>Site File. Compliance with the Alien Vegetation Management Plan, compiled for the Soutrivier South WEF and Associated Infrastructure, must be monitored. Where necessary, photographic evidence of replanting of Search and Rescue vegetation must be included in the audit reports. The ECO should provide photographic evidence of all species which have been rescued and replanted. The ECO must document all herbicide usage and ensure that a suitably qualified individual applies such herbicides (if</b></p>
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<ul style="list-style-type: none"> <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; and</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 on the environment must always be considered.</li> </ul>					required).
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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 landowners’ 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 fledgelings 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> </ul>	<b>The Contractor.</b>	<ul style="list-style-type: none"> <li>• Implementation of the mitigation measures stipulated in the Ecological Assessment Report and Avifaunal Assessment Report.</li> <li>• Relevant Faunal Permits.</li> <li>• Faunal Search and Rescue by a suitably qualified specialist.</li> <li>• Snakes which occur within the development footprints should be removed and relocated by an experienced snake handler. Snake</li> </ul>	<b>Pre-construction, Construction Phase, Operational and Decommissioning Phases.</b>	<b>The ECO and the developer Environmental Officer (dEO).</b>	<b>Monthly.</b>	<b>The compliance with the conditions, management actions/mitigation measures must be audited by the ECO. Copies of any permits must be included in the audit reports. The ECO must ensure that any snakes, found within the development footprint, are removed by a suitably experienced snake handler. The ECO should include the type of snake(s) found in the audit reports and provide details of the removal as well as the area of relocation. Contact details of a suitably experienced snake handler must be available on site.</b>

<ul style="list-style-type: none"> <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 to NEMBA (Act No. 10 of 2004) and relevant provincial ordinances may be removed and/or relocated without appropriate authorisations/permits.</li> </ul>		<p>deterrents should be installed, where necessary.</p> <ul style="list-style-type: none"> <li>• Installation of bird guards and diverters, where necessary or as instructed by the Avifaunal Specialist.</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		
	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>	<p><b>The Contractor.</b></p>	<ul style="list-style-type: none"> <li>• Demarcation of identified sensitive heritage resources.</li> <li>• Education in the identification of sensitive archaeological and palaeontological resources.</li> <li>• Relevant permits.</li> </ul>	<p>Pre-Construction and Construction Phases.</p>	<p>The ECO and a suitably qualified Archaeological and/or Palaeontological Specialist (if or when required).</p>	<p>Monthly (ECO) and when required (the Specialists).</p>	<p>The ECO should include photographic evidence of the demarcated site(s) in the monthly audit reports. Copies of all permits must be included in the audit reports and the Environmental Site File. The ECO should advise the Contractor on the correct course of action should potentially sensitive archaeological and/or palaeontological resources be discovered within the site.</p>

### 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> <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>	<b>The Contractor.</b>	<b>Monitoring.</b>	<b>Construction and Operational Phases.</b>	<b>The Community Liaison Officer (CLO), cEO, ECO and the dEO.</b>	<b>As required (cEO and CLO), monthly (ECO) and when required during the Operational Phase (dEO).</b>	<b>The cEO and the appointed CLO should compile and maintain an incident and complaints register. All incidents and complaints must be reported to the ECO, the Contractor, and the Developer's Project Manager (DPM). The incident and complaints register must be submitted to the ECO monthly for inclusion in the audit reports.</b>

### 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 on-site 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:               <ol style="list-style-type: none"> <li>Toilets are located no closer than 100 m to any watercourse or water body;</li> </ol> </li> </ul>	<b>The Contractor.</b>	<b>The implementation of the Waste Management Plan.</b>	<b>Construction and Operational Phases.</b>	<b>The ECO and dEO.</b>	<b>As required and monthly.</b>	<b>Copies of the waste disposal certificates must be submitted to the ECO for inclusion in the audit reports and copies must be kept in the Environmental Site File. The ECO should monitor the Contractor's</b>



<p>b) Toilets are secured to the ground to prevent them from toppling due to wind or any other cause;</p> <p>c) No spillage occurs when the toilets are cleaned or emptied, and the contents are managed in accordance with the EMPr;</p> <p>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;</p> <p>e) Toilets are emptied before long weekends and workers holidays, and must be locked after working hours;</p> <p>f) Toilets are serviced regularly, and the ECO must inspect toilets to ensure compliance with health standards;</p> <p>– A copy of the waste disposal certificates must be maintained.</p>						<p>compliance with the Waste Management Plan, compiled for the Soutrivier South WEF and Associated Infrastructure, as well as the general levels of sanitation on the site.</p>
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### 5.15 Prevention of disease

<p><b>Impact Management outcome:</b> All necessary precautions linked to the spread of disease are taken.</p>						
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>	<p><b>The Contractor.</b></p>	<ul style="list-style-type: none"> <li>• Information posters, including contact details of suitable support.</li> <li>• Provision of medical guidance and support, where necessary.</li> <li>• Ensure that necessary Covid-19 regulations are adhered to.</li> </ul>	<p><b>Construction Phase.</b></p>	<p><b>The ECO.</b></p>	<p><b>Monthly.</b></p>	<p>The ECO should monitor the compliance with these management actions through verbal discussions with the Contractor and the construction workers and the ECO should include photographic evidence of information posters in the relevant audit report(s). The ECO should ensure that masks are worn, and social distancing is practiced, should this be applicable at the time of construction.</p>

**5.16 Emergency procedures**

<b>Impact management outcome:</b> 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 an emergency necessary mitigation measures to contain the spill or leak must be implemented (see <i>Hazardous Substances section 5.17</i>).</li> </ul>	<b>The Contractor.</b>	<b>Implementation of the Emergency Response Action Plan.</b>	<b>All phases of development.</b>	<b>The ECO and the dEO.</b>	<b>Monthly.</b>	<b>The ECO should ensure that the Contractor has compiled an Emergency Response Action Plan and that emergency contact details are available at suitable locations within the construction site. Photographic evidence of the emergency contact details must be included in the audit reports. Record must be kept of all emergency incidents, including the date(s) of when they occurred and when they were resolved, and the measures which were taken to resolve the situation.</b>

**5.17 Hazardous substances**

<b>Impact management outcome:</b> 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</li> </ul>	<b>The Contractor.</b>	<ul style="list-style-type: none"> <li>• <b>Method Statement(s).</b></li> <li>• <b>Implementation of the Stormwater Management Plan.</b></li> </ul>	<b>Construction Phase.</b>	<b>The cEO and the ECO.</b>	<b>Daily (cEO) and monthly (ECO).</b>	<b>The cEO and the ECO must monitor the Contractor’s compliance with all relevant Method</b>

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<p>capacity to contain a spill / leak from the stored containers;</p> <ul style="list-style-type: none"> <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 bowsers;</li> <li>– The tanks/ bowsers must be situated on a smooth, impermeable surface (concrete) with a permanent bund. The impermeable lining must extend to the crest of the bund and the volume inside the bund must be 130% of the total capacity of all the storage tanks/ bowsers (110% statutory requirement plus an allowance for rainfall);</li> <li>– The floor of the bund must be sloped, draining to an oil separator;</li> <li>– Provision must be made for refuelling at the storage area by protecting the soil with an impermeable groundcover. Where dispensing equipment is used, a drip tray must be used to ensure small spills are contained;</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 refuelling away from the dedicated refuelling station is required, a mobile refuelling unit must be used. Appropriate ground protection such as</li> </ul>		<ul style="list-style-type: none"> <li>• <b>Implementation of the Waste Management Plan.</b></li> <li>• <b>Implementation of the Emergency Response Action Plan.</b></li> </ul>				<p><b>Statements, the Stormwater Management Plan, the Waste Management Plan, and the Emergency Response Action Plan (if/when required). In addition, the ECO should monitor the availability and use of spill kits and drip trays within the site and provide photographic evidence where required. Copies of the HCS control sheet and the MSDS must be included in the relevant audit report(s) and kept in the Environmental Site File.</b></p>

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<p>drip trays must be used;</p> <ul style="list-style-type: none"> <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 wastewater management</b> and <b>5.8</b> for <b>solid and hazardous waste management</b>.</li> </ul>						

**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> </ul>	<b>The Contractor.</b>	<ul style="list-style-type: none"> <li>• <b>Method Statement(s).</b></li> <li>• <b>Implementation of the Stormwater Management Plan.</b></li> <li>• <b>Implementation of the Waste Management Plan.</b></li> </ul>	<b>Construction Phase.</b>	<b>The cEO and the ECO.</b>	<b>Daily (cEO) and monthly (ECO).</b>	<b>The cEO and the ECO must monitor the Contractor’s compliance with all relevant Method Statements, the Stormwater Management Plan, and the Waste Management. In addition, the ECO should monitor the availability and use of spill kits and drip trays</b>

<ul style="list-style-type: none"> <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 wastewater management.</b></li> </ul>						<p>within the site, and provide photographic evidence where necessary.</p>
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### 5.19 Batching plants

<b>Impact management outcome:</b> Minimise spillages and contamination of soil, surface water and groundwater.						
<b>Impact Management Actions</b>	<b>Implementation</b>			<b>Monitoring</b>		
	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 watercourses, 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</li> </ul>	<b>The Contractor.</b>	<ul style="list-style-type: none"> <li>• Erect temporary fencing around the batching plant(s).</li> <li>• Method Statement(s).</li> <li>• Implementation of the Stormwater Management Plan.</li> <li>• Implementation of the Waste Management Plan.</li> </ul>	<b>Construction Phase.</b>	<b>The ECO.</b>	<b>Monthly.</b>	<p>The ECO must monitor the Contractor's compliance with the Stormwater Management Plan and the Waste Management Plan. If relevant, the ECO should provide photographic evidence of the necessary temporary fencing, which is erected around batching plants. In addition, the ECO should obtain proof that excess materials have been disposed of at a registered disposal facility. Copies of any Method Statements relating to the batching plant(s) and proof of waste disposal must be included in the audit reports and kept in the Environmental Site</p>

accordance with <b>Section 5.5: Fencing and gate installation.</b>						<b>File.</b>
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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		
	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>	<b>The Contractor.</b>	<b>Implementation of impact management actions (this report) and relevant mitigation measures/impact management actions in the Basic Assessment Report and associated specialist reports.</b>	<b>Construction Phase.</b>	<b>The cEO and ECO.</b>	<b>Daily (cEO), the CLO and monthly (ECO).</b>	<b>The compliance with these management actions, as well as the mitigation measures/ impact management actions stipulated in the Basic Assessment Report and associated specialist reports, must be indicated in the monthly audit reports. The cEO, CLO and ECO should ensure that any complaints relating to dust are recorded in the incident and complaints register and addressed as soon as practically possible.</b>

### 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>	<b>The Contractor.</b>	<ul style="list-style-type: none"> <li><b>Notification of the landowners and surrounding landowners.</b></li> <li><b>Blasting activities must only occur within the authorised (EA) times.</b></li> </ul>	<b>Construction Phase.</b>	<b>The cEO, CLO and the ECO.</b>	<b>Limited to the specific blasting times (if any blasting is required).</b>	<b>The cEO and the ECO must audit the blasting activities to ensure that blasting is undertaken in accordance with all relevant legislation, guidelines, and by-laws. Proof of landowner notification must be included in the audit reports. The cEO and CLO should ensure that any complaints relating to blasting are recorded in the incident and complaints register.</b>

## 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> <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>	<b>The Contractor.</b>	<ul style="list-style-type: none"> <li><b>Monitor the construction workers' adherence to the Code of Conduct.</b></li> <li><b>No construction activities may take place outside of the authorised (EA) times.</b></li> <li><b>Ensure that vehicles and machinery are serviced and maintained regularly to reduce</b></li> </ul>	<b>Construction Phase.</b>	<b>The cEO, CLO and the ECO.</b>	<b>Daily (cEO) and monthly (ECO).</b>	<b>The noise levels must be monitored daily by the cEO, and the cEO must report on these levels to the ECO for inclusion in the monthly audit reports. The ECO must monitor the adherence of construction workers to the Code of Conduct. The cEO and the CLO should ensure that any complaints relating to noise are recorded in the incident and complaints register and addressed as a matter of urgency.</b>

noise.

**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; and</li> <li>– Two-way swop of contact details between ECO and FPA.</li> </ul>	<b>The Contractor and the cEO.</b>	<ul style="list-style-type: none"> <li>• Establishment of designated smoking areas.</li> <li>• Availability of fire-fighting equipment at the site camp.</li> <li>• Posters containing emergency contact details.</li> <li>• Implementation of the Emergency Response Action Plan.</li> </ul>	<b>Construction and Operational Phases.</b>	<b>The cEO and the ECO (Construction Phase), and the dEO (Operational Phase).</b>	<b>Monthly and as required.</b>	<b>The ECO should inspect the site and liaise with the cEO and the Contractor regarding fire prevention precautions which are in place within site. The ECO should review the Emergency Response Action Plan and provide photographic evidence of the designated smoking areas, posters which contain emergency contact details and the available fire-fighting equipment. The ECO should ensure that any incidents relating to fire are recorded in the incident and complaints register and reported to the DPM. The dEO should be responsible for monitoring fire prevention measures during the Operational Phase.</b>

**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</li> </ul>	<b>The Contractor.</b>	<ul style="list-style-type: none"> <li>• Supervision of the implementation of the management actions and the</li> </ul>	<b>Construction Phase.</b>	<b>The cEO and the ECO.</b>	<b>Daily (cEO) and monthly (ECO).</b>	<b>The cEO and ECO should monitor the stockpiling of materials and the implementation of the Alien Vegetation Management Plan and the Erosion</b>



<p>to watercourses, watercourses and water bodies;</p> <ul style="list-style-type: none"> <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>		<p><b>mitigation measures.</b></p> <ul style="list-style-type: none"> <li>• <b>Implementation of the Alien Vegetation Management Plan.</b></li> <li>• <b>Implementation of the Erosion Management Plan.</b></li> </ul>			<p><b>Management Plan. The ECO should include photographic evidence of the material stockpiles and stockpile areas in the audit reports. The CEO should report any growth of alien vegetation on the stockpiles to the ECO, as well as any signs of erosion or sedimentation which occur because of the material stockpiles. The ECO should report on the condition of the material stockpiles in the audit reports and recommend additional mitigation measures and/or remedial actions should these be required.</b></p>
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### 5.25 Finalising tower positions

<p><b>Impact management outcome:</b> No environmental degradation occurs as a result of the survey and pegging operations.</p>						
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 vegetation clearing must occur during survey and pegging operations;</li> <li>– No new access roads must be developed to facilitate access for survey and pegging purposes;</li> <li>– Project manager, botanical specialist and contractor to agree on final tower positions based on survey within assessed and approved areas;</li> <li>– The surveyor is to demarcate (peg) access roads/tracks in consultation with ECO. No deviations will be allowed without the prior written consent from the ECO.</li> </ul>	<p><b>The Contractor, a suitably qualified Botanical Specialist, and the Developer’s Site Supervisor (DSS).</b></p>	<p><b>Site surveying and demarcation.</b></p>	<p><b>Pre-construction Phase.</b></p>	<p><b>The ECO.</b></p>	<p><b>Once-off.</b></p>	<p><b>The ECO should approve the final development footprints in accordance with the conditions of the EA and specialist input. Photographic evidence should be included in the pre-construction audit report.</b></p>

### 5.26 Excavation and Installation of foundations

<p><b>Impact management outcome:</b> No environmental degradation occurs as a result of excavation or installation of foundations.</p>
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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 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> <li>– Batching of cement to be undertaken in accordance with <b>Section 5.19: Batching plants</b>;</li> <li>– Residual cement must be disposed of in accordance with <b>Section 5.8: Solid and hazardous waste management</b>.</li> </ul>	<b>The Contractor.</b>	<ul style="list-style-type: none"> <li>• <b>Method Statement(s).</b></li> <li>• <b>Compliance with the conditions of the EA and EMPs.</b></li> <li>• <b>Implementation of the Erosion Management Plan.</b></li> <li>• <b>Implementation of the Stormwater Management Plan.</b></li> <li>• <b>Implementation of the Waste Management Plan.</b></li> </ul>	<b>Construction Phase.</b>	<b>The cEO and the ECO.</b>	<b>Daily (cEO) and monthly (ECO).</b>	<b>If backfilling is not undertaken, copies of the waste disposal certificates must be submitted to the ECO for inclusion in the audit reports and copies must be kept in the Environmental Site File. The ECO should monitor the Contractor's compliance with the relevant conditions and Management Plans.</b>

### 5.27 Assembly and erecting towers

Impact management outcome: No environmental degradation occurs as a result of assembly and erecting of towers.						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> <li>– Prior to erection, assembled towers and tower sections must be stored on elevated surface (suggest wooden blocks) to minimise damage to the underlying vegetation;</li> <li>– In sensitive areas, tower assembly must take place off-site or away from sensitive positions;</li> <li>– The crane used for tower assembly must be operated in a manner which minimises impact to the environment;</li> <li>– The number of crane trips to each site must be minimised;</li> </ul>	<b>The Contractor.</b>	<ul style="list-style-type: none"> <li>• <b>Method Statement(s).</b></li> <li>• <b>Implementation of the Waste Management Plan.</b></li> <li>• <b>Implementation of the Erosion Management Plan.</b></li> </ul>	<b>Construction Phase</b>	<b>The cEO and the ECO.</b>	<b>Daily.</b>	<b>Either the cEO or the ECO should be present during the assembly and erecting of towers to</b>

<ul style="list-style-type: none"> <li>– Wheeled cranes must be utilised in preference to tracked cranes;</li> <li>– Consideration must be given to erecting towers by helicopter or by hand where it is warranted to limit the extent of environmental impact;</li> <li>– Access to tower positions to be undertaken in accordance with access requirements specified in Section 8.4: Access Roads;</li> <li>– Vegetation clearance to be undertaken in accordance with general vegetation clearance requirements specified in Section 8.10: Vegetation clearing;</li> <li>– No levelling at tower sites must be permitted unless approved by the Development Project Manager or Developer Site Supervisor;</li> <li>– Topsoil must be removed separately from subsoil material and stored for later use during rehabilitation of such tower sites;</li> <li>– Topsoil must be stored in heaps not higher than 1m to prevent destruction of the seed bank within the topsoil;</li> <li>– Excavated slopes must be no greater than 1:3, but where this is unavoidable, appropriate measures must be undertaken to stabilise the slopes;</li> <li>– Fly rock from blasting activity must be minimised and any pieces greater than 150 mm falling beyond the Working Area, must be collected and removed;</li> <li>– Only existing disturbed areas are utilised as spoil areas;</li> <li>– Drainage is provided to control groundwater exit gradient with the spill areas such that migration of fines is kept to a minimum;</li> <li>– Surface water runoff is appropriately channelled through or around spoil areas;</li> <li>– During backfilling operations, care must be taken not to dump the topsoil at the bottom of the foundation and then put spoil on top of that;</li> <li>– The surface of the spoil is appropriately rehabilitated in accordance with the requirements specified in Section 5.29: Landscaping and rehabilitation;</li> <li>– The retained topsoil must be spread evenly over areas to be rehabilitated and suitably compacted to effect re-vegetation of such areas to prevent erosion as soon as construction activities on the site is complete. Spreading of topsoil must not be undertaken at the beginning of the dry season.</li> </ul>		<ul style="list-style-type: none"> <li>• <b>Implementation of the Stormwater Management Plan.</b></li> </ul>				<p>ensure that the management actions are implemented and to provide photographic evidence into the audit reports.</p>
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### 5.28 Stringing

<b>Impact management outcome:</b> No environmental degradation occurs as a result of stringing.							
<b>Impact Management Actions</b>	<b>Implementation</b>				<b>Monitoring</b>		
	Responsible	Method	of	Timeframe for	Responsible	Frequency	Evidence of

	person	implementation	implementation	person		compliance
<ul style="list-style-type: none"> <li>– Where possible, previously disturbed areas must be used for the siting of winch and tensioner stations. In all other instances, the siting of the winch and tensioner must avoid Access restricted areas and other sensitive areas;</li> <li>– The winch and tensioner station must be equipped with drip trays in order to contain any fuel, hydraulic fuel or oil spills and leaks;</li> <li>– Refuelling of the winch and tensioner stations must be undertaken in accordance with Section 5.17: Hazardous substances;</li> <li>– In the case of the development of overhead transmission and distribution infrastructure, a one metre “trace-line” may be cut through the vegetation for stringing purposes only and no vehicle access must be cleared along “trace-lines”. Vegetation clearing must be undertaken by hand, using chainsaws and handheld implements, with vegetation being cut off at ground level. No tracked or wheeled mechanised equipment must be used;</li> <li>– Alternative methods of stringing which limit impact to the environment must always be considered, e.g. by hand or by using a helicopter;</li> <li>– Where the stringing operation crosses a public or private road or railway line, the necessary scaffolding/ protection measures must be installed to facilitate access. If, for any reason, such access has to be closed for any period(s) during development, the persons affected must be given reasonable notice, in writing;</li> <li>– No services (electrical distribution lines, telephone lines, roads, railways lines, pipelines fence etc.) must be damaged because of stringing operations. Where disruption to services is unavoidable, persons affected must be given reasonable notice, in writing;</li> <li>– Where stringing operations cross cultivated land, damage to crops is restricted to the minimum required to conduct stringing operations, and reasonable notice (10 workdays minimum), in writing, must be provided to the landowner;</li> <li>– Necessary scaffolding protection measures must be installed to prevent damage to the structures supporting certain high-value agricultural areas such as vineyards, orchards, nurseries.</li> </ul>	<b>The Contractor and the cEO.</b>	<ul style="list-style-type: none"> <li>• <b>Supervision.</b></li> <li>• <b>Method Statement(s).</b></li> <li>• <b>Implementation of the Emergency Response Action Plan.</b></li> </ul>	<b>Construction Phase.</b>	<b>The cEO and the ECO.</b>	<b>Daily (cEO) and once-off (ECO).</b>	<b>The cEO should monitor the stringing of the overhead lines (if it is the preferred option over underground cabling) and provide feedback on the compliance with the management actions and the conditions to the ECO as well as photographic evidence.</b>

### 5.29 Socio-economic

<b>Impact management outcome:</b> Socio-economic development is enhanced.		
<b>Impact Management Actions</b>	<b>Implementation</b>	<b>Monitoring</b>

	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 neighbouring 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>	<b>The Contractor and the DSS.</b>	<ul style="list-style-type: none"> <li>• <b>Communication and management.</b></li> <li>• <b>Adherence to the mitigation measures and recommendations of the Socio-Economic Specialist [included in the BAR and Part C Section 8 of this report].</b></li> </ul>	<b>All phases of development.</b>	<b>The cEO and the ECO.</b>	<b>Daily (cEO and the CLO) and monthly (ECO).</b>	<b>The cEO and/or the CLO should compile and maintain an incident and complaints register. This register should be submitted to the ECO monthly. Incidents and complaints should be reported to the ECO within 48 hours and the ECO should report all incidents to the DSS.</b>

### 5.30 Temporary closure of site

<b>Impact management outcome:</b> Minimise the risk of environmental impact during periods of site closure greater than five days.						
<b>Impact Management Actions</b>	<b>Implementation</b>			<b>Monitoring</b>		
	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 <i>sections 5.17: management of hazardous substances</i> and <i>5.18 workshop, equipment maintenance and storage</i>;</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> </ul>	<b>The Contractor and the DSS.</b>	<ul style="list-style-type: none"> <li>• <b>Supervision and management.</b></li> <li>• <b>The implementation of the conditions of this EMPr and all relevant EMPrs.</b></li> </ul>	<b>All phases of development.</b>	<b>The ECO, CLO and the DPM.</b>	<b>Whenever temporary site closure occurs.</b>	<b>The ECO should undertake a site inspection prior to the temporary closure of the site. Contact details for the CLO or a suitable site representative should be made available to the public. The CLO and/or the DPM should inform the landowners and immediately surrounding landowners of any planned or sudden temporary site closure(s).</b>

<ul style="list-style-type: none"> <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>						<p>The ECO should include the temporary site closure dates as well as photographic evidence of the condition of the site in the audit reports.</p>
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### 5.31 Landscaping and rehabilitation

Impact management outcome: Areas disturbed during the development phase are returned to a state that approximates the original condition.						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<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 to a registered waste site and certificates of disposal provided;</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> <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 tower sites and access roads outside of farmland;</li> <li>– Indigenous species must be used for with species and/grasses to where it compliments or approximates the original condition;</li> <li>– Stockpiled topsoil must be used for rehabilitation (refer to Section 5.24: <b>Stockpiling and stockpiled areas</b>);</li> </ul>	<p><b>The Contractor, a suitably qualified Botanical Specialist, and the DSS.</b></p>	<ul style="list-style-type: none"> <li>• Compliance with the conditions of the EA and EMPs.</li> <li>• Implementation of the Erosion Management Plan.</li> <li>• Implementation of the Stormwater Management Plan.</li> <li>• Implementation of the Alien Vegetation Management Plan.</li> <li>• Implementation</li> </ul>	<p><b>Construction, Post-construction, and Operational Phases.</b></p>	<p><b>The cEO and the ECO.</b></p>	<p><b>Daily (cEO) and monthly (ECO).</b></p>	<p><b>The cEO and ECO should monitor the site landscaping and rehabilitation against all required conditions. Photographic evidence should be provided in the audit reports as well as the recommendation of additional mitigation measures, where necessary.</b></p>

<ul style="list-style-type: none"> <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: <ul style="list-style-type: none"> <li>a) Annual and perennial plants are chosen;</li> <li>b) Pioneer species are included;</li> <li>c) Species chosen must be indigenous to the area with the seeds used coming from the area;</li> <li>d) Root systems must have a binding effect on the soil;</li> <li>e) The final product must not cause an ecological imbalance in the area</li> </ul> </li> </ul>		<p><b>of the Waste Management Plan.</b></p>				
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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:

Name of applicant: **Soutrivier South Wind Energy Facility RF (Pty) Ltd.**

Tel No: **+27 60 993 8586**

Fax No: **N/A**

Postal Address: **301 Sunclare Building, 21 Dreyer Street, Claremont, 7708, South Africa**

Physical Address: **301 Sunclare Building, 21 Dreyer Street, Claremont, 7708, South Africa**

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

Name of environmental consultancy: **Coastal and Environmental Services (Pty) Ltd. (t/a "CES")**

Name of EAP: **Dr Alan Carter**

Assisting EAP: **Ms Caroline Evans**

Tel No: **+27 (0)46 622 2364 (Makhanda Head Office)**

Fax No: **+27 (0)86 410 7593 (Makhanda Head Office)**

E-mail address: [a.carter@cesnet.co.za](mailto:a.carter@cesnet.co.za) | [c.evans@cesnet.co.za](mailto:c.evans@cesnet.co.za)

Expertise of the EAP (Curriculum Vitae included): **Yes, please see Appendix 2.**

7.1.3 Project name: **PROPOSED SOUTRIVIER SOUTH 132KV OHL, UBUNTU LOCAL MUNICIPALITY, NORTHERN CAPE PROVINCE (DFFE Reference Number: TBA).**

##### 7.1.4 Description of the project:

**WKN-Windcurrent SA (Pty) Ltd. plans to develop, construct and operate a Wind Energy Facility (WEF) approximately 30km southwest of Victoria West in the Northern Cape Province. The project site is situated in the Ubuntu Local Municipality (LM) which forms part of the Pixley ka Seme District Municipality (DM). In association with this proposed WEF an OHL of up to 132kV is being proposed to connect the WEF to the grid via collector substations. The proposed 132kV OHL is being undertaken separately from the proposed WEF as this piece of infrastructure will be owned and maintained by Eskom post-construction.**

**The proposed Soutrivier South 132kV OHL will consist of monopole and/or lattice structures which will span a length of up to 0.4km adjacent to the Soutrivier South WEF Collector Substation (CSS) of proposed Soutrivier South WEF. A jeep track will also be required to maintain the proposed OHL. The Basic Assessment process includes the assessment of a 300m wide proposed 132kV OHL corridor in which the 0.4km line is proposed.**

**\* Note: The final line route, within the connection corridor, will be determined after micro-siting to ensure that the line routing avoids highly sensitive areas. \***

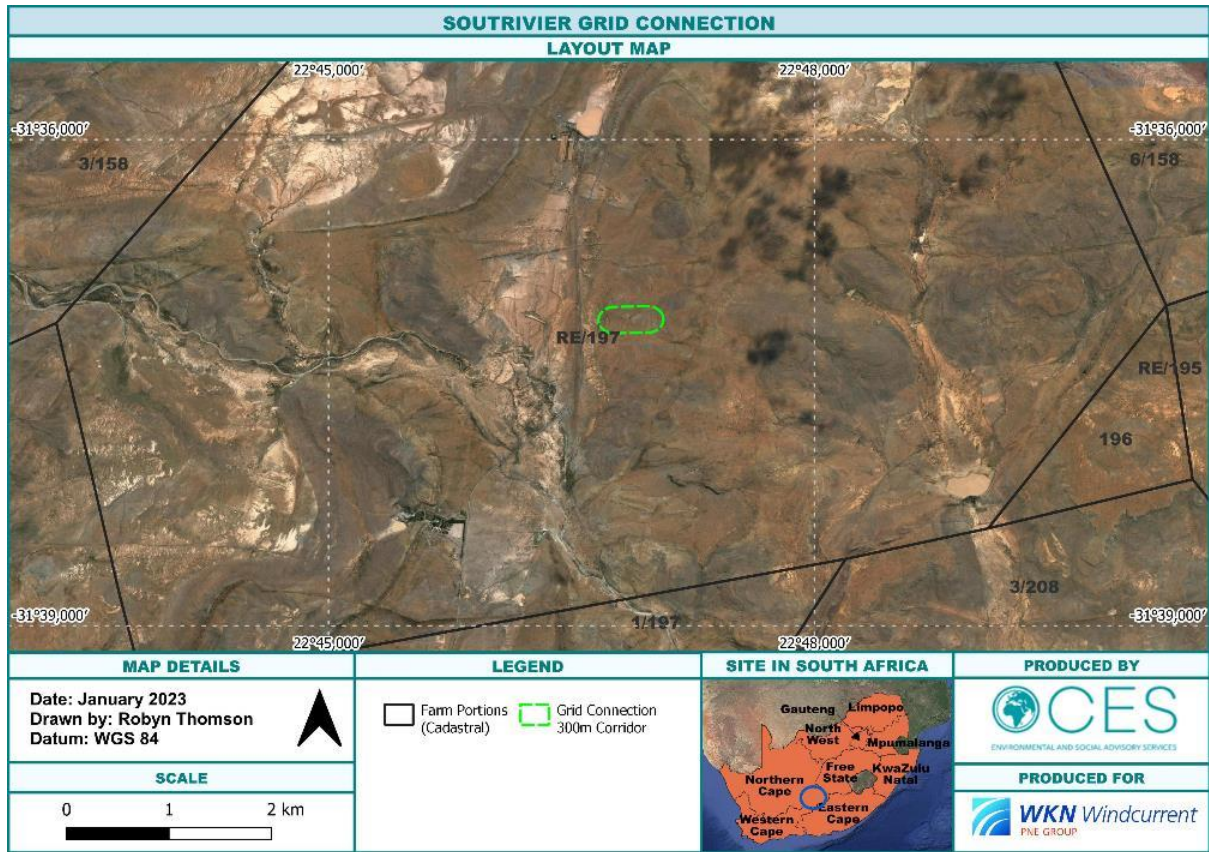


Figure 1: Layout Map of the Proposed Soutrivier Central 132kV OHL.

7.1.5 Project location:

The proposed 132kV OHL is situated within the proposed Soutrivier South WEF, which is located in the Ubuntu LM and it is situated approximately 35km to the west of Victoria West. The R63 road connects the towns of Loxton and Victoria West directly to the North of the study area. The direction and distance from the project area to some of the nearest towns are indicated in Table 2-1 below:

Table 2: Details of Affected Properties.

Soutrivier South 132kV OHL		
SG DIGIT NUMBER	FARM NUMBER/PORTION	AREA (HA)
C08000000000019700000	RE/197	6896
	<b>TOTAL</b>	<b>6 896</b>

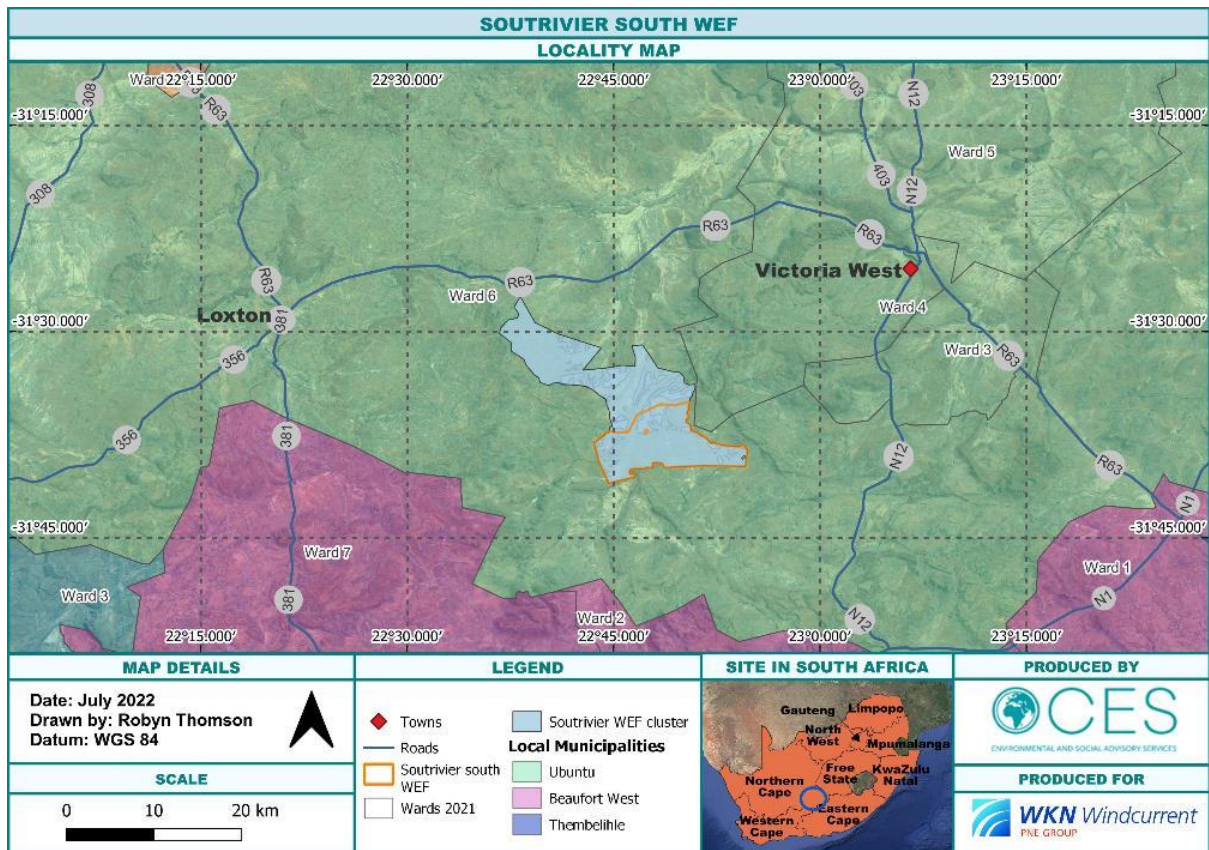


Figure 2: Locality Map of the Proposed Soutrivier South 132kV OHL

7.16 Preliminary technical specification of the overhead transmission and distribution:

**\* Preliminary technical specification with approximate values which are subject to ground truthing and final design \***

- Length: **± 0.4 km**
- Tower parameters:
  - Number and types of towers:  
**± 3 Steel monopoles with stayed structures as an option.**
  - Tower spacing (mean and maximum): **Between 200m and 400m**
  - Tower height (lowest, mean and height): **21 m (for most common structure), a possible range between 15 to 55 m in height.**
  - Conductor attachment height (mean):  
**OPGW: ± 20.8 m**  
**Top Phase: ± 17.2 m**  
**Mid Phase: ± 15.2 m**  
**Bottom Phase: ± 13.2 m**
  - Minimum ground clearance: **± 6.3 m (at 70°)**

## **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.

**Please see Appendix 3 for the National Screening Tool Report Maps.**

**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: \_\_\_\_\_

**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.~~



**GENERAL IMPACTS AND MITIGATION MEASURES**

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
<b>PLANNING &amp; DESIGN PHASE</b>					
<i>GENERAL IMPACTS</i>					
<b>ENVIRONMENTAL LEGAL AND POLICY COMPLIANCE</b>	<p>Failure to adhere to existing policies and legal obligations could lead to the project conflicting with local, provincial and national policies, guidelines and legislation. This could result in lack of institutional support for the project, overall project failure and undue disturbance to the natural environment.</p> <p><i>Cumulative impact would be high as there are a range of renewable energy facilities proposed within the greater area. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative could result in landowners looking at other avenues of potential income which would need to comply with environmental law and policy.</i></p>	<b>DIRECT</b>	<b>HIGH -</b>	<ul style="list-style-type: none"> <li>✦ <i>Ensure that all relevant legislation and policy is consulted and further ensure that the project is compliant with such legislation and policy.</i></li> <li>✦ <i>These must include (but not restricted to):</i> <ul style="list-style-type: none"> <li>▪ <i>Local and District Spatial Development Frameworks</i></li> <li>▪ <i>Local Municipal bylaws</i></li> </ul> </li> <li>✦ <i>In addition, planning for the construction and operation of the proposed energy facility must consider available best practice guidelines.</i></li> </ul>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>HIGH -</b>		<b>LOW -</b>
		<b>NO-GO</b>	<b>LOW -</b>		<b>LOW -</b>
<b>STORMWATER MANAGEMENT AND EROSION</b>	<p>The introduction of roads and impermeable areas could increase rates of run-off and therefore the risk of localised flooding.</p>	<b>INDIRECT</b>	<b>MODERATE -</b>	<ul style="list-style-type: none"> <li>✦ <i>Structures must be located at least 32m away from identified drainage lines.</i></li> <li>✦ <i>A Stormwater Management Plan must be designed and implemented to ensure maximum water seepage at the source of water flow.</i></li> <li>✦ <i>The plan must also include management mitigation measures for water pollution,</i></li> </ul>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>MODERATE -</b>		<b>LOW -</b>
		<b>NO-GO</b>	<b>LOW -</b>		<b>LOW -</b>

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
	<p><i>Cumulative impact would be moderate as there are a range of activities, including roads, which contribute to erosion at localised levels. However, these activities are not prevalent in the area.</i></p> <p><i>No-go alternative would still present a level of stormwater runoff and erosion due to current farming activities and existing impermeable surfaces.</i></p>			<p>wastewater management and the management of surface erosion e.g. by considering the applicability of contouring, etc.</p> <p>✦ An Erosion Management Plan must be designed and implemented to ensure minimal impact.</p>	
<b>MANAGEMENT OF GENERAL WASTE</b>	<p>Inappropriate planning for management and disposal of waste e.g. storage disposal could result in surface and ground water contamination.</p> <p><i>Cumulative impact, on a localised scale, would be high should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact related to general waste as the site does not currently experience issues regarding waste.</i></p>	<b>DIRECT</b>	<b>HIGH -</b>	<p>✦ Develop and implement a Waste Management Plan for handling on site waste.</p> <p>✦ Designate an appropriate area where waste can be stored before disposal.</p>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>HIGH -</b>	<p>✦ General Waste must be disposed of at a registered landfill site.</p>	<b>LOW -</b>
		<b>NO-GO</b>		<b>NO IMPACT</b>	
<b>SCHEDULING OF</b>	Construction scheduling that does not take into account the	<b>INDIRECT</b>	<b>MODERATE -</b>	✦ Wherever possible, construction activities must be	<b>LOW -</b>



ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
<b>CONSTRUCTION</b>	<p>seasonal requirements of the aquatic environment, e.g. allowing for unimpeded flood events, could lead to short-term (and potentially long-term) impacts such as excessive sediment mobilization, etc.</p> <p><i>Cumulative impact would be high should the Taaibos and Soutrivier WEF clusters be constructed at the same time. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact related to construction scheduling as no other construction, that we are aware of, is planned on site.</i></p>	<b>CUMULATIVE</b>	<b>HIGH -</b>	<p><i>undertaken during the driest part of the year to minimize downstream sedimentation due to excavation, etc.</i></p> <p>✦ <i>When not possible, suitable stream diversions structures must be used to ensure that rivers/streams are not negatively impacted by construction activity.</i></p>	<b>LOW -</b>
		<b>NO-GO</b>	<b>NO IMPACT</b>		
<b>CONSTRUCTION PHASE</b>					
<i>GENERAL IMPACTS</i>					
<b>NUISANCE DUST</b>	<p>Dust is likely to be a potential nuisance due to the construction activities.</p> <p><i>Cumulative impact would be moderate should the Taaibos and Soutrivier WEF clusters be constructed during the same period. However, it is important to note that the 5 WEFs and</i></p>	<b>DIRECT</b>	<b>MODERATE -</b>	<p>✦ <i>Fugitive/nuisance dust must be reduced by implementing one of or a combination of the following:</i></p> <ul style="list-style-type: none"> <li>▪ <i>Damping down of un-surfaced and un-vegetated areas;</i></li> <li>▪ <i>Retention of vegetation where possible;</i></li> <li>▪ <i>Excavations and other clearing activities must only be done during agreed working times and permitting weather conditions to avoid</i></li> </ul>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>MODERATE -</b>		<b>LOW -</b>

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
	<p><i>their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact related to construction nuisance dust as no other construction activities, that we are aware of, are planned on site.</i></p>			<p><i>drifting of sand and dust into neighbouring areas;</i></p> <ul style="list-style-type: none"> <li>▪ <i>A speed limit of 40km/h must not be exceeded on dirt roads;</i></li> <li>⚡ <i>Any complaints or claims emanating from the lack of dust control must be attended to immediately by the Contractor.</i></li> </ul>	
		<b>NO-GO</b>	<b>NO IMPACT</b>		
<b>FIRE</b>	<p>Risk of runaway fires from construction activities related to having people on site, such as cooking, smoking or burning of vegetation might lead to the burning of surrounding vegetation.</p> <p><i>Cumulative impact would be moderate should the Taaibos and Soutrivier WEF clusters be constructed during the same period. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would still retain a fire risk as fires are a natural occurrence.</i></p>	<b>DIRECT</b>	<b>HIGH -</b>	<ul style="list-style-type: none"> <li>⚡ <i>There must be no burning of construction waste or debris onsite.</i></li> <li>⚡ <i>Cooking and burning of vegetation is not permitted on site.</i></li> <li>⚡ <i>Smoking on site must be confined to a designated area in the vicinity of the site office which must be equipped with the necessary fire extinguishers.</i></li> <li>⚡ <i>Develop and implement a Fire Management Plan.</i></li> </ul>	<b>MODERATE -</b>
		<b>CUMULATIVE</b>	<b>HIGH -</b>		<b>MODERATE -</b>
		<b>NO-GO</b>	<b>HIGH -</b>		<b>MODERATE -</b>
<b>STORMWATER MANAGEMENT</b>	<p>Sediment is likely to be created during construction. This could be washed off into the nearby drainage line e.g. during the excavation of foundations, the laying of access roads</p>	<b>DIRECT</b>	<b>MODERATE -</b>	<ul style="list-style-type: none"> <li>⚡ <i>The recommendations of the Stormwater Management Plan must be implemented to avoid soil erosion and siltation of drainage line.</i></li> </ul>	<b>LOW -</b>

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
	<p>within the site, digging of cable runs and soil stripping and stockpiling to create foundations and temporary areas of hard-standing, such as the construction camp.</p> <p><i>Cumulative impact would be high should the Taaibos and Soutrivier WEF clusters be constructed during the same period. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would still present a level of stormwater runoff and erosion due to current farming activities and existing impermeable surfaces.</i></p>	<b>CUMULATIVE</b>	<b>HIGH -</b>	<p>✦ <i>The recommendations of the Erosion Management Plan must be implemented to reduce the risk of soil erosion.</i></p>	<b>LOW -</b>
		<b>NO-GO</b>	<b>LOW -</b>		<b>LOW -</b>
<b>DEGRADATION OF DRAINAGE LINES FROM EARTHWORKS</b>	<p>Unplanned construction activities or earthworks that occur close to onsite drainage lines could cause adverse impacts such as soil erosion, siltation, and blockage of the drainage line.</p> <p><i>Cumulative impact would be high as there are a range of activities, including roads, substations, overhead lines and neighbouring WEFs which could contribute to the degradation of drainage lines at localised levels if not properly managed during construction. However, it is</i></p>	<b>DIRECT</b>	<b>HIGH -</b>	<p>✦ <i>There must be no earthworks, apart from roadworks inclusive of culverts, within 32m of the drainage lines to avoid contamination of water sources.</i></p>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>HIGH -</b>		<b>LOW -</b>

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
	<p><i>important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would have no impact as there are currently no earthworks activities on site that we are aware of.</i></p>				
		<b>NO-GO</b>	<b>NO IMPACT</b>		
<b>MANAGEMENT OF GENERAL WASTE</b>	<p>Littering by construction workers could cause surface and ground water pollution.</p> <p><i>Cumulative impact, on a localised scale, would be high should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact related to general waste as the site does not currently experience issues regarding waste.</i></p>	<b>INDIRECT</b>	<b>MODERATE -</b>	<p>✦ A Waste Management Plan, incorporating recycling and waste minimisation, must be implemented. The Waste Management Plan must be explained to all employees as part of the environmental induction training.</p>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>HIGH -</b>		<b>LOW -</b>
		<b>NO-GO</b>	<b>NO IMPACT</b>		
<b>HAZARDOUS SUBSTANCES</b>	<p>Onsite maintenance of construction vehicles/machinery and equipment could result in oil, diesel and other hazardous chemicals contaminating surface and ground water. Surface</p>	<b>DIRECT</b>	<b>MODERATE -</b>	<p>✦ The storage of fuels and hazardous materials must be located away from sensitive water resources.</p> <p>✦ All hazardous substances (e.g. diesel, oil drums,</p>	<b>LOW -</b>

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
	<p>and ground water pollution could arise from the spillage or leaking of diesel, lubricants and cement during construction activities.</p> <p><i>Cumulative impact would be null as no other new activities, which include the use of hazardous substances are planned for this site (localised impact).</i></p> <p><i>No-go alternative would result in no impact related to hazardous waste as the site does not currently experience issues related to hazardous substances.</i></p>			<p><i>etc.) must be stored in a bunded area.</i></p> <ul style="list-style-type: none"> <li>✦ <i>The recommendations of the Stormwater Management Plan and the Waste Management Plan must be implemented during construction.</i></li> </ul>	
		<b>CUMULATIVE</b>		<b>NO IMPACT</b>	
		<b>NO-GO</b>		<b>NO IMPACT</b>	
<b>MANAGEMENT OF CONSTRUCTION WASTE</b>	<p>Waste from construction activities e.g. excess concrete and cement mixture, empty paint containers, oil containers, etc., could cause pollution of ground and surface water when they come into contact with run-off water.</p> <p><i>Cumulative impact, on a localised scale, would be moderate should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact related to</i></p>	<b>DIRECT</b>	<b>MODERATE -</b>	<ul style="list-style-type: none"> <li>✦ <i>A Waste Management Plan for the project must be developed and implemented in the construction phase.</i></li> <li>✦ <i>All waste must be disposed of at an appropriately licensed landfill site.</i></li> <li>✦ <i>All construction materials must be stored in a central and secure location with controlled access with an appropriate impermeable surface.</i></li> <li>✦ <i>The recommendations of the Stormwater Management Plan must be implemented to mitigate the impacts of run-off water on pollution.</i></li> </ul>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>MODERATE -</b>		<b>LOW -</b>
		<b>NO-GO</b>		<b>NO IMPACT</b>	

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
	<i>construction waste as the site does not currently have any construction activities taking place.</i>				
<b>WATER QUALITY</b>	<p>Wet concrete is highly alkaline. This could result in flash kills of macroinvertebrates and fish species in the vicinity. Soil erosion will decrease the quality of the aquatic habitat downstream of the construction activities by silting over exposed rocks and decreasing the clarity and oxygen saturation of the water. Soil erosion will decrease the quality of the aquatic habitat downstream of the construction activities by silting over exposed rocks and decreasing the clarity and oxygen saturation of the water.</p> <p><i>Cumulative impact, on a localised scale, would be high should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact related to concrete contamination of watercourses as the site does not currently have any construction activities taking place.</i></p>	<b>DIRECT</b>	<b>MODERATE -</b>	<ul style="list-style-type: none"> <li>✦ <i>No concrete mixing will take place within 32m of any watercourse.</i></li> <li>✦ <i>The concrete batching plant must be clearly demarcated, and no sprawl must be tolerated.</i></li> </ul>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>HIGH -</b>		<b>LOW -</b>
		<b>NO-GO</b>		<b>NO IMPACT</b>	

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION	
<b>INFILLING/ EXCAVATION IN A WATERCOURSE</b>	<p>Excavated material stockpiles may increase sediment loads in watercourses during rainfall events. Materials used for the infilling of watercourses in order to construct water crossings may not be compatible with the surrounding bed/banks, etc., which could change the characteristics of the watercourse.</p> <p><i>Cumulative impact, on a localised scale, would be moderate should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact related to excavated stockpiles as the site does not currently have any construction activities taking place.</i></p>	<b>INDIRECT</b>	<b>MODERATE -</b>	<ul style="list-style-type: none"> <li>✦ Stockpiled excavated material must not be stored within 32m of a watercourse.</li> <li>✦ Stockpile areas must be suitably bunded to prevent waterborne erosion of exposed soils where there is a likelihood that the soils will be washed into a watercourse.</li> <li>✦ Materials used for infilling must be suitably stabilized to ensure that scour and erosion of the existing bed/banks is exacerbated.</li> </ul>	<b>LOW -</b>	
		<b>CUMULATIVE</b>	<b>MODERATE -</b>			<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>NO IMPACT</b>			
		<b>NO-GO</b>	<b>NO IMPACT</b>			
<b>DISPOSAL OF SPOIL MATERIAL</b>	<p>Incorrect disposal of subsoil/spoil material could result in significant loss of a useful resource.</p> <p><i>Cumulative impact, on a localised scale, would be moderate should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same</i></p>	<b>DIRECT</b>	<b>MODERATE -</b>	<ul style="list-style-type: none"> <li>✦ Subsoil cannot be disposed of onsite without the appropriate Waste License in terms of the NEMA: Waste Act.</li> <li>✦ Spoil could be used to rehabilitate open borrow pits or erosion features.</li> <li>✦ Disposal of spoil material to a registered landfill must be the last option.</li> <li>✦ No spoil stockpiles will be allowed to remain onsite once construction activities have ceased.</li> </ul>	<b>LOW -</b>	
		<b>CUMULATIVE</b>	<b>MODERATE-</b>			<b>LOW -</b>
		<b>NO-GO</b>	<b>NO IMPACT</b>			

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
	<p><i>standard.</i></p> <p><i>No-go alternative would result in no impact related to disposal of spoil materials as the site does not currently have any construction activities taking place.</i></p>				
<b>OPERATIONAL PHASE</b>					
<i>GENERAL IMPACTS</i>					
<b>INCREASED STORMWATER RUN-OFF</b>	<p>Failure to maintain the stormwater system could increase the risk of surface water damage to the landscape and vegetation from increased rates of run-off and therefore the risk of localised flooding and increased sheet erosion downstream due to the presence of roads and impermeable areas of hard standing.</p> <p><i>Cumulative impact, on a localised scale, would be high should the Taaibos and Soutrivier WEF clusters operational timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would still present a level of stormwater runoff and erosion due to current farming activities and</i></p>	<b>DIRECT</b>	<b>MODERATE -</b>	<p>⚡ <i>Recommendations of the Stormwater Management Plan and Erosion Management Plan must be implemented.</i></p>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>MODERATE -</b>		<b>LOW -</b>
		<b>NO-GO</b>	<b>LOW -</b>		<b>LOW -</b>



ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
	<i>existing impermeable surfaces.</i>				
<b>WASTE MANAGEMENT</b>	<p>There could be littering by maintenance workers and security personnel on site.</p> <p><i>Cumulative impact, on a localised scale, would be moderate should the Taaibos and Soutrivier WEF clusters operational timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact related to general waste as the site does not currently experience issues regarding waste.</i></p>	<b>DIRECT</b>	<b>MODERATE -</b>	<p>✦ A Waste Management Plan, incorporating recycling and waste minimisation, must be implemented. The Waste Management Plan must be implemented throughout the operational phase.</p>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>MODERATE -</b>		<b>LOW -</b>
		<b>NO-GO</b>	<b>NO IMPACT</b>		
<b>DECOMMISSIONING PHASE</b>					
<i>GENERAL IMPACTS</i>					
<b>POLLUTION</b>	<p>Littering by construction workers could cause surface and ground water pollution.</p> <p><i>Cumulative impact, on a localised scale, would be moderate should the Taaibos and Soutrivier WEF clusters</i></p>	<b>DIRECT</b>	<b>MODERATE -</b>	<p>✦ Littering must be avoided, and litter bins must be made available at various strategic points on site.</p> <p>✦ Refuse from the decommissioning of the site must be collected on a regular basis and deposited at an appropriate landfill.</p>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>MODERATE -</b>		<b>LOW -</b>
		<b>NO-GO</b>	<b>NO IMPACT</b>		

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION	
	<p><i>decommissioning timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact related to general waste as the site does not currently experience issues regarding waste.</i></p>					
	<p>Onsite maintenance of construction vehicles/machinery and equipment could result in oil, diesel and other hazardous chemicals contaminating surface and ground water. Surface and ground water pollution could arise from the spillage or leaking of diesel, lubricants, etc. during decommissioning.</p>	DIRECT	MODERATE -	<p>✦ No storage of fuels and hazardous materials must be permitted near sensitive water resources. All hazardous substances (e.g. diesel, oil drums, etc.) to be stored in a bunded area.</p>	LOW -	
		CUMULATIVE	MODERATE -		LOW -	
		CUMULATIVE	NO IMPACT			
	<p><i>Cumulative impact, on a localised scale, would be moderate should the Taaibos and Soutrivier WEF clusters decommissioning timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact related to hazardous waste as the site does not currently experience issues related to hazardous substances.</i></p>	NO-GO	NO IMPACT			

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
<b>DUST</b>	<p>Dust is likely to be a potential nuisance due to the decommissioning activities.</p> <p><i>Cumulative impact, on a localised scale, would be moderate should the Taaibos and Soutrivier WEF clusters decommissioning timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact related to decommissioning nuisance dust as no other decommissioning activities should be taking place on the site, that we are aware of.</i></p>	<b>DIRECT</b>	<b>MODERATE -</b>	<ul style="list-style-type: none"> <li>✦ <i>Management of fugitive/nuisance dust could be implemented through the following:</i> <ul style="list-style-type: none"> <li>▪ <i>Damping down of un-surfaced and un-vegetated areas;</i></li> <li>▪ <i>Retention of vegetation where possible; Demolitions and other clearing activities must only be done during agreed working times and permitting weather conditions to avoid drifting of sand and dust into neighbouring areas;</i></li> <li>▪ <i>A speed limit of 40km/h must not be exceeded on dirt roads.</i></li> </ul> </li> <li>✦ <i>Any complaints or claims emanating from the lack of dust control must be attended to immediately by the Contractor.</i></li> </ul>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>MODERATE -</b>		<b>LOW -</b>
		<b>NO-GO</b>	<b>NO IMPACT</b>		
<b>SOIL EROSION</b>	<p>After the removal of all pylon related structures, the disturbed soils could become exposed, unstable and prone to erosion.</p> <p><i>Cumulative impact, on a localised scale, would be moderate should the Taaibos and Soutrivier WEF clusters decommissioning timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be</i></p>	<b>DIRECT</b>	<b>MODERATE -</b>	<ul style="list-style-type: none"> <li>✦ <i>After the removal of all pylon-related structures, the disturbed soils must be re-vegetated to avoid unnecessary soil erosion. This must be based on the Revegetation Plan and the Erosion Management Plan.</i></li> </ul>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>MODERATE -</b>		<b>LOW -</b>
		<b>NO-GO</b>	<b>NO IMPACT</b>		

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
	<p><i>prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact related to soil erosion as a result of pylon removal as no other WEFs are planned on this site.</i></p>				
<b>LAND-USE</b>	<p>Land previously unavailable for certain types of land use will now be available for those uses.</p> <p><i>Cumulative impact, on a localised scale, would be moderate should the Taaibos and Soutrivier WEF clusters decommissioning timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact as the site will return to what it was used for before, i.e. the current status quo.</i></p>	<b>DIRECT</b>	<b>LOW +</b>	* <i>No mitigation necessary</i>	<b>LOW +</b>
		<b>CUMULATIVE</b>	<b>LOW +</b>		<b>LOW +</b>
		<b>NO-GO</b>	<b>NO IMPACT</b>		

SPECIALIST IMPACTS AND MITIGATION MEASURES

**SYNTHESIS OF SPECIALIST IMPACTS AS EXTRACTED FROM THE SPECIALIST REPORTS**

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
<b>PLANNING &amp; DESIGN PHASE</b>					
<p><i>It is important to note that specialist planning and design phase impacts were not expected since the developer designed the layout presented in the EIR based on sensitivity data and constraints provided by the various specialists.</i></p> <p><i>The planning and design impacts were therefore mitigated at Planning Phase.</i></p>					
<b>AGRICULTURAL IMPACT ASSESSMENT</b>					
<i>None identified by specialist</i>					
<b>AQUATIC IMPACT ASSESSMENT</b>					
<i>None identified by specialist</i>					
<b>AVIFAUNAL IMPACT ASSESSMENT</b>					
<i>None identified by specialist</i>					
<b>HERITAGE IMPACT ASSESSMENT</b>					
<i>None identified by specialist</i>					
<b>PALAENTOLOGICAL IMPACT ASSESSMENT</b>					
<i>None identified by specialist</i>					

## SYNTHESIS OF SPECIALIST IMPACTS AS EXTRACTED FROM THE SPECIALIST REPORTS

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
<b>RIVERINE RABBIT IMPACT ASSESSMENT</b>					
<i>None identified by specialist</i>					
<b>SOCIO-ECONOMIC IMPACT ASSESSMENT</b>					
<i>None identified by specialist</i>					
<b>TERRESTRIAL BIODIVERSITY IMPACT ASSESSMENT</b>					
<i>None identified by specialist</i>					
<b>CONSTRUCTION PHASE</b>					
<b>AGRICULTURAL IMPACT ASSESSMENT</b>					
<b>OCCUPATION OF LAND</b>	Agricultural land directly occupied by the development infrastructure will become restricted for agricultural use, with consequent potential loss of agricultural productivity for the duration of the project lifetime. The small and widely distributed nature of the agricultural footprint of the facility means that only an insignificant proportion of the available agricultural land is impacted in this way.  The potential cumulative agricultural impact of importance is a	<b>DIRECT</b>	<b>LOW -</b>	* <i>The amount of agricultural land loss caused by the project is well within the allowable development limits prescribed by the agricultural protocol to ensure appropriate conservation of agricultural production land. The footprint of the development is approximately eight times smaller than what the development limits allow.</i>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>LOW -</b>		<b>LOW -</b>

## SYNTHESIS OF SPECIALIST IMPACTS AS EXTRACTED FROM THE SPECIALIST REPORTS

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
	<p>regional loss (including by degradation) of future agricultural production potential.</p> <p><i>Cumulative impact, on a localised scale, would be moderate should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure (including the OHLs) are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact related to disturbance of agricultural system as no known construction activities are present on site.</i></p>				
<b>SOIL EROSION AND DEGRADATION</b>	Erosion can occur as a result of the alteration of the land surface run-off characteristics, predominantly through the establishment of hard surface areas including roads. Soil erosion is completely preventable. The storm water management that will be an inherent part of the road engineering on site and standard, best practice erosion control measures recommended and included in the EMP, are likely to be effective in preventing soil erosion. Loss of topsoil can result from poor topsoil	<b>DIRECT</b>	<b>LOW -</b>	<p><i>Mitigation measures to prevent soil degradation are all inherent in the project design and / or are standard, best-practice for construction sites.</i></p> <p><i>A system of storm water management, which will prevent erosion, will be an inherent part of the road engineering on site. Any occurrences of erosion must be attended to immediately and the integrity of the</i></p>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>LOW -</b>		<b>LOW -</b>

## SYNTHESIS OF SPECIALIST IMPACTS AS EXTRACTED FROM THE SPECIALIST REPORTS

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
	<p>management during construction related excavations.</p> <p><i>Cumulative impact, on a localised scale, would be moderate should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure (including OHLs) are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact related to disturbance of agricultural system as no known construction activities are present on site.</i></p>			<p><i>erosion control system at that point must be amended to prevent further erosion from occurring there.</i></p> <p><i>Any excavations done during the construction phase, in areas that will be re-vegetated at the end of the construction phase, must separate the upper 30 cm of topsoil from the rest of the excavation spoils and store it in a separate stockpile. When the excavation is back-filled, the topsoil must be back-filled last, so that it is at the surface. Topsoil should only be stripped in areas that are excavated. Across the majority of the site, including construction lay down areas, it will be much more effective for rehabilitation, to retain the topsoil in place. If levelling requires significant cutting, topsoil should be temporarily stockpiled and then re-spread after cutting, so that there is a covering of topsoil over the entire surface.</i></p>	
<b>AQUATIC IMPACT ASSESSMENT</b>					
<b>SITE PREPARATION PRIOR TO CONSTRUCTION ACTIVITIES: VEHICULAR MOVEMENT</b>	Transportation of construction materials can result in disturbances to soil, and increased risk of sedimentation/erosion; Soil contamination and potential oil and hydrocarbon spills originating from construction vehicles; and Soil compaction leading to increased runoff and erosion within	<b>DIRECT</b>	<b>MODERATE -</b>	It is assumed that the proposed powerline support structures will be located outside of the freshwater features and at least 32 m (as far as possible/feasible) from the delineated edge of a freshwater feature – this in itself is considered a	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>MODERATE -</b>		<b>LOW -</b>



## SYNTHESIS OF SPECIALIST IMPACTS AS EXTRACTED FROM THE SPECIALIST REPORTS

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
<b>(TRANSPORTATION OF CONSTRUCTION MATERIALS), AND CONSTRUCTION OF CAMP/CPNTRACTOR LAYDOWN AND STORAGE AREA</b>	<p>the vicinity of the freshwater feature(s).</p> <p><i>Cumulative impact, on a localised scale, would be moderate should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact related to disturbance of aquatic habitats as no known construction activities are present on site.</i></p>			<p><i>mitigation measure, which entails no direct negative impacts from occurring to the freshwater features. Should the following mitigation measures (pertaining to the construction of the proposed powerline) be applied, a Low risk significance can be expected:</i></p> <ul style="list-style-type: none"> <li>✦ <i>It is imperative that all construction works (with specific mention of potential upgrading of any road crossings) be undertaken during the driest period of the year when the flow is very low in the freshwater features;</i></li> <li>✦ <i>Due to the accessibility of the sites, no unnecessary crossing of the freshwater features (including those in the investigation area) may be permitted and it is strongly recommended that the delineated freshwater features be considered a no-go area. This will limit edge effects, erosion and sedimentation of the freshwater features during the construction phase;</i></li> </ul>	
<b>SITE PREPARATION PRIOR TO CONSTRUCTION ACTIVITIES: REMOVAL OF VEGETATION AND ASSOCIATED</b>	Exposure of soil, leading to increased runoff, and erosion, and thus increased sedimentation of the receiving freshwater features;	<b>DIRECT</b>	<b>HIGH -</b>	<ul style="list-style-type: none"> <li>✦ <i>The reaches of the freshwater features where no activities are planned (i.e., where no support structures or spanning of the powerline over the freshwater features is planned) must be considered no-go areas;</i></li> <li>✦ <i>Contractor laydown areas, vehicle re-fuelling areas and material storage facilities to remain outside of the freshwater features and preferably outside their associated 100 m NEMA /</i></li> </ul>	<b>LOW -</b>
	<p>Increased sedimentation of the freshwater feature(s), leading to smothering of vegetation associated with freshwater features;</p> <p>Dust pollution during construction which may impact on water quality; and</p>	<b>CUMULATIVE</b>	<b>MODERATE -</b>		<b>LOW -</b>

## SYNTHESIS OF SPECIALIST IMPACTS AS EXTRACTED FROM THE SPECIALIST REPORTS

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
<b>DISTURBANCES TO SOIL, AND ACCESS TO THE SITE, INCLUDING GRADING OF EXISTING INFORMAL FARM ROADS (ACCESS ROADS WILL BE MAINTAINED AS INFORMAL GRAVEL ROADS, OR A TYPICAL JEEP TRACK TYPE ROAD).</b>	<p>Proliferation of alien and/or invasive vegetation as a result of disturbances.</p> <p><i>Cumulative impact, on a localised scale, would be moderate should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact related to disturbance of aquatic habitats as no known construction activities are present on site.</i></p>			<p><i>GN509 ZoR as it would also help the proponent avoid the LN3 activities triggered within 100 m of watercourses;</i></p> <ul style="list-style-type: none"> <li><i>✦ Clearing of powerline servitudes of vegetation. Technically, only a very limited width strip of woody vegetation above a minimum clearance height needs to be cleared, all lower woody vegetation and other herbaceous vegetation must remain and not be cleared. Clearing of the entire width of the servitude through freshwater features must not occur. Keep woody vegetation below the minimum clearance height, and no indiscriminate removal of vegetation within the servitude must occur. This is considered feasible for the freshwater features identified to be associated with the proposed powerline as they are mostly characterised by low growing shrub and graminoid vegetation species;</i></li> <li><i>✦ Removed vegetation outside the delineated freshwater features must be stockpiled outside of the delineated boundary of a freshwater feature. The footprint areas and height of these stockpiles must be kept to a minimum;</i></li> <li><i>✦ The removed (indigenous) vegetation must be reinstated after the construction phase. However, alien/invasive vegetation species present and removed must not be reinstated but must be disposed of at a registered garden refuse</i></li> </ul>	

## SYNTHESIS OF SPECIALIST IMPACTS AS EXTRACTED FROM THE SPECIALIST REPORTS

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
				<i>site and may not be burned or mulched on site.</i>	
<b>INSTALLATION OF THE SUPPORT STRUCTURES (FURTHER THAN 32 M BUT WITHIN 100 M OF THE DELINEATED FRESHWATER FEATURES) AND SPANNING OF THE PROPOSED POWERLINE: EXCAVATION OF FOUNDATION PITS</b>	Earthworks could be potential sources of sediment, which may be transported as runoff into the downstream freshwater ecosystems; Disturbances of soil leading to potential impacts to the feature(s) and increased sediment runoff from the construction site to the freshwater feature(s), in turn leading to altered freshwater habitat; Altered runoff patterns, leading to increased erosion and sedimentation of the receiving freshwater features down gradient of the development; Dust pollution during construction which may impact on water quality (if surface water is present).	<b>DIRECT</b>	<b>MODERATE -</b>	<i>Stringing of the line (i.e., pulling the cables into place) needs to be done manually across the lower foothill tributary and must not entail the movement of machinery across the feature, unless as part of an approved existing access track / road across the feature;</i> <ul style="list-style-type: none"> <li>✦ <i>The construction footprint and period must be kept as small and as short as possible, respectively; and construction activities within the delineated freshwater features must be avoided;</i></li> <li>✦ <i>Only a 5 m zone of disturbance / construction right of way must be permitted to be disturbed. This 5 m construction right of way will limit construction vehicles/personnel to disturb the area surrounding any freshwater features, should the support structures be located in close proximity to a freshwater feature;</i></li> <li>✦ <i>Protect exposed stockpiles (if necessary) from wind and limit the time in which the stockpiled soil is exposed, by covering with a suitable geotextile such as hessian sheeting;</i></li> <li>✦ <i>Excavation of foundation pits for the support structures may result in loose sediments within the landscape, specifically if works are</i></li> </ul>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>MODERATE -</b>		<b>LOW -</b>
	<i>Cumulative impact, on a localised scale, would be moderate should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same</i>				

## SYNTHESIS OF SPECIALIST IMPACTS AS EXTRACTED FROM THE SPECIALIST REPORTS

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
<b>FOR THE SUPPORT STRUCTURES LEADING TO STOCKPILING OF SOIL &amp; POTENTIAL MOVEMENT OF CONSTRUCTION EQUIPMENT AND PERSONNEL WITHIN THE FRESHWATER FEATURES.</b>	<i>standard.</i>  <i>No-go alternative would result in no impact related to disturbance of aquatic habitats as no known earthworks activities are present on site.</i>			<p><i>undertaken during a period of rainfall (if applicable);</i></p> <ul style="list-style-type: none"> <li>✦ <i>During excavation activities, soil must be stockpiled upgradient of the excavated area. Mixture of the lower and upper layers of the excavated soil must be kept to a minimum. This soil must be used to backfill the pits (support structures), immediately after installation of the support structures and/or other infrastructure;</i></li> <li>✦ <i>Material used as bedding material (at the bottom of the excavated foundation pit) must be stockpiled outside of the 32m NEMA ZoR and as close as possible to the support structures footprint area. Once the pit has been excavated, the bedding material must be directly placed within the foundation pit, rather than stockpiling it alongside the foundation pit;</i></li> <li>✦ <i>The bedding layer (such as clean gravel) must be spread evenly and compacted uniformly to the required density using a hand tamper (one man operator) in order to minimise the use of large machinery within the freshwater feature or within close proximity to a freshwater feature;</i></li> </ul>	
<b>INSTALLATION OF THE SUPPORT STRUCTURES</b>	Potential contamination of surface water (if present).  <i>Cumulative impact, on a localised scale, would be moderate</i>	<b>DIRECT</b>	<b>HIGH -</b>	<ul style="list-style-type: none"> <li>✦ <i>When the powerline is strung between the support structures, no vehicles may indiscriminately drive through the freshwater features, use must be made of the existing access roads.</i></li> </ul>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>HIGH -</b>	<ul style="list-style-type: none"> <li>✦ <i>Control measures for concrete mixing on</i></li> </ul>	<b>LOW -</b>

## SYNTHESIS OF SPECIALIST IMPACTS AS EXTRACTED FROM THE SPECIALIST REPORTS

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
<b>(FURTHER THAN 32 M BUT WITHIN 100 M OF THE DELINEATED FRESHWATER FEATURES) AND SPANNING OF THE PROPOSED POWERLINE: MIXING AND CASTING OF CONCRETE FOR FOUNDATIONS.</b>	<p><i>should the Taabos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact related to disturbance of aquatic habitats as no known earthworks activities are present on site.</i></p>			<p>site:</p> <ul style="list-style-type: none"> <li>✦ No mixed concrete may be deposited outside of the designated construction footprint;</li> <li>✦ As far as possible, concrete mixing must be restricted to the batching plant.</li> <li>✦ Additionally, batter / dagga board mixing trays and impermeable sumps must be provided, onto which any mixed concrete can be deposited while it awaits placing; and</li> <li>✦ Concrete spilled outside of the demarcated area must be promptly removed and taken to a suitably licensed waste disposal site.</li> <li>✦ With regards to backfilling of the concrete encasing;</li> <li>✦ With regards to backfilling of the concrete encasing;</li> <li>✦ Soil removed for excavating the pit must be used as backfill material;</li> <li>✦ All excavated pits must be compacted to natural soil compaction levels to prevent the formation of preferential surface flow paths and subsequent erosion.</li> <li>✦ Conversely, areas compacted as a result of construction activities must be loosened to natural soil compaction levels;</li> <li>✦ Any remaining soil following the completion of backfilling of the pits are to be spread out thinly surrounding the installed support structures (outside of the delineated</li> </ul>	

## SYNTHESIS OF SPECIALIST IMPACTS AS EXTRACTED FROM THE SPECIALIST REPORTS

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
				<p><i>freshwater features) to aid in the natural reclamation process; and</i></p> <p>✦ <i>The construction footprint must be limited to the foundation pit area associated with the support structures and recommended 5 m construction buffer (to allow for the stockpiling and movement of personnel). The area must be rehabilitated after the completion of the construction phase, including revegetation thereof with indigenous vegetation. In addition, alien vegetation eradication of the footprint area must be undertaken where applicable. Hydroseeding of disturbed areas is recommended.</i></p>	
<b>ACCESS ROUTE "JEEP-TRACK": SOIL COMPACTION FOR THE ACCESS ROUTE</b>	Disturbances of soil resulting in altered runoff patterns within the vicinity of the freshwater features; and  Altered runoff patterns, leading to increased erosion and sedimentation of freshwater habitat.	<b>DIRECT</b>	<b>MODERATE -</b>	<p>✦ <i>All footprint areas must remain as small as possible and vegetation clearing to be limited to what is absolutely essential;</i></p> <p>✦ <i>No vegetation clearing must take place in the freshwater features; and</i></p> <p>✦ <i>No formal paving must be used for the access route. In situ compaction of soil for the "jeep-track" as proposed is preferred.</i></p>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>MODERATE -</b>		<b>LOW -</b>
<b>AVIFAUNAL IMPACT ASSESSMENT</b>					
<b>DISPLACEMENT THROUGH DISTURBANCE</b>	Disturbance can negatively affect all avifauna on an individual or population level by increasing stress, decreasing food and habitat availability, causing displacement into potentially less suitable neighbouring environments, and ultimately potentially	<b>DIRECT</b>	<b>LOW -</b>	<p>✦ <i>Disturbance can be managed and mitigated at the design stage by avoiding important nesting, roosting and foraging areas of sensitive species during site selection and layout design.</i></p>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>LOW -</b>		<b>LOW -</b>

## SYNTHESIS OF SPECIALIST IMPACTS AS EXTRACTED FROM THE SPECIALIST REPORTS

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
	<p>decreasing reproductive success (Frid &amp; Drill 2002, Percival 2005, Birdlife SA 2017, Bennun et al. 2021). This is particularly true for resident breeding species, some of which are shy, secretive and not habituated to human activities. For this project, disturbance is of particular concern due to the confirmed occurrence of the SCC Ludwig’s Bustard, Verreaux’s Eagle, Blue Crane, Karoo Korhaan, Lanner Falcon and Secretarybird, which are all locally breeding residents.</p> <p>The impact of disturbance on avifauna is negative and would affect the PAOI for the duration of all phases. Some disturbance is definite to occur, but the impact will cease with the completion of the phases and is reversible. Avifauna could continue to be present on site but in a modified manner, if for example breeding SCC are affected.</p> <p><i>Cumulative impact, on a localised scale, would be moderate should the Taibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same</i></p>			<ul style="list-style-type: none"> <li>✦ <i>In order to ensure no SCCs are breeding within the proposed disturbance footprint prior to the commencement of construction or decommissioning activities, a walkthrough of the site must be conducted, as close as possible prior to the commencement of activities.</i></li> <li>✦ <i>The impact management actions and outcomes as per Table 11 must be included in the EMPs for the proposed development.</i></li> </ul>	

## SYNTHESIS OF SPECIALIST IMPACTS AS EXTRACTED FROM THE SPECIALIST REPORTS

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
	<p><i>standard.</i></p> <p><i>No-go alternative would result in no impact related to disturbance of avifaunal habitats.</i></p>				
<b>DISPLACEMENT THROUGH HABITAT LOSS</b>	<p>Any transformation of vegetation leads to habitat loss for avian species utilising that vegetation, causing displacement into areas which are potentially less suitable or already occupied by competing individuals or species (Frid &amp; Dill 2002, Percival 2005, Dwyer et al. 2018). The clearing of vegetation will be required for the servitude road and pylon foundations and associated infrastructure. Pylons also represent potential new nesting, roosting and perching habitat for a variety of species, which would be lost with decommissioning. For some of these, in particular Martial Eagle and Verreaux's Eagle this will however be a higher risk environment than their natural substrate, due to the associated risk of collisions and electrocutions.</p> <p>The impact of habitat loss on avifauna is negative and would affect the site directly and surrounding areas indirectly through displacement. Therefore, the spatial extent of the impact is rated as the study area. Habitat loss is definite to occur and may impact SCC. Reversibility is considered to be possible with rehabilitation to some degree for the construction phase. The impact will persist for the lifetime of the facility and is therefore rated as long-term. The habitat is of Least Concern, with much equivalent habitat remaining in surrounding areas, but the</p>	<b>DIRECT</b>	<b>MODERATE -</b>	<ul style="list-style-type: none"> <li>✦ <i>With implementation of an alignment that avoids all SCC breeding sites, and an avifaunal pre-construction walkthrough the severity and likelihood can be reduced. The total development footprint would be relatively small.</i></li> <li>✦ <i>Mitigation of habitat loss from construction of the development is only marginally possible by retaining as much of the indigenous vegetation as possible, and minimising the footprint of all associated infrastructure, including buildings, electrical infrastructure and the width and length of roads.</i></li> <li>✦ <i>Pylons should be made unattractive for nesting birds by installing anti-perch and anti-nesting devices. Before decommissioning an avifaunal walkthrough must identify any active nesting and breeding sites of SCC, that could have established throughout the lifetime of the development, which must be protected until the breeding has concluded.</i></li> <li>✦ <i>The impact management actions and outcomes as per Table 11 must be included in the EMP for the proposed development.</i></li> </ul>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>MODERATE -</b>		<b>LOW -</b>



## SYNTHESIS OF SPECIALIST IMPACTS AS EXTRACTED FROM THE SPECIALIST REPORTS

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE- MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST- MITIGATION
	<p>resource will be partly lost. The severity of habitat loss for SCC is potentially severe if habitat loss occurs within breeding areas.</p> <p>During the lifetime of the facility some avian species may use the OHPL and infrastructure as a perching, roosting or nesting locality. Decommissioning therefore potentially results in habitat loss for these individuals, and can affect breeding success. The affected species are likely to be SCC.</p> <p><i>Cumulative impact, on a localised scale, would be moderate should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact related to disturbance of avifaunal habitats.</i></p>				
<b>HERITAGE IMPACT ASSESSMENT</b>					
<b>LOSS OF HERITAGE RESOURCES: STONE AGE OCCURANCES</b>	Construction activities pose the greatest threat to tangible heritage resources within the cultural landscape and it is often during this Phase that heritage sites are lost. Previously undetected cultural (archaeological) layers are usually	<b>DIRECT</b>	<b>LOW -</b>	More significant archaeological resources such as a rock shelter (SRC02) and a corbel building (SRC01) should be managed -if retained -during the construction phase (no-go development buffer) to limit the impact	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>LOW -</b>		<b>LOW -</b>

## SYNTHESIS OF SPECIALIST IMPACTS AS EXTRACTED FROM THE SPECIALIST REPORTS

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	<p>superficial, subsoil layers and that makes them easily vulnerable to destruction and the likelihood for encountering additional cultural heritage sites as the land clearing process commences, or during construction of infrastructure should be considered.</p> <p><i>Cummulative impact:</i></p> <p><i>The low frequency of significant archaeological resources documented in the project area and in its immediate surroundings implies low-severity short and long-term impacts on the heritage landscape</i></p> <p><i>Cumulative impact, on a localised scale, would be low should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact related to destruction of archaeological resources.</i></p>			<p>on the archaeological landscape to low.</p> <p>It should be noted that graves and cemeteries do not only occur around farmsteads in family burial grounds but they are also randomly scattered around archaeological and historical settlements in the rural areas of the Northern Cape Province. The probability of informal human burials encountered during the construction phase should thus not be excluded. Monitoring activities will be required throughout the construction phase of the Project in order to avoid the destruction of previously undetected heritage sites and human burials.</p> <p><i>Cumulative impact:</i></p> <ul style="list-style-type: none"> <li>✦ <i>The significance of the landscape in terms of its heritage is bound not to change during the course of construction, operation and decommissioning of the project.</i></li> <li>✦ <i>It should be noted that archaeological knowledge</i></li> </ul>	<b>AND LOW (+)</b>

## SYNTHESIS OF SPECIALIST IMPACTS AS EXTRACTED FROM THE SPECIALIST REPORTS

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
				<i>and the initiation of research projects into significant archaeological sites often result from Heritage Impact Assessments conducted for developments. Provided that significant archaeological sites are conserved and that appropriate heritage mitigation and management procedures are followed, the cumulative impact of development can be positive.</i>	
<b>LOSS OF HERITAGE RESOURCES: ROCKSHELTER (SRc02) AND CORBEL BUILDING (SRC01)</b>	<p>Significant archaeological resources such as a rock shelter (SRC02) and a corbel building (SRC01) may be damaged during the construction phase.</p> <p><i>Cumulative impact:</i></p> <p><i>The low frequency of significant archaeological resources documented in the project area and in its immediate surroundings implies low-severity short and long-term impacts on the heritage landscape</i></p> <p><i>Cumulative impact, on a localised scale, would be low should the Taaibos and Soutrivier WEF clusters construction timelines</i></p>	<b>DIRECT</b>	<b>MODERATE -</b>	Archaeological resources such as a rock shelter (SRC02) and a corbel building (SRC01) should managed -if retained -during the construction phase (no-go development buffer) to limit the impact on the archaeological landscape to low.	<b>MODERATE -</b>
		<b>CUMULATIVE</b>	<b>LOW -</b>		<b>LOW – AND LOW (+)</b>

## SYNTHESIS OF SPECIALIST IMPACTS AS EXTRACTED FROM THE SPECIALIST REPORTS

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
	<p><i>overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact related to destruction of archaeological resources.</i></p>				
<b>PALAEONTOLOGICAL IMPACT ASSESSMENT</b>					
<b>LOSS OF PALAEONTOLOGICAL HERITAGE RESOURCES</b>	<p>Disturbance, damage, destruction or sealing-in of legally protected, scientifically valuable fossil remains preserved at or beneath the ground surface within the development footprint, especially during ground clearance or bedrock excavations during the Construction Phase.</p> <p><i>Cumulative impact, on a localised scale, would be low should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact related to loss of palaeontological resources.</i></p>	<b>DIRECT</b>	<b>LOW -</b>	<p><i>Impact severity can be effectively (albeit only partially) mitigated through:</i></p> <ul style="list-style-type: none"> <li>✦ <i>Pre-construction walk-down of authorized project footprint by specialist palaeontologist in the Pre-Construction Phase</i></li> <li>✦ <i>Ongoing monitoring for fossil remains of all substantial bedrock excavations and surface clearance activities by ECO during Construction Phase, with safeguarding and reporting of new palaeontological finds (notably fossil vertebrate bones &amp; teeth) to SAHRA for possible specialist mitigation (See appended Chance Fossil Finds Protocol).</i></li> </ul> <p><i>Low Negative impact may also be partially offset by professional recording and collection of new fossil finds, which may be a compensatory positive</i></p>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>LOW -</b>		<b>LOW -</b>

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ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
				<p>outcome.</p> <ul style="list-style-type: none"> <li>✦ <i>Cumulative impacts: Anticipated cumulative impacts on local palaeontological heritage fall within acceptable limits based largely on the paucity of significant fossil sites recorded hitherto within the combined cluster project area and assumes that the proposed Pre-Construction and Construction Phase mitigation measures recommended for all these projects are implemented in full.</i></li> </ul>	
<b>RIVERINE RABBIT IMPACT ASSESSMENT</b>					
<b>LOSS OF HABITAT</b>	The construction of roads, turbine hard-stands, roads and laydown areas will result in the destruction of vegetation and top-soil within areas of potential Riverine Rabbit habitat. No turbines should be constructed in riparian zones demarcated as High sensitivity, or their associated buffers. Furthermore, the developer should strive to reduce the amount of roads intersecting these riparian zones. If these measures are correctly implemented the total extent of habitat loss is likely to be low, and the resulting impact on the species from habitat loss would also be low.	<b>DIRECT</b>	<b>HIGH -</b>	<ul style="list-style-type: none"> <li>✦ <i>Turbines and pylons should be located outside of the buffers around riverine habitat</i></li> <li>✦ <i>An ECO must be employed to demarcate areas for use during construction, and to ensure that the construction activities remain within the designated area and that no unauthorised activities occur outside of the construction footprint</i></li> <li>✦ <i>Avoid road development traversing riparian areas, where possible</i></li> </ul>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>HIGH -</b>		<b>LOW -</b>

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	<p><i>Cumulative impact, on a localised scale, would be low should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact on the local Riverine Rabbit population.</i></p>				
<b>DISTURBANCE THROUGH CONSTRUCTION NOISE</b>	<p>The construction of roads, turbine hard-stands, roads and laydown areas will result in elevated levels of both noise and activity, which may displace potential Riverine Rabbits out of the Aol. Mitigation should include minimizing noise and educating workers. If done, the potential displacement of the species from home range is likely to be very low. As there are limited areas of potentially suitable Riverine Rabbit on the site, this would be a largely minimalised, thus requiring minimal mitigation.</p> <p><i>Cumulative impact, on a localised scale, would be low should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same</i></p>	<b>DIRECT</b>	<b>LOW -</b>	<ul style="list-style-type: none"> <li>✦ <i>An ECO must be employed to demarcate areas for use during construction, and to ensure that the construction activities remain within the designated area and that no unauthorised activities occur outside of the construction footprint</i></li> <li>✦ <i>Traffic and loud machinery should be prohibited during the early hours of the morning (04:00 – 09:00) and early evening (18:00 – 22:00)</i></li> <li>✦ <i>Any trenches built must have slopes that allow any dispersing rabbits that fall in to escape and must be backfilled.</i></li> </ul>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>LOW -</b>		<b>LOW -</b>

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ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
	<p><i>developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact on the local Riverine Rabbit population.</i></p>				
<b>MORTALITY FROM ROADKILL OR BUSHMEAT HUNTING</b>	<p>Roadkill is a significant source of mortality for Riverine Rabbits across their range. The probability of vehicle-related mortality in and around the Aol will increase with the added traffic, particularly during the construction phase. This would potentially occur within the site as well as on the nearby larger public roads (such as the R381). During operation, however, this potential impact would be significantly reduced. As Riverine Rabbit activity is 'crepuscular' (i.e., highest between dusk and dawn), traffic during these periods should be curtailed. In addition, speed limits (&lt;40km) in all areas of potential conflict (i.e. High sensitivity) should be implemented to reduce collision risk. Finally, a limitation of roads within the drainage habitat within the Aol should be considered.</p> <p>Bushmeat hunting and active interference with Riverine Rabbits by construction employees may also result in reduced Riverine Rabbit occurrence within the Aol. All employees should be educated thoroughly on the potential impact of hunting in the Aol, and encouraged to report any sightings of the species</p>	<b>DIRECT</b>	<b>MODERATE -</b>	<ul style="list-style-type: none"> <li>✦ <i>Prohibit all employees from hunting</i></li> <li>✦ <i>Prohibit open fires</i></li> <li>✦ <i>Prohibit any domestic carnivores (e.g. dogs) from entering the site with employees</i></li> <li>✦ <i>An ECO must be employed to demarcate areas for use during construction, and to ensure that the construction activities remain within the designated area and that no unauthorised activities occur outside of the construction footprint</i></li> <li>✦ <i>Avoid road development traversing riparian areas, where possible</i></li> <li>✦ <i>Speed restrictions for all project vehicles (40km/h is recommended) should be in place to reduce road kills of rabbits killed on the project roads. Traffic should be reduced during the early hours of the morning (04:00 – 09:00) and early evening (18:00 – 22:00)</i></li> <li>✦ <i>Any contractor employed for development work must ensure that no rabbit or hare species are disturbed, trapped, hunted or killed by them and their team during the construction phase.</i></li> </ul>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>MODERATE -</b>		<b>LOW -</b>

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	<p>during construction to their line managers.</p> <p><i>Cumulative impact, on a localised scale, would be low should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPrs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact on the local Riverine Rabbit population.</i></p>			<p><i>Conservation-orientated clauses should be built into contracts for construction personnel, complete with penalty clauses for non-compliance</i></p>	

### SOCIO-ECONOMIC IMPACT ASSESSMENT

<b>TEMPORARY EMPLOYMENT</b>	<p>During the construction phase, there will be temporary employment associated with the project. It has been established that approximately 50 employment opportunities will become available over the 8-month construction period. Of these about 55% will be allocated to unskilled, 30% to semi-skilled and 15% to skilled workers. Semi- and lower skilled workers are usually required to perform electrical and civil duties (site clearing, excavation and casting of concrete foundations, stormwater reticulation, trenching, access roads, cable installations, structural steelwork, buildings, fencing, etc.); whereas higher skilled professionals entail Project Managers, Engineers,</p>	<b>DIRECT</b>	<b>SOME BENEFITS</b>	<ul style="list-style-type: none"> <li>✦ <i>Maximise local employment and local content (the Project's direct sending area) through the Preferential Procurement Plan and Contractor Services Management Plan (CSMP) for all contractors that are used.</i></li> <li>✦ <i>Involve the Ubuntu LM and PKSDM from the early processes (from financial close already if possible). Determine their existing processes with regards to a labour desk and streamline employment processes between the various stakeholders.</i></li> <li>✦ <i>Appoint a Community Employer Relations Officer / CLO. Communicate with communities</i></li> </ul>	<b>SOME BENEFITS</b>
		<b>CUMULATIVE</b>	<b>HIGH +</b>		<b>HIGH +</b>



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	<p>Environmental Control Officers and so forth. In addition to direct employment, the construction phase will have a positive spin-off effect on the economy (local, regional and national) through procurement of goods and services, with indirect and induced employment creation as result.</p> <p><i>Cumulative impact, on a localised scale, would be HIGH should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would not impact the SEIA ratings significantly.</i></p>			<i>through this one channel to ensure transparency, limit unrealistic expectations and to avoid conflict.</i>	
<b>INDUCED LOCAL ECONOMIC IMPACTS</b>	<p>Expenditure during construction and the increase in household earnings due to temporary employment result in various induced economic impacts and spin-offs for the local and regional economies, such as:</p> <p>Business opportunities for the service and manufacturing industries (locally and nationally), e.g. transport, Personal</p>	<b>DIRECT</b>	<b>LOW +</b>	<p>▲ <i>Maximise the Project's local content as far as possible.</i></p>	<b>LOW +</b>
		<b>CUMULATIVE</b>	<b>LOW +</b>		<b>LOW +</b>

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	<p>Protective Equipment, maintenance work, general consumables, civil works;</p> <ul style="list-style-type: none"> <li>✦ Wages that are spent locally and a general improvement of income levels with higher spending benefits and spin-offs for local businesses, retail, sales, leisure and hospitality, real estate, etc.;</li> <li>✦ Local accommodation facilities that house the workers sourced from outside the direct Project sending area and spin-offs for the tourism industry.</li> </ul> <p>Since at least 20% of the South African workforce has to be residents from local communities a large portion of these induced impacts will manifest locally. Definite positive impacts of 'low significance' will manifest.</p> <p>Wallet loose b</p> <p><i>Cumulative impact, on a localised scale, would be low should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would not impact the SEIA ratings significantly.</i></p>				

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<b>TRAINING / SKILLS DEVELOPMENT</b>	<p>An important outcome of training and skills development is that it increases the employability of a region's workforce, resulting in enhanced economic opportunities and thus addressing poverty alleviation over the medium to long term. During the construction phase the following training initiatives would usually take place:</p> <ul style="list-style-type: none"> <li>✦ On-site training so that workers can safely perform their duties; and</li> <li>✦ Training by contractors to maintain their own BBEEE level, such as health and safety legislation training, first aid, fire-fighting, construction skills, basic electrical training, quality management, legal compliance or business skills.</li> </ul> <p>Consultation with the affected local and district municipalities however identified a great need for training and capacity building as most of the workers and SMME's on their databases are poorly educated with limited skills. These constraints result in gaps between the Developers' requirements and the local communities' / SMME's abilities to provide the required services. It would thus be to the advantage of the Project if on-the-job training is implemented, especially for unskilled workers.</p> <p><i>Cumulative impact, on a localised scale, would be low should the Taabos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same</i></p>	<b>DIRECT</b>	<b>LOW +</b>	<ul style="list-style-type: none"> <li>✦ <i>Where feasible, the Developer should: Make the skill requirements clear to the municipalities in advance and do a skills analysis of the available labour force.</i></li> <li>✦ <i>Implement a SMME skills development programme and do certification (training on how to tender, understanding contracts, basic business skills, etc.) at least 4 months prior inviting SMMEs to tender and involve the relevant LED Units in the programmes.</i></li> <li>✦ <i>Do a Value-chain analysis of services required (directly and indirectly related to construction) and communicate this to local and district municipalities in advance so that they are prepared and equipped to take part in the tender process.</i></li> <li>✦ <i>Require larger contractors to work with small SMMEs to train and transfer skills and include this in their respective CSMP's.</i></li> <li>✦ <i>Implement on-the-job training for unskilled workers.</i></li> <li>✦ <i>Capacitate the local government structures by involving them as early as possible in the Project; remain transparent throughout the processes.</i></li> <li>✦ <i>Negotiate a MoU with the municipalities so that each role-player is clearly aware of its roles, responsibilities and timelines in the Project processes.</i></li> </ul>	<b>MODERATE +</b>
		<b>CUMULATIVE</b>	<b>MODERATE +</b>		<b>MODERATE +</b>

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	<p><i>developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would not impact the SEIA ratings significantly.</i></p>			<p>✦ <i>Establish an EMC or similar Forum for the duration of construction to aid communication and transparency. Members of the EMC / Forum to meet on a quarterly basis to discuss issues that may arise during the course of the construction period (if feasible).</i></p>	
<b>EMPLOYMENT EQUITY</b>	<p>Statistics obtained from the IP4 overview (DMRE, December 2021) indicate that during the construction phases, Black South African citizens, Youths and rural local communities have primarily been the beneficiaries of RE projects, as they respectively represent 81%, 44% and 48% of total job opportunities created by IPP's to date. However, woman and the disabled could still be significantly empowered as they represent a mere 10% and 0.4% of total jobs created.</p> <p>Pre-mitigation positive impacts of employment equity will hold benefits of 'low overall significance' if only the DMRE's minimum requirements are implemented. With mitigation, the intensity of the impact will increase, and the overall significance can be increased to hold 'moderate benefits'.</p> <p><i>Cumulative impact, on a localised scale, would be low should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and</i></p>	<b>DIRECT</b>	<b>LOW +</b>	<p>✦ <i>Obtain inputs from the local and district municipalities on the contents of the Procurement strategy and Employment Equity Plan to be implemented.</i></p> <p>✦ <i>Set targets for the employment of Youth, women and the disabled in the respective CSMPs.</i></p>	<b>MODERATE +</b>
		<b>CUMULATIVE</b>	<b>LOW +</b>		<b>MODERATE +</b>

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	<p><i>their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would not impact the SEIA ratings significantly.</i></p>				
<b>IMPACTS ASSOCIATED WITH AN INFLUX OF JOBSEEKERS / TEMPORARY CONSTRUCTION WORKERS</b>	<p>Negative impacts that could manifest for local communities and the local and district municipalities due to an influx of jobseekers / temporary construction workers include:</p> <p>Conflict between locals and 'outsiders' if the outside labour force receives preference;</p> <p>Conflict due to cultural differences;</p> <ul style="list-style-type: none"> <li>✦ Increase in the size and number of informal settlements and additional pressure on local government for housing and related services;</li> <li>✦ Increase in the unemployment rate if jobseekers and/or workers do not return to their places of residence post construction;</li> <li>✦ Unwanted pregnancies, an increase in HIV/AIDS and other sexually transmitted diseases (STDs) and additional pressure on health care services;</li> <li>✦ An increase in single parent households and a subsequent reliance on social grants;</li> <li>✦ An increase in drug and alcohol abuse and other social</li> </ul>	<b>DIRECT</b>	<b>MODERATE -</b>	<p><i>Employment / Temporary construction workers:</i></p>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>MODERATE -</b>	<ul style="list-style-type: none"> <li>✦ Clearly identify the beneficiary communities / labour sending area and compile the employment strategy in collaboration with the affected municipalities' LED Units.</li> <li>✦ Contractually oblige contractors and sub-contractors to only source labour through the labour desk / job registration database and make this known to the target communities.</li> <li>✦ Work through limited communication channels (e.g. Ward Councillors and the Employer Relations Officer / CLO).</li> <li>✦ Be vigilant not to raise unrealistic expectations amongst the local communities and workers with regards to employment, skills requirements, local procurement and so forth. Ensure transparency through the Ward Councillors, CLO and the EMC / Forum.</li> <li>✦ No recruitment of temporary workers at the access to the construction site.</li> </ul>	<b>LOW -</b>

## SYNTHESIS OF SPECIALIST IMPACTS AS EXTRACTED FROM THE SPECIALIST REPORTS

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
	<p>issues should unemployment levels increase. Poor conduct of construction workers and inadequate management of the construction site could result in health and safety risks for landowners that include:</p> <ul style="list-style-type: none"> <li>✦ Unauthorized access / trespassing resulting in theft, stock poaching, safety and security issues as well as potential damage to the veld and natural grazing;</li> <li>✦ Fire hazards at the construction site and the possibility of fires spreading and damaging surrounding farmland and infrastructure;</li> <li>✦ Pollution problems, flies, rodents and pests and possible contamination of water resources (insufficient sanitation facilities, littering and refuse) and so forth.</li> </ul> <p>In terms of security, landowners and community members could easily consider this construction project as the catalyst should local crime levels and stock theft increase and affect their quality of life. Landowners in and around the study area describe their environment as extremely safe and peaceful with minimal / low levels of crime.</p> <p>Impacts that relate to an influx of construction workers would increase if contractors and sub-contractors refrain from using the labour desk and prefer to bring in their own workforce. The Developer's commitment to maximize local labour, design the recruitment process in conjunction with the municipalities and implement relevant security measures for the duration of</p>			<ul style="list-style-type: none"> <li>✦ <i>As part of their Social Management Plan's (SMP's), contractors to provide a transport and housing plan: (i) no workers are allowed to be housed on site or in informal housing / settlements; (ii) allow workers that do not live nearby time to return to their families at regular intervals or over weekends.</i></li> <li>✦ <i>No workers to remain on site after shifts.</i></li> <li>✦ <i>It is also recommended that the Developer embarks on a Social Awareness Campaign for the workforce that focuses on sexual health, unwanted pregnancies and related social issues.</i></li> <li>✦ <i>Security, safety and environmental health:</i></li> <li>✦ <i>24-hour security, demarcate and fence the construction site (if possible), material stores to be secured, access control and no trespassing of workers outside designated construction areas.</i></li> <li>✦ <i>Join the local community policing forum or similar initiative for the duration of construction.</i></li> <li>✦ <i>Keep the local SAPS, other emergency services, Ward Councillors, landowners and other relevant stakeholders informed about the construction progress and time-lines.</i></li> <li>✦ <i>Develop a Fire / Emergency Management Plan in conjunction with affected and neighbouring landowners.</i></li> <li>✦ <i>Dispose of the various types of waste generated in the appropriate manner at licensed waste landfill sites at regular intervals. Comply</i></li> </ul>	

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ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE- MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST- MITIGATION
	<p>construction is thus essential.</p> <p><i>Cumulative impact, on a localised scale, would be MODERATE should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPrs will be prepared to the same standard.</i></p> <p><i>No-go alternative would not impact the SEIA ratings significantly.</i></p>			<p><i>with the waste management plan compiled for the construction phase.</i></p> <ul style="list-style-type: none"> <li>✦ <i>Display “danger” warning signs and “no public access” signs at all potential accesses, paths and along the periphery of the construction areas in English and the local languages.</i></li> <li>✦ <i>If water for construction is obtained from a natural water resource, comply with the Water Use Licence conditions for the duration of the construction period.</i></li> <li>✦ <i>Ensure implementation of the provisions of the Occupational Health and Safety Act No. 85 of 1993 and adhere to the Emergency and Safety plan procedures for the duration of the construction phase.</i></li> <li>✦ <i>Awareness / community engagement:</i></li> <li>✦ <i>Keep open communication channels with the landowners and address any potential issues as a matter of priority.</i></li> <li>✦ <i>Make contact details of the main contractor and procedures to lodge complaints available to landowners and the local communities through the Ward Councillors and EMC / Forum.</i></li> <li>✦ <i>Make a complaints register / log book available at the entrance to the construction site and act immediately should issues arise.</i></li> <li>✦ <i>Consult with surrounding landowners whose livestock, private residences and other</i></li> </ul>	

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				<p><i>infrastructure could be affected by dust, noise and other impacts that result from traffic movement and general construction activities.</i></p> <ul style="list-style-type: none"> <li>✦ <i>Where required, draw up a land use management plan with individual landowners to protect livestock and farmland, which addresses restricted access areas, procedures when farm gates are opened and closed and so forth.</i></li> <li>✦ <i>Rehabilitate the veld to its original state post construction.</i></li> </ul>	
<b>INTRUSION IMPACTS</b>	<p>Intrusion impacts could indirectly impact agricultural land uses, thereby having a negative effect on incomes of landowners, such as:</p> <ul style="list-style-type: none"> <li>✦ Negligent construction workers that do not close / lock farm gates resulting in animals that go missing and/or mix with animals in different breeding groups / cycles, potentially introducing diseases into herds;</li> <li>✦ Livestock that is killed on access roads if drivers do not adhere to speed limits and traffic rules;</li> <li>✦ Dust that impact the quality of wool and/or dust that settle on grazing land and have an impact on livestock carrying capacity;</li> <li>✦ Possible noise impacts; and</li> <li>✦ Construction activities that hamper the farmers' access to their own farms.</li> </ul>	<b>DIRECT</b>	<b>MODERATE -</b>	<ul style="list-style-type: none"> <li>✦ <i>Comply with the EMPr requirements to address any potential noise and dust impacts.</i></li> </ul>	<b>MODERATE -</b>
		<b>CUMULATIVE</b>	<b>MODERATE -</b>	<ul style="list-style-type: none"> <li>✦ <i>Proper planning, management and rehabilitation of all construction sites to forego the visual impacts of the construction activities, as proposed in the VIA (Nuleaf Planning &amp; Environmental, October 2022).</i></li> <li>✦ <i>Implement all mitigation measures as proposed</i></li> <li>✦ <i>Discuss construction timelines with landowners so that grazing of livestock can take place away from construction areas.</i></li> <li>✦ <i>Collaborate with the necessary road management agencies when road closures are required and advertise alternative routes in advance.</i></li> <li>✦ <i>Impose penalties for reckless drivers as a way to enforce compliance to traffic rules.</i></li> </ul>	<b>MODERATE -</b>



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	<p>The increase in traffic could result in the degradation of road surfaces and speeding / negligent drivers could cause accidents and fatalities, subsequently placing pressure on local emergency, disaster management and health care services (fire, ambulance, police services, etc.). Abnormal vehicles that transport large project infrastructure could also necessitate intermittent road closures.</p> <p><i>Cumulative impact, on a localised scale, would be low should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would not impact the SEIA ratings significantly.</i></p>				
<b>HEALTH AND SAFETY RISKS FOR WORKERS</b>	<p>Health and safety risks for workers and the broader community are possible to manifest. Community health and safety risks are associated with the inflow of workers. The Occupational Health and Safety Act (Act No. 85 of 1993) makes provision for the health and safety of workers at construction sites. These risks are broadly associated with:</p> <ul style="list-style-type: none"> <li>Construction related accidents due to structural safety of Project infrastructure, possibly resulting in fatalities;</li> </ul>	<b>DIRECT</b>	<b>MODERATE -</b>	<ul style="list-style-type: none"> <li>Ensure implementation of the provisions of the Occupational Health and Safety Act (Act No. 85 of 1993) and adhere to the Emergency and Safety plan procedures for the duration of the construction phase.</li> <li>Promote good conduct of employees through awareness campaigns. It is also recommended that the Developer embarks on a Social Awareness Campaign for the workforce that focuses on sexual health, unwanted pregnancies and related social issues.</li> </ul>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>MODERATE -</b>		<b>MODERATE -</b>

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	<ul style="list-style-type: none"> <li>• Dust generation and air pollution resulting in respiratory diseases;</li> <li>• High ambient noise levels caused by machinery and construction equipment, resulting in loss of hearing or other similar health issues;</li> <li>• Dehydration, sunburn and related issues for workers due to unsafe and insufficient drinking water and high temperatures during summer months; and</li> <li>• An increase in HIV/AIDS and other STDs due to prostitution activities and temporary sexual relationships with local women and unwanted pregnancies that place further pressure on Basic Health Care Services.</li> </ul> <p><i>Cumulative impact, on a localised scale, would be low should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would not impact the SEIA ratings significantly.</i></p>			<ul style="list-style-type: none"> <li>✦ <i>Contractors to provide a housing plan that makes provision for workers that do not live nearby to return to their families at regular intervals or over weekends.</i></li> <li>✦ <i>Provide safe and clean drinking water and instil regular water breaks to keep workers hydrated.</i></li> <li>✦ <i>Provide sufficient ablution facilities (chemical/portable toilets, etc.) at strategic locations that are cleaned regularly.</i></li> <li>✦ <i>Keep the local police, emergency and ambulance services informed of construction times and progress.</i></li> </ul>	

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ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
<b>TERRESTRIAL BIODIVERSITY IMPACT ASSESSMENT</b>					
<b>POTENTIAL TERRESTRIAL BIODIVERSITY IMPACTS</b>  <b>VEGETATION</b>	<p>Permanent or temporary loss of indigenous vegetation cover because of site clearing. Site clearing before construction will result in the blanket clearing of vegetation within the affected footprint.</p> <p><i>Cumulative impact, on a localised scale, would be low should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact on vegetation.</i></p>	<b>DIRECT</b>	<b>LOW -</b>	<ul style="list-style-type: none"> <li>✦ <i>Blanket clearing of vegetation must be limited to the site. No clearing outside of required footprint required for construction to take place.</i></li> <li>✦ <i>Topsoil must be striped and stockpiled separately during site preparation and replaced on completion where revegetation will take place.</i></li> <li>✦ <i>Any site camps and laydown areas requiring clearing must be located within already disturbed areas as far as possible, or away from watercourses, alluvial areas and other sensitive features (rocky outcrops).</i></li> </ul>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>LOW -</b>		<b>LOW -</b>
<b>POTENTIAL TERRESTRIAL BIODIVERSITY IMPACTS</b>  <b>FLORA SPECIES</b>	<p>Loss of flora species of special concern during pre-construction site clearing activities. Several special of concern are known from surrounding areas, which could be destroyed during site preparation.</p> <p><i>Cumulative impact, on a localised scale, would be low should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and</i></p>	<b>DIRECT</b>	<b>LOW -</b>	<ul style="list-style-type: none"> <li>✦ <i>A flora search and rescue is recommended before commencement.</i></li> <li>✦ <i>Respective permits to be obtained beforehand.</i></li> </ul>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>LOW -</b>		<b>LOW -</b>

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ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
	<p><i>their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact on floral species.</i></p>				
<b>POTENTIAL TERRESTRIAL BIODIVERSITY IMPACTS</b>  <b>ALIEN INVASIVE SPECIES</b>	<p>Susceptibility of post construction disturbed areas to invasion by exotic and alien invasive species and removal of exotic and alien invasive species during construction. Post construction disturbed areas having no vegetation cover are often susceptible to invasion by weedy and alien species, which can not only become invasive but also prevent natural flora from becoming established.</p> <p><i>Cumulative impact, on a localised scale, would be low should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact on alien invasive species.</i></p>	<b>DIRECT</b>	<b>LOW -</b>	<ul style="list-style-type: none"> <li>✦ <i>Alien trees and weeds must be removed from the site as per CARA/ NEMBA requirements.</i></li> <li>✦ <i>A suitable weed and alien invasive plant management plan to be implemented in construction and operation phases.</i></li> <li>✦ <i>After clearing and construction is completed, an appropriate cover crop may be required, should natural re-establishment of grasses not take place in a timely manner, such as along road verges. This will also minimise dust.</i></li> </ul>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>LOW -</b>		<b>LOW -</b>
<b>POTENTIAL</b>	Susceptibility of some areas to erosion because of construction	<b>DIRECT</b>	<b>LOW -</b>	✦ <i>Suitable measures must be implemented in</i>	<b>LOW -</b>

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<b>TERRESTRIAL BIODIVERSITY IMPACTS</b>  <b>EROSION</b>	<p>related disturbances. Removal of vegetation cover and soil disturbance may result in some areas being susceptible to soil erosion after completion of the activity.</p> <p><i>Cumulative impact, on a localised scale, would be low should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact on erosion.</i></p>	<b>CUMULATIVE</b>	<b>LOW -</b>	<p><i>areas that are susceptible to erosion. Areas must be rehabilitated, and a suitable cover crop planted once construction is completed.</i></p> <ul style="list-style-type: none"> <li>⤴ <i>Topsoil must be stripped and stockpiled separately and replaced on completion.</i></li> <li>⤴ <i>If natural vegetation re-establishment does not occur, a suitable grass must be applied.</i></li> </ul>	<b>LOW -</b>
<b>POTENTIAL TERRESTRIAL BIODIVERSITY IMPACTS</b>  <b>ECOLOGICAL PROCESSES</b>	<p>Disturbances to ecological processes: Activity may result in disturbances to ecological processes such as fragmentation (road, etc).</p> <p><i>Cumulative impact, on a localised scale, would be low should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact on ecological</i></p>	<b>DIRECT</b>  <b>CUMULATIVE</b>	<b>LOW -</b>	<ul style="list-style-type: none"> <li>⤴ <i>Blanket clearing of vegetation must be limited to the development footprint, and the area to be cleared must be demarcated before any clearing commences.</i></li> </ul>	<b>LOW -</b>

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	<i>processes.</i>				
<b>POTENTIAL TERRESTRIAL BIODIVERSITY IMPACTS</b>	Aquatic and Riparian processes: Diversion and increased velocity of surface water flows – Changes to the hydrological regime and increased potential for erosion. Impact of changes to water quality. Loss of riparian vegetation / aquatic habitat. Loss of species of special concern.	<b>DIRECT</b>	<b>MODERATE -</b>	<ul style="list-style-type: none"> <li>⚡ <i>Suitable structures to be constructed at watercourse crossings that do not alter flows.</i></li> <li>⚡ <i>Stormwater discharge into watercourses to be protected against erosion.</i></li> </ul>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>MODERATE -</b>		<b>LOW -</b>
<b>AQUATIC AND RIPARIAN PROCESSES</b>	<p><i>Cumulative impact, on a localised scale, would be moderate should the Taibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact on aquatic and riparian processes.</i></p>				
<b>POTENTIAL TERRESTRIAL BIODIVERSITY IMPACTS</b>	Loss of Faunal Habitat: Activity may result in the loss of habitat for faunal species, which could result in disturbance and displacement of faunal species.	<b>DIRECT</b>	<b>LOW -</b>	<ul style="list-style-type: none"> <li>⚡ <i>Blanket clearing of vegetation must be limited to the construction footprint required.</i></li> <li>⚡ <i>Rocky outcrop areas and Riverine Rabbit Habitat to be avoided as far as possible.</i></li> <li>⚡ <i>It is important that clearing activities are kept to the minimum and take place in a phased manner, where applicable. This allows any</i></li> </ul>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>LOW -</b>		<b>LOW -</b>
	<i>Cumulative impact, on a localised scale, would be XX should the</i>				

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<b>FAUNAL HABITAT</b>	<p><i>Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact on XX.</i></p>			<p><i>smaller animal species to move into safe areas and prevents wind and water erosion of the cleared areas.</i></p>	
<b>POTENTIAL TERRESTRIAL BIODIVERSITY IMPACTS</b>  <b>FAUNAL PROCESSES</b>	<p>Impacts to faunal processes because of the activity such as erection of barriers to movement.</p> <p><i>Cumulative impact, on a localised scale, would be XX should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact on XX.</i></p>	<b>DIRECT</b>	<b>LOW -</b>	<p>✦ <i>The habitats and microhabitats present on the project site are not unique and are widespread in the general area, hence the local impact associated with the footprint would be of low significance if mitigation measures are adhered to.</i></p> <p>✦ <i>Small mammals within the habitat on and around the affected area are generally mobile and likely to be transient to the area. They will most likely vacate the area once construction commences. As with all construction sites there is a latent risk that there will be some accidental mortalities. Specific measures are made to reduce this risk. The risk of species of special concern is low, and it is unlikely that there will be any impact to populations of such species because of the activity.</i></p> <p>✦ <i>Reptiles such as lizards are less mobile compared to mammals, and some mortalities could arise. It is recommended that a faunal search and rescue be conducted before</i></p>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>LOW -</b>		<b>LOW -</b>

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				<p><i>construction commences, although experience has shown that there could still be some mortalities as these species are mobile and may thus move onto site once construction is underway. A retiler handler should be on call for such circumstances.</i></p> <p>✦ <i>Should any amphibian migrations occur between wetland areas during construction, appropriate measures (including temporarily suspending works in the affected area) should be implemented.</i></p>	
<b>POTENTIAL TERRESTRIAL BIODIVERSITY IMPACTS</b>	<p>Loss of faunal SSC due to construction activities: Activities associated with bush clearing, killing of perceived dangerous fauna, may lead to increased mortalities among faunal species.</p> <p><i>Cumulative impact, on a localised scale, would be moderate should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact on faunal species.</i></p>	<b>DIRECT</b>	<b>MODERATE -</b>	<p>✦ <i>A pre-commencement faunal search and rescue is recommended.</i></p>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>MODERATE -</b>	<p>✦ <i>Respective permits to be obtained beforehand.</i></p> <p>✦ <i>No animals are to be harmed or killed during the course of operations.</i></p> <p>✦ <i>Workers are NOT allowed to snare any faunal species.</i></p>	<b>LOW -</b>
<b>POTENTIAL RISKS</b>	The development may fragment an already highly fragmented	<b>DIRECT</b>	<b>MODERATE -</b>	<p>✦ <i>Minimising the project footprint by utilising</i></p>	<b>LOW -</b>



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<b>TO FAUNA SPECIES OF CONSERVATION CONCERN:</b>  <b>HABITAT LOSS, DEGRADATION AND FRAGMENTATION</b>	<p>landscape which may create barriers to gene flow where subpopulations are disconnected and isolated. Roads and fences can affect the quality and quantity of available habitat, most notably through fragmentation, creating barriers to animal movement. Erosion from construction may degrade the habitat and direct loss of habitat will occur due to necessity of access roads.</p> <p><i>Cumulative impact, on a localised scale, would be moderate should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact on habitat loss, degradation and fragmentation with regards to faunal species.</i></p>	<b>CUMULATIVE</b>	<b>MODERATE -</b>	<p><i>existing roads and disturbed areas as much as technically possible.</i></p> <ul style="list-style-type: none"> <li>✦ <i>Locate developments away from identified sensitive habitats, this includes no go zones and buffer zones for turbine pads, electrical substations and housing facilities as well as construction laydown areas.</i></li> <li>✦ <i>Implementing adequate dust control and erosion control.</i></li> <li>✦ <i>Careful planning of road layout to minimise the length of roads traversing through riverine habitats and rocky ridges that have been identified as Very high or high sensitivity which may create barriers and fragment habitats.</i></li> <li>✦ <i>Establish wildlife passes, where artificial barriers are found; this particularly refers to physical barriers such as roads and fences.</i></li> <li>✦ <i>Develop and implement a site-specific spill management plan.</i></li> </ul>	<b>LOW -</b>
<b>POTENTIAL RISKS TO FAUNA SPECIES OF CONSERVATION CONCERN:</b>	<p>There is an increased collision risk from increased traffic levels at the site and in the general area. This impact is likely to be of highest concern during construction but is also expected during the operational phase. Roads and roadsides may attract SCC such as Riverine Rabbits and Karoo Dwarf Tortoises due to verge edge enhancement of vegetation and roads may be used to</p>	<b>DIRECT</b>	<b>MODERATE -</b>	<ul style="list-style-type: none"> <li>✦ Careful planning of roads to minimise the length that traverses through riverine and rocky habitats that have been identified as Very high or high sensitivity.</li> <li>✦ Use existing roads as much as possible.</li> <li>✦ Roadkill monitoring program on both internal and external public roads targeting</li> </ul>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>MODERATE -</b>		<b>LOW -</b>

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<b>MORTALITY FROM ROAD COLLISION</b>	<p>facilitate movement, thus further increasing collision risks. Access roads that traverse riverine habitats require careful planning and monitoring to reduce risk of rabbit mortality.</p> <p><i>Cumulative impact, on a localised scale, would be moderate should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact on faunal species in relation to road collision mortality.</i></p>			<p>sensitive habitats and wildlife corridors. Roadkill Monitoring programs must be initiated at pre-construction phase and continued during construction and post-construction as well as conducted over different seasons.</p> <ul style="list-style-type: none"> <li>✦ Pre-construction road planning to identify target sites for wildlife crossing structures which should be considered during the EIA process and with pre-construction roadkill monitoring findings. Wildlife crossing structures must be made in consultation with road planner, construction manager and wildlife biologist. This is generally more cost effective than retro fixing existing roads.</li> <li>✦ Assess efficiency of roadkill mitigation approaches via a post-implementation roadkill monitoring program.</li> <li>✦ Implementation of speed limits on both internal access WEF roads (40km/h) as well as external public roads (60km/h).</li> <li>✦ Reduced speed limits of 30km/h where roads (both internal and external) cross High and Very high sensitivity areas identified; including riverine habitat, koppies and ecotones which may harbour sensitive species and generally have higher species diversity and abundance</li> <li>✦ Wildlife warning signage and speed reduction measures where roads cross High and Very high sensitivity areas.</li> </ul>	

## SYNTHESIS OF SPECIALIST IMPACTS AS EXTRACTED FROM THE SPECIALIST REPORTS

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
				<ul style="list-style-type: none"> <li>⤵ Education and awareness campaigns on SCC and their habitat must form part of staff induction procedures to help increase awareness, respect and responsibility towards the environment for all staff and contractors.</li> <li>⤵ Inductions on safe wildlife passing and driving to reduce possible injury and roadkill alongside roads.</li> <li>⤵ There is higher risk of collision when animals are more active which is typically from late afternoon to early morning. During these times a low speed limit (30km/h) needs to be implemented. Night-time driving should be avoided as much as possible but if necessary, speed needs to be reduced significantly to avoid collisions. Lagomorph species (hares and rabbits) often freeze in headlights and require headlights to be momentarily turned off to allow the animal to move off the road.</li> <li>⤵ Reduced speeds also need to be implemented during reduced visibility such as misty conditions that have been observed on the site.</li> <li>⤵ Induction must include reporting of any vehicle/wildlife collision or found roadkill to the appointed Roadkill monitoring personnel.</li> <li>⤵ Search and rescue of slow-moving species, specifically Karoo Dwarf Tortoises, during the construction phase. IUCN guidelines for</li> </ul>	

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				translocation of sensitive species should be consulted. Tortoises will need to be carefully relocated and provided shelter and water-rich food as well as monitoring of threatened species to ensure of their survival. Should a subpopulation be found further consultations with a herpetologist will be required for appropriated mitigation.	
<b>POTENTIAL RISKS TO FAUNA SPECIES OF CONSERVATION CONCERN:</b>  <b>CUMULATIVE IMPACT</b>	The cumulative impact is of concern, given the fact that the renewable-energy industry is rapidly expanding in South Africa. The local fauna is already impacted and threatened by past and current land use and the combination of these existing anthropogenic impacts with planned developments may impact the local fauna with unexpectedly large effects. Cumulative effects can also result where the construction phase occurs at several locations simultaneously or if a new project begins construction immediately following the completion of another. Cumulative effects can cause a small localized effect (which may have a limited effect on its own) to have a significant impact on population level as there may be thresholds where the cumulative effects increase disproportionately.  <i>Cumulative impact, on a localised scale, would be moderate should the Taaibos and Soutrivier WEF clusters construction</i>	<b>DIRECT</b>	<b>MODERATE -</b>	<ul style="list-style-type: none"> <li>✦ <i>It is important to evaluate the consequences of each development before the next is begun.</i></li> <li>✦ <i>Use a precautionary approach and aim to minimise negative effects even when the effects are not fully known.</i></li> <li>✦ <i>Ensure the construction phase is done in as short a period as possible and avoid breeding season, typically in the spring after good rains.</i></li> <li>✦ <i>Construction needs to be done during daytime, avoiding noise and disturbance when faunal communities are most likely active, particularly where the construction is in proximity to their habitat. Sensitive habitats near construction will need to be clearly marked.</i></li> <li>✦ <i>Relating construction phase of the development with neighbouring developments and farming activity to ensure construction does not begin immediately after the completion of another or simultaneously.</i></li> <li>✦ <i>The developer instigates a proactive</i></li> </ul>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>MODERATE -</b>		<b>LOW -</b>

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	<p><i>timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact from a cumulative faunal species of conservation concern loss perspective.</i></p>			<p><i>mitigation measure by initiating a multi-stakeholder dialogue at a workshop to clarify these concerns and how they might be taken forward and co-funded. The aim of this mitigation is to reduce current impacts that threaten the survival of SCC populations. We recommend a biodiversity wildlife corridor approach whereby protecting sensitive habitats is made a priority. This may include species refuge areas where no form of indiscriminate wildlife killing/snaring is allowed, no or highly reduced livestock grazing, and no pest control including locust spraying is carried out.</i></p> <p>✦ <i>Poaching and the use of hunting dogs at site is prohibited.</i></p>	
<b>POTENTIAL RISKS TO FAUNA SPECIES OF CONSERVATION CONCERN:</b>  <b>CASCADING IMPACT ACROSS TROPHIC LEVELS</b>	<p>The effect of the wind farm on one species may have indirect cascading effects (knock on effect) on other species within the same community due to ecological relations to one another. This means that an effect on one species may in turn affect many others within the same ecosystem. Cascading effects may be complex and unpredictable as it may be the result of different types of interactions including competition, predation, parasitism, or symbiosis.</p> <p><i>Cumulative impact, on a localised scale, would be moderate</i></p>	<b>DIRECT</b>	<b>MODERATE -</b>	<p>✦ <i>Initiate a general Fauna Biodiversity Monitoring program</i></p>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>MODERATE -</b>	<p>✦ <i>A Fauna Biodiversity program must be initiated pre-construction to have baseline population status and monitoring must be ongoing post-construction to identify any changes in occupancy in certain species' population which may in turn indirectly impact other fauna populations.</i></p> <p>✦ <i>We recommend the use of multiple monitoring methods including and not limited to; camera trapping in diverse habitats, targeted camera trapping for SCC; small mammal monitoring with the use of Sherman traps; the</i></p>	<b>LOW -</b>

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	<p><i>should the Taabos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no cascading impact across the trophic levels due to the proposed OHL.</i></p>			<p><i>use of Conservation Scent Detection Dog teams to assist in detecting SCC.</i></p>	

### OPERATIONAL PHASE

#### AGRICULTURAL IMPACT ASSESSMENT

<b>OCCUPATION OF LAND</b>	<p>Agricultural land directly occupied by the OHL infrastructure will become restricted for agricultural use, with consequent potential loss of agricultural productivity for the duration of the project lifetime. The small and widely distributed nature of the agricultural footprint of the facility means that only an insignificant proportion of the available agricultural land is impacted in this way. Furthermore, all agricultural activities can continue completely unhindered underneath the power line. This is because its direct, permanent, physical footprint that has any potential to interfere with agriculture (pylon bases and servitude track, where it is needed), is insignificantly small.</p>	<b>DIRECT</b>	<b>LOW -</b>	<p><i>The land is of limited land capability and is not suitable for crop production, the amount of agricultural land loss is well within the allowable development limits prescribed by the agricultural protocol, and that the proposed development offers some positive impact on agriculture by way of improved financial security for farming operations and improved security against stock theft and crime, as well as wider, societal benefits. Furthermore, all agricultural activities that are viable in this environment, can continue completely unhindered underneath the power line and there will therefore be no loss of agricultural production potential</i></p>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>LOW -</b>		<b>LOW -</b>

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	<p>The potential cumulative agricultural impact of importance is a regional loss (including by degradation) of future agricultural production potential.</p> <p><i>Cumulative impact, on a localised scale, would be moderate should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure (including the OHLs) are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact related to disturbance of agricultural system as no known construction activities are present on site.</i></p>			<i>underneath it.</i>	
<b>SOIL EROSION AND DEGRADATION</b>	Erosion can occur as a result of the alteration of the land surface run-off characteristics, predominantly through the establishment of hard surface areas including roads. Soil erosion is completely preventable. The storm water management that will be an inherent part of the road engineering on site and	<b>DIRECT</b>	<b>LOW -</b>	<i>Mitigation measures to prevent soil degradation are all inherent in the project design and / or are standard, best-practice for construction sites.</i>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>LOW -</b>		<b>LOW -</b>

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	<p>standard, best practice erosion control measures recommended and included in the EMPr, are likely to be effective in preventing soil erosion. Loss of topsoil can result from poor topsoil management during construction related excavations.</p> <p><i>Cumulative impact, on a localised scale, would be moderate should the Taaibos and Soutrivier WEF clusters (including OHLs) construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure (including the OHLs) are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact related to disturbance of agricultural system as no known construction activities are present on site.</i></p>			<ul style="list-style-type: none"> <li>✦ <i>A system of storm water management, which will prevent erosion, will be an inherent part of the road engineering on site. Any occurrences of erosion must be attended to immediately and the integrity of the erosion control system at that point must be amended to prevent further erosion from occurring there.</i></li> <li>✦ <i>Any excavations done during the construction phase, in areas that will be re-vegetated at the end of the construction phase, must separate the upper 30 cm of topsoil from the rest of the excavation spoils and store it in a separate stockpile. When the excavation is back-filled, the topsoil must be back-filled last, so that it is at the surface. Topsoil should only be stripped in areas that are excavated. Across the majority of the site, including construction lay down areas, it will be much more effective for rehabilitation, to retain the topsoil in place. If levelling requires significant cutting, topsoil should be temporarily stockpiled and then re-spread after cutting, so that there is a covering of topsoil over the entire surface.</i></li> </ul>	
<b>INCREASED FINANCIAL SECURITY FOR FARMING OPERATIONS</b>	Reliable and predictable income will be generated by the farming enterprises through the lease of the land to the energy facility. This is likely to increase their cash flow and financial security and could improve farming operations and productivity through increased investment into farming.	<b>DIRECT</b>	<b>LOW +</b>		<b>LOW +</b>
		<b>CUMULATIVE</b>	<b>LOW +</b>		<b>LOW +</b>



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	<p><i>Cumulative impact, on a localised scale, would be LOW should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact related to disturbance of agricultural system as no known construction activities are present on site.</i></p>				
<b>IMPROVED SECURITY AGAINST STOCK THEFT AND OTHER CRIME</b>	<p>Improved security against stock theft and other crime due to the presence of security infrastructure and security personnel at the energy facility.</p> <p><i>Cumulative impact, on a localised scale, would be LOW should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact related to</i></p>	<b>DIRECT</b>	<b>LOW +</b>		<b>LOW +</b>
		<b>CUMULATIVE</b>	<b>LOW +</b>		<b>LOW +</b>

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	<i>disturbance of agricultural system as no known construction activities are present on site.</i>				
<b>AQUATIC IMPACT ASSESSMENT</b>					
<b>PROACTIVE MONITORING TO ENSURE STRUCTURAL INTEGRITY IS MAINTAINED AND TO IDENTIFY EARLY SIGNS OF FAILURE / EROSION.</b>	<p>No direct impacts perceived.</p> <p><i>Cumulative impact, on a localised scale, would be low should the Taaibos and Soutrivier WEF clusters operational timelines overlap, which is likely. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact related to erosion of aquatic habitats.</i></p>	<b>DIRECT</b>	<b>LOW -</b>	<ul style="list-style-type: none"> <li>✦ <i>No indiscriminate movement of construction equipment through the freshwater features may be permitted during standard operational activities or maintenance activities. Use must be made of the existing freshwater ecosystem crossings only;</i></li> <li>✦ <i>Vehicles used in the development site must be regularly washed (on a non-permeable surface or off-site) to avoid the dispersal of seeds on any alien or invasive species into the freshwater features;</i></li> <li>✦ <i>Hot spots for the build-up of debris and excess sediment must be identified and when necessary, debris/excess sediment must be removed by hand to prevent future flooding and potential damage to infrastructure;</i></li> <li>✦ <i>Routine maintenance of the roads must be undertaken to ensure that no concentration of flow and subsequent erosion occurs due to the road crossings/instream infrastructure. Such maintenance activities must specifically be</i></li> </ul>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>LOW -</b>		<b>LOW -</b>

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				<p><i>undertaken after high rainfall events;</i></p> <ul style="list-style-type: none"> <li>✦ <i>Stormwater runoff from the road crossings must be monitored (by the O&amp;M Manager, to ensure it does not result in erosion of the freshwater features. Stormwater must be allowed to diffusely spread across the landscape, by ensuring adequate surface roughness in the freshwater feature (through vegetation and rocky areas);</i></li> <li>✦ <i>Maintenance vehicles must make use of dedicated access roads and no indiscriminate movement in the freshwater features may be permitted;</i></li> <li>✦ <i>During periodic maintenance activities of the roads, monitoring for erosion must be undertaken; and</i></li> <li>✦ <i>Should erosion be observed, caused by the road crossings/instream infrastructure, the area must be rehabilitated by infilling the erosion gully and revegetation thereof with suitable indigenous vegetation. Use can also be made of rocks collected from the surrounding area to infill any area prone to erosion (however, these must be sustainably sourced not taken from the surrounding freshwater features including rivers in the local area).</i></li> </ul>	

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<b>AVIFAUNAL IMPACT ASSESSMENT</b>					
<b>MORTALITY FROM COLLISIONS WITH POWERLINES</b>	Collisions with powerlines is a well-known and increasing threat for many bird species worldwide (Bernardino et al. 2018, Jenkins et al. 2010, Loss et al. 2014). In South Africa, a number of endemic and threatened species are known to be significantly affected by collisions (Taylor et al. 2015, Shaw et al. 2021), including SCC's that have a high probability of occurrence or are known to occur in the PAOI such as Ludwig's Bustard, Blue Crane, Karoo Korhaan, Verreaux's Eagle, Martial Eagle, and Secretarybird. Ludwig's Bustard is particularly prone to collisions and made up 69% of carcasses found under powerlines in a two year study in the Karoo (Shaw 2013). Karoo Korhaan is also affected, but does not collide as frequently as Ludwig's Bustard, possibly due to their sedentary nature making them familiar with their area and their smaller size increasing their manoeuvrability (Shaw 2013). For raptors, collisions appear to be a less frequent source of mortality compared to electrocutions (Loss et al. 2014, Slater et al. 2020). This is likely due to a combination of their good eyesight, high aspect-ratio wings, and often high flight altitude while engaged in thermal soaring (Bevanger 1998, Martin & Shaw 2010, Janss 2000, Slater et al. 2020). However, power line collisions increase when lines intersect with home ranges or if lines span regularly used flight paths between nesting and foraging grounds (Rollan et al. 2010, APLIC 2012,	<b>DIRECT</b>	<b>HIGH -</b>	<p>▲ <i>The most widely recommended mitigation measure (Jenkins et al. 2010), apart from burying the powerline, or not building it, is to route the line away from sensitive areas such as water bodies, valley heads, ridge tops, and to (a) keep the line as short as possible, (b) keep the line as low as possible, (c) make the cabling as thick as possible, (d) avoid vertically separated arrays of lines as much as possible, (e) run lines with a similar height and structure in close proximity in a common servitude and (f) keep lines with very different heights and configurations well apart. However, in South Africa, only mitigations that are in line with Eskom's requirements and Technical Standards are in fact implementable in practice.</i></p> <p>▲ <i>In order to mitigate collisions with powerlines, line markers such as bird flappers and static bird flight diverters are being widely used with some success and have been shown to alter flight behaviour (Bernardino et al. 2018, Pavón-Jordan et al. 2020). One recent study in South Africa (Shaw et al. 2021) demonstrated a 51% reduction in mortality for all large birds, while reducing collision rates effectively for some species (92% for Blue Crane) and having no effect on others (Ludwig's Bustard).</i></p>	<b>MODERATE -</b>
		<b>CUMULATIVE</b>	<b>HIGH -</b>		<b>MODERATE -</b>

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	<p>Slater et al. 2020). For some raptor species collisions with powerlines are a major conservation concern, such as the Bonelli's Eagle in Spain (Rollan et al. 2010).</p> <p>The impact of collisions can result in injury or mortality which may, in the worst-case scenario affect a sensitive SCC on a regional population level. The extend was therefore rated regional, long-term, with low reversibility and potentially severe consequence. The impact is considered likely to occur. Therefore, the significance</p> <p><i>Cumulative impact, on a localised scale, would be moderate should the Taabos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact related to disturbance of avifaunal habitats.</i></p>			<ul style="list-style-type: none"> <li>✦ Any proposed powerlines associated with the development should therefore be minimised as much as possible in length and avoid areas identified as of high sensitivity where possible, and avoid all identified no go areas (such as SCC nest buffers). All lines and pylons must be of a bird friendly design, with anti-perching structures installed, and fit with line markers installed along the entire length, in line with current Eskom Technical Standards. A steel monopole pylon structure is preferred over a lattice tower which offers more perching and nesting opportunities, and should be selected wherever technically possible.</li> <li>✦ The impact management actions and outcomes as per Table 11 must be included in the EMP for the proposed development.</li> </ul>	
<b>MORTALITY FROM</b>	Normally, energised components on overhead powerlines are	<b>DIRECT</b>	<b>HIGH -</b>	✦ Bird electrocutions can easily be prevented with	<b>LOW -</b>

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<b>ELECTROCUTIONS ON ELECTRICAL INFRASTRUCTURE</b>	<p>not insulated but are elevated to place them safely out of people’s reach, which elevates energised wires into places that are also attractive perches for birds (Dwyer et al. 2017). Large birds can be electrocuted or incur electric shock injuries when simultaneously contacting two uninsulated energised components of differing electric potential (phase-to-phase electrocution), or when contacting an uninsulated energised component and a path to ground (phase-to-ground-electrocution) (Guil et al. 2015, Dwyer 2006, APLIC 2006, Lehman et al. 2007, Dwyer et al. 2017, Mojica et al. 2018, Slater et al. 2020). Because electrocutions result from birds bridging air-gaps, larger birds with larger wingspans, such as Martial Eagle, are disproportionately affected (Slater et al. 2020). For the proposed project electrocutions could also occur at the switching station infrastructure.</p> <p>Electrocution results in injury or mortality which may, in the worst case scenario affect a sensitive SCC on a regional population level. The extend was therefore rated regional, long-term, with low reversibility and potentially severe. The probability of occurrence is rated as definite without mitigation.</p>	<b>CUMULATIVE</b>	<b>HIGH -</b>	<p><i>bird-friendly pole design i.e. creating separation between conductors of differing electric potential, by placing insulation over conductors, or by redirecting birds to perch or nest away from conductors (APLIC 2006, Dwyer et al. 2017).</i></p> <p>✦ <i>The impact management actions and outcomes as per Table 11 must be included in the EMPr for the proposed development.</i></p>	<b>LOW -</b>

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	<p><i>Cumulative impact, on a localised scale, would be moderate should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact related to disturbance of avifaunal habitats.</i></p>				
<b>CUMULATIVE IMPACTS</b>	<p>Cumulative impacts are impacts that result from the incremental impact of the proposed activity on a common resource when added to the impacts of other past, present or reasonably foreseeable future activities. Cumulative impacts can occur from the collective impacts of individual minor actions over a period of time and can include both direct and indirect impacts.</p> <p>Cumulative impacts assessed include the combination of all the impacts discussed above for this project, which may be higher than the sum of impacts, as well as the associated three Soutrivier WEF and Solar PV Facilities and associated OHPLs, and all known past, present and proposed projects in an area of 30 km surrounding the proposed development. In addition to the Soutrivier projects two WEFs are proposed within this radius: the</p>	<b>DIRECT</b>	<b>HIGH -</b>	<ul style="list-style-type: none"> <li>✦ <i>The only real mitigation possible in order to minimise cumulative impacts, beyond minimising impacts for each project separately during the EIA process, is for the Competent Authority to ensure only projects are authorised that are practically mitigatable to an acceptable level, and that do not lead to unacceptable negative impacts, including cumulative impacts, and to ensure the correct implementation of authorised Environmental Management Programmes through compliance audits and enforcement.</i></li> <li>✦ <i>The impact management actions and outcomes as per Table 11 must be included in the EMP for the proposed development.</i></li> </ul>	<b>MODERATE -</b>
		<b>CUMULATIVE</b>	<b>HIGH -</b>		<b>MODERATE -</b>

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	<p>Taaibos North WEF and associated OHPL, and the Taaibos South WEF and associated OHPL. All of these facilities are to ultimately connect to the Gamma MTS. All of these projects have the same shared OHPL from the Soutrivier South collector substation, which lowers the cumulative impact.</p> <p>The impacts of the cumulative projects will be negative by making a larger area of avifaunal karoo scrub habitat unavailable and of higher risk for SCC flying between Victoria West and Loxton.</p> <p>There is also a potential for an increased barrier effect being created by the combination of these projects, which would be a negative, regional, long-term impact. As these projects are not located on any major flyways, making the probability of this occurring unlikely.</p> <p>The contribution of the Soutrivier South OHPL to the cumulative impact in a 30 km radius is considered to be low, i.e. the cumulative impact significance rating will remain unchanged</p>				



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	<p>regardless of the Soutrivier South OHPL being constructed or not.</p> <p><i>Cumulative impact, on a localised scale, would be moderate should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact related to disturbance of avifaunal habitats.</i></p>				
<b>HERITAGE IMPACT ASSESSMENT</b>					
<b>LOSS OF HERITAGE RESOURCES: STONE AGE OCCURANCES</b>	<p>impact on previously undetected archaeological sites, human burials and the cultural landscape might occur as a result of operational activities (site access, movement, maintenance, trespassing, natural elements, hazards etc).</p> <p><i>Cumulative impact:</i></p> <p><i>The low frequency of significant archaeological resources</i></p>	<b>DIRECT</b>	<b>LOW -</b>	<p>It is understood that no new areas will be disturbed and/or impacted during the operations phase of the project and the risk and severity of heritage impacts should decrease once the projects activate.</p> <p>Furthermore, the majority of sites of archaeological and heritage significance would have been recorded</p>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>LOW -</b>		<b>LOW -</b>

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	<p><i>documented in the project area and in its immediate surroundings implies low-severity short and long-term impacts on the heritage landscape</i></p> <p><i>Cumulative impact, on a localised scale, would be low should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact related to destruction of archaeological resources.</i></p>			<p>and/or assessed in preceding phases.</p> <p><i>Cumulative impact:</i></p> <ul style="list-style-type: none"> <li>✦ <i>The significance of the landscape in terms of its heritage is bound not to change during the course of construction, operation and decommissioning of the project.</i></li> <li>✦ <i>It should be noted that archaeological knowledge and the initiation of research projects into significant archaeological sites often result from Heritage Impact Assessments conducted for developments. Provided that significant archaeological sites are conserved and that appropriate heritage mitigation and management procedures are followed, the cumulative impact of development can be positive.</i></li> </ul>	
<b>LOSS OF HERITAGE RESOURCES: ROCKSHELTER</b>	impact on previously undetected archaeological sites, human burials and the cultural landscape might occur as a result of operational activities (site access, movement, maintenance,	<b>DIRECT</b>	<b>LOW -</b>	<i>It is understood that no new areas will be disturbed and/or impacted during the operations phase of the project and the risk and severity of heritage impacts</i>	<b>LOW –</b>
		<b>CUMULATIVE</b>	<b>LOW -</b>		<b>AND LOW (+)</b>

## SYNTHESIS OF SPECIALIST IMPACTS AS EXTRACTED FROM THE SPECIALIST REPORTS

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
<b>(SRC02) AND CORBEL BUILDING (SRC01)</b>	trespassing, natural elements, hazards etc).  <i>Cumulative impact, on a localised scale, would be low should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i>  <i>No-go alternative would result in no impact related to destruction of archaeological resources.</i>		MODERATE -	should decrease once the projects activate.  <i>Furthermore, the majority of sites of archaeological and heritage significance would have been recorded and/or assessed in preceding phases. During the Operations Phase, the continuation of management measures for the rock shelter (SRC02) and a corbel building (SRC01) -should the sites be retained -should be tracked and continuous ECO site monitoring will be required.</i>	LOW -
					LOW - <b>AND LOW (+)</b>
<b>PALAENTOLOGICAL IMPACT ASSESSMENT</b>					
<i>None identified by specialist</i>					
<b>RIVERINE RABBIT IMPACT ASSESSMENT</b>					
<b>DEGRADATION OF HABITAT BY EROSION</b>	The construction of roads, turbine hard-stands, roads and laydown areas etc. will result in the destruction of currently intact vegetation, which may lead indirectly to soils being exposed and facilitating erosion. Erosion leads to river degradation through increased runoff and siltation processes. If erosion control is implemented, the resulting impact from erosion and would also be low.	<b>DIRECT AND INDIRECT</b>	MODERATE -	⚡ <i>Implement a Site Erosion Management and Control Plan to prevent erosion from high-lying areas impacting downstream ecosystems</i>	LOW -
		<b>CUMULATIVE</b>	MODERATE -		LOW -

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ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
	<p><i>Cumulative impact, on a localised scale, would be low should the Taaibos and Soutrivier WEF clusters operational timelines overlap, which is likely. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact on the local Riverine Rabbit population.</i></p>				
<b>SOCIO-ECONOMIC IMPACT ASSESSMENT</b>					
<b>NEW EMPLOYMENT AND ECONOMIC IMPACTS</b>	<p>Direct and indirect employment opportunities will manifest during the operational lifespan of the Project and result in an increase in household earnings and improved livelihoods for the affected households through salaries and wages.</p> <p>In addition to employment, economic impacts will manifest for the local and national economies through the manufacturing and services industries. Furthermore, agricultural land will be rezoned for renewable energy purposes, thereby increasing farm values and resulting in higher payable taxes for the local</p>	<b>DIRECT</b>	<b>MODERATE +</b>	<p>➤ <i>Maximise local employment and procurement (from the local and district municipalities) wherever possible.</i></p> <p>➤ <i>Coordinate the effort to obtain temporary employment, service providers, SMME's etc. required for maintenance work, with the municipal LED Units.</i></p>	<b>MODERATE +</b>
		<b>CUMULATIVE</b>	<b>MODERATE +</b>		<b>MODERATE +</b>

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	<p>municipality.</p> <p>Induced economic impacts will realise locally and regionally through employment and procurement and as a result more benefits for retail sales, leisure and hospitality, real estate, etc. will occur as more money circulates in the local economy.</p> <p><i>Cumulative impact, on a localised scale, would be MODERATE should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would not impact the SEIA ratings significantly</i></p>				
<b>SOCIO-ECONOMIC CONTRIBUTION / COMMUNITY DEVELOPMENT</b>	A needs assessment will be done with the affected parties (municipalities, beneficiary communities, etc.) to identify suitable projects for SED and ED, which is usually aligned with IDP and LED priorities. Once the identified beneficiaries have been evaluated according to stringent evaluation criteria a contract is entered with them for the specified duration of the projects. Monitoring is done to ensure that the projects deliver	<b>DIRECT</b>	<b>LOW +</b>	<ul style="list-style-type: none"> <li>⚡ Involve the local and district municipalities' LED Units in all processes when SED and ED projects and suitable candidates for projects and/or training programmes are identified.</li> <li>⚡ Make gender and Youth issues a specific outcome of the needs analysis to ensure that these groups are targeted.</li> <li>⚡ In conjunction with other IPP's in the region or in the RE corridor / RE Zone set up and</li> </ul>	<b>MODERATE +</b>
		<b>CUMULATIVE</b>	<b>LOW +</b>		<b>MODERATE +</b>

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	<p>as per their proposals.</p> <p>The IPP is required to report quarterly to the DMRE's Independent Power Producer Office (IPPO), which allows the IPPO to monitor use of SED and ED funds as committed by the Project (approximately 2.1% of revenue), as well as monitor the impact such contributions have on the communities through funding of existing projects and enterprises.</p> <p>Consultation with municipal stakeholders for this Project and for previous RE projects in other provinces identified the need for:</p> <p>More transparency during the annual monitoring processes so that it is clear for municipalities whether the budget allocated towards SED and ED has been used adequately;</p> <ul style="list-style-type: none"> <li>✦ A greater commitment to link with the LED initiatives already identified in the IDP;</li> <li>✦ Coordination between SED and ED initiatives of the various RE projects in the region through a central Forum or similar structure so that initiatives are not duplicated. This will also enable the implementation of larger projects that will have a greater impact for the region.</li> </ul> <p><i>Cumulative impact, on a localised scale, would be MODERATE should the Taibos and Soutrivier WEF clusters construction</i></p>			<p>establish a Forum (or similar structure) to coordinate community development initiatives. Meet on a quarterly basis to provide feedback and ensure transparency.</p> <ul style="list-style-type: none"> <li>✦ Ensure further transparency and effective information sharing through industry associated websites, emailed newsletters, municipal noticeboards, information events and meetings and existing community channels used by the various wards.</li> <li>✦ Become involved in local initiatives that address existing backlogs, such as the establishment and training of an Emergency Unit / Response Team for fire prevention and emergencies (e.g. with volunteers such as farmers), hospital support (e.g. equipment, training of staff where there are staff shortages, etc.) and so forth to ensure that real community based needs are met.</li> <li>✦ Link with existing NGO's and pre-established projects but make it a requirement (and set targets) for the establishment of new community-driven development processes and for NGO's to assist in skills transfer to these new groups and processes.</li> </ul>	

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ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
	<p><i>timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would not impact the SEIA ratings significantly.</i></p>				
<b>TRAINING / SKILLS DEVELOPMENT / CAPACITY BUILDING</b>	<p>Training and skills development initiatives during operations are likely to occur in the following ways:</p> <p>Formal and on-the-job training for permanent and temporary employees to allow them to perform their tasks safely and adequately;</p> <ul style="list-style-type: none"> <li>✦ Training / education programmes through ED contributions;</li> <li>✦ Offering of bursaries and internships;</li> <li>✦ Skills development and capacity building of municipal Officials during the negotiation processes and stakeholder relations.</li> <li>✦ The implementation and operation of RE projects require local government involvement to assist with managing stakeholder and community relations. This poses various challenges, as there might be shortfalls in terms of capacity and management experience within the municipalities. Emphasis is therefore again placed on the involvement of local government throughout operations to enable the Officials to gain experience and develop skills</li> </ul>	<b>DIRECT</b>	<b>LOW +</b>	<ul style="list-style-type: none"> <li>✦ Identify existing NGO's to assist in training and skills transfer to communities and Officials.</li> <li>✦ Link with existing training workshops and programmes for SMME development that are done by municipal LED Units.</li> <li>✦ In collaboration with other IPPs operational in the region, establish a SMME "Village" and training centre to coordinate training efforts of SMMEs and individuals. Link with bigger institutions such as Universities and Further Education and Training (FET) institutes to increase the impact of training and skills development in the region.</li> </ul>	<b>MODERATE +</b>
		<b>CUMULATIVE</b>	<b>LOW +</b>		<b>MODERATE +</b>

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	<p>that will be to the advantage of the Project as well as for the municipalities over the long-term.</p> <p><i>Cumulative impact, on a localised scale, would be LOW should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would not impact the SEIA ratings significantly.</i></p>				
<b>IMPACTS ON SENSE OF PLACE</b>	<p>The Project is located in an area with low crime levels and has an overall feeling of solitude and stillness. The social impact associated with the long-term impact on the sense of place for this OHL project would thus relate to a potential change in the landscape character, intrusion impacts and any changes to the safety and social surroundings of community members.</p> <p><i>Cumulative impact, on a localised scale, would be low should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would not impact the SEIA ratings significantly.</i></p>	<b>DIRECT</b>	<b>MODERATE -</b>	<ul style="list-style-type: none"> <li>▲ Implement an effective Land Use Management programme in collaboration with the landowners.</li> <li>▲ Implement all mitigation and management measures as proposed</li> <li>▲ Rehabilitate the veld to its original state post the operational phase.</li> </ul>	<b>MODERATE -</b>
		<b>CUMULATIVE</b>	<b>MODERATE -</b>		<b>MODERATE -</b>



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<b>CONTRIBUTION TO NATIONAL POWER SUPPLY</b>	<p>The proposed Soutrivier South WEF will generate electricity and enhance the reliability and stability of supply that would contribute to economic development in the country as a whole.</p> <p><i>Cumulative impact, on a localised scale, would be MODERATE should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would not impact the SEIA ratings significantly.</i></p>	<b>DIRECT</b>	<b>MODERATE +</b>	<p>None suggested.</p>	<b>MODERATE +</b>
		<b>CUMULATIVE</b>	<b>MODERATE +</b>		<b>MODERATE +</b>
<b>TERRESTRIAL BIODIVERSITY IMPACT ASSESSMENT</b>					
<b>POTENTIAL TERRESTRIAL BIODIVERSITY IMPACTS</b>	<p>Permanent or temporary loss of indigenous vegetation cover because of site clearing. Site clearing before construction will result in the blanket clearing of vegetation within the affected footprint.</p> <p><i>Cumulative impact, on a localised scale, would be low should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and</i></p>	<b>DIRECT</b>	<b>LOW -</b>	<p>Blanket clearing of vegetation must be limited to the site. No clearing outside of required footprint required for construction to take place.</p> <p>Topsoil must be striped and stockpiled separately during site preparation and replaced on completion where revegetation will take place.</p> <p>Any site camps and laydown areas requiring clearing must be located within already disturbed areas as far as possible, or away from watercourses, alluvial areas and other sensitive features (rocky outcrops).</p>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>LOW -</b>		<b>LOW -</b>
<b>VEGETATION</b>					

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	<p><i>their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact on vegetation.</i></p>				
<b>POTENTIAL TERRESTRIAL BIODIVERSITY IMPACTS</b>	<p>Loss of flora species of special concern during pre-construction site clearing activities. Several special of concern are known from surrounding areas, which could be destroyed during site preparation.</p>	<b>DIRECT</b>	<b>LOW -</b>	<p>⚡ <i>A flora search and rescue is recommended before commencement.</i></p> <p>⚡ <i>Respective permits to be obtained beforehand.</i></p>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>LOW -</b>		<b>LOW -</b>
<b>FLORA SPECIES</b>	<p><i>Cumulative impact, on a localised scale, would be low should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact on floral species.</i></p>				
<b>POTENTIAL TERRESTRIAL BIODIVERSITY IMPACTS</b>	<p>Susceptibility of post construction disturbed areas to invasion by exotic and alien invasive species and removal of exotic and alien invasive species during construction. Post construction disturbed areas having no vegetation cover are often susceptible to invasion by weedy and alien species, which can not only become invasive but also prevent natural flora from becoming</p>	<b>DIRECT</b>	<b>LOW -</b>	<p>⚡ <i>Alien trees and weeds must be removed from the site as per CARA/ NEMBA requirements.</i></p> <p>⚡ <i>A suitable weed and alien invasive plant management plan to be implemented in construction and operation phases.</i></p> <p>⚡ <i>After clearing and construction is completed, an appropriate cover crop may be</i></p>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>LOW -</b>		<b>LOW -</b>

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<b>ALIEN INVASIVE SPECIES</b>	<p>established.</p> <p><i>Cumulative impact, on a localised scale, would be low should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact on alien invasive species.</i></p>			<i>required, should natural re-establishment of grasses not take place in a timely manner, such as along road verges. This will also minimise dust.</i>	
<b>POTENTIAL TERRESTRIAL BIODIVERSITY IMPACTS</b>	<p>Susceptibility of some areas to erosion because of construction related disturbances. Removal of vegetation cover and soil disturbance may result in some areas being susceptible to soil erosion after completion of the activity.</p>	<b>DIRECT</b>	<b>LOW -</b>	<ul style="list-style-type: none"> <li>⚡ <i>Suitable measures must be implemented in areas that are susceptible to erosion. Areas must be rehabilitated, and a suitable cover crop planted once construction is completed.</i></li> <li>⚡ <i>Topsoil must be stripped and stockpiled separately and replaced on completion.</i></li> <li>⚡ <i>If natural vegetation re-establishment does not occur, a suitable grass must be applied.</i></li> </ul>	<b>LOW -</b>
<b>EROSION</b>		<b>CUMULATIVE</b>	<b>LOW -</b>		

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ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
	<i>No-go alternative would result in no impact on erosion.</i>				
<b>POTENTIAL TERRESTRIAL BIODIVERSITY IMPACTS</b>	Disturbances to ecological processes: Activity may result in disturbances to ecological processes such as fragmentation (road, etc).	<b>DIRECT</b>	<b>LOW -</b>	⚡ <i>Blanket clearing of vegetation must be limited to the development footprint, and the area to be cleared must be demarcated before any clearing commences.</i>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>LOW -</b>		<b>LOW -</b>
<b>ECOLOGICAL PROCESSES</b>	<i>Cumulative impact, on a localised scale, would be low should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i>  <i>No-go alternative would result in no impact on ecological processes.</i>				
<b>POTENTIAL TERRESTRIAL BIODIVERSITY IMPACTS</b>	Aquatic and Riparian processes: Diversion and increased velocity of surface water flows – Changes to the hydrological regime and increased potential for erosion. Impact of changes to water quality. Loss of riparian vegetation / aquatic habitat. Loss of species of special concern.	<b>DIRECT</b>	<b>MODERATE -</b>	⚡ <i>Suitable structures to be constructed at watercourse crossings that do not alter flows.</i> ⚡ <i>Stormwater discharge into watercourses to be protected against erosion.</i>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>MODERATE -</b>		<b>LOW -</b>
<b>AQUATIC AND RIPARIAN</b>	<i>Cumulative impact, on a localised scale, would be moderate should the Taaibos and Soutrivier WEF clusters construction</i>				

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ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
<b>PROCESSES</b>	<p><i>timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact on aquatic and riparian processes.</i></p>				
<b>POTENTIAL TERRESTRIAL BIODIVERSITY IMPACTS</b>	<p>Loss of Faunal Habitat: Activity may result in the loss of habitat for faunal species, which could result in disturbance and displacement of faunal species.</p> <p><i>Cumulative impact, on a localised scale, would be LOW should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact on faunal habitat.</i></p>	<b>DIRECT</b>	<b>LOW -</b>	<p>⚡ <i>Blanket clearing of vegetation must be limited to the construction footprint required.</i></p> <p>⚡ <i>Rocky outcrop areas and Riverine Rabbit Habitat to be avoided as far as possible.</i></p> <p>⚡ <i>It is important that clearing activities are kept to the minimum and take place in a phased manner, where applicable. This allows any smaller animal species to move into safe areas and prevents wind and water erosion of the cleared areas.</i></p>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>LOW -</b>		<b>LOW -</b>
<b>POTENTIAL TERRESTRIAL BIODIVERSITY IMPACTS</b>	<p>Impacts to faunal processes because of the activity such as erection of barriers to movement.</p>	<b>DIRECT</b>	<b>LOW -</b>	<p>⚡ <i>The habitats and microhabitats present on the project site are not unique and are widespread in the general area, hence the local impact associated with the footprint would be of low significance if mitigation measures are</i></p>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>LOW -</b>		<b>LOW -</b>

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ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
<b>FAUNAL PROCESSES</b>	<p><i>Cumulative impact, on a localised scale, would be LOW should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact on faunal processes.</i></p>			<p><i>adhered to.</i></p> <ul style="list-style-type: none"> <li>✦ <i>Small mammals within the habitat on and around the affected area are generally mobile and likely to be transient to the area. They will most likely vacate the area once construction commences. As with all construction sites there is a latent risk that there will be some accidental mortalities. Specific measures are made to reduce this risk. The risk of species of special concern is low, and it is unlikely that there will be any impact to populations of such species because of the activity.</i></li> <li>✦ <i>Reptiles such as lizards are less mobile compared to mammals, and some mortalities could arise. It is recommended that a faunal search and rescue be conducted before construction commences, although experience has shown that there could still be some mortalities as these species are mobile and may thus move onto site once construction is underway. A reptile handler should be on call for such circumstances.</i></li> <li>✦ <i>Should any amphibian migrations occur between wetland areas during construction, appropriate measures (including temporarily suspending works in the affected area) should be implemented.</i></li> </ul>	
<b>POTENTIAL</b>	Loss of faunal SSC due to construction activities: Activities	<b>DIRECT</b>	<b>MODERATE -</b>	<ul style="list-style-type: none"> <li>✦ <i>A pre-commencement faunal search and</i></li> </ul>	<b>LOW -</b>

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<p><b>TERRESTRIAL BIODIVERSITY IMPACTS</b></p> <p><b>FAUNAL SPECIES</b></p>	<p>associated with bush clearing, killing of perceived dangerous fauna, may lead to increased mortalities among faunal species.</p> <p><i>Cumulative impact, on a localised scale, would be moderate should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact on faunal species.</i></p>	<b>CUMULATIVE</b>	<b>MODERATE -</b>	<p><i>rescue is recommended.</i></p> <ul style="list-style-type: none"> <li>⚡ <i>Respective permits to be obtained beforehand.</i></li> <li>⚡ <i>No animals are to be harmed or killed during the course of operations.</i></li> <li>⚡ <i>Workers are NOT allowed to snare any faunal species.</i></li> </ul>	<b>LOW -</b>
<p><b>POTENTIAL RISKS TO FAUNA SPECIES OF CONSERVATION CONCERN:</b></p> <p><b>HABITAT LOSS, DEGRADATION AND FRAGMENTATION</b></p>	<p>The development may fragment an already highly fragmented landscape which may create barriers to gene flow where subpopulations are disconnected and isolated. Roads and fences can affect the quality and quantity of available habitat, most notably through fragmentation, creating barriers to animal movement. Erosion from construction may degrade the habitat and direct loss of habitat will occur due to necessity of access roads.</p> <p><i>Cumulative impact, on a localised scale, would be moderate</i></p>	<p><b>DIRECT</b></p> <p><b>CUMULATIVE</b></p>	<p><b>MODERATE -</b></p> <p><b>MODERATE -</b></p>	<ul style="list-style-type: none"> <li>⚡ <i>Minimising the project footprint by utilising existing roads and disturbed areas as much as technically possible.</i></li> <li>⚡ <i>Locate developments away from identified sensitive habitats, this includes no go zones and buffer zones for turbine pads, electrical substations and housing facilities as well as construction laydown areas.</i></li> <li>⚡ <i>Implementing adequate dust control and erosion control.</i></li> <li>⚡ <i>Careful planning of road layout to minimise the length of roads traversing through riverine habitats and rocky ridges that have been identified as Very high or high sensitivity which</i></li> </ul>	<p><b>LOW -</b></p> <p><b>LOW -</b></p>

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ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
	<p><i>should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact on habitat loss, degradation and fragmentation with regards to faunal species.</i></p>			<p><i>may create barriers and fragment habitats.</i></p> <ul style="list-style-type: none"> <li>⤴ <i>Establish wildlife passes, where artificial barriers are found; this particularly refers to physical barriers such as roads and fences.</i></li> <li>⤴ <i>Develop and implement a site-specific spill management plan.</i></li> </ul>	
<b>POTENTIAL RISKS TO FAUNA SPECIES OF CONSERVATION CONCERN:</b>  <b>MORTALITY FROM ROAD COLLISION</b>	<p>There is an increased collision risk from increased traffic levels at the site and in the general area. This impact is likely to be of highest concern during construction but is also expected during the operational phase. Roads and roadsides may attract SCC such as Riverine Rabbits and Karoo Dwarf Tortoises due to verge edge enhancement of vegetation and roads may be used to facilitate movement, thus further increasing collision risks. Access roads that traverse riverine habitats require careful planning and monitoring to reduce risk of rabbit mortality.</p> <p><i>Cumulative impact, on a localised scale, would be moderate should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same</i></p>	<b>DIRECT</b>	<b>MODERATE -</b>	<ul style="list-style-type: none"> <li>⤴ Careful planning of roads to minimise the length that traverses through riverine and rocky habitats that have been identified as Very high or high sensitivity.</li> <li>⤴ Use existing roads as much as possible.</li> <li>⤴ Roadkill monitoring program on both internal and external public roads targeting sensitive habitats and wildlife corridors. Roadkill Monitoring programs must be initiated at pre-construction phase and continued during construction and post-construction as well as conducted over different seasons.</li> <li>⤴ Pre-construction road planning to identify target sites for wildlife crossing structures which should be considered during the EIA process and with pre-construction roadkill monitoring findings. Wildlife crossing structures must be made in consultation with road planner, construction manager and wildlife biologist. This</li> </ul>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>MODERATE -</b>		<b>LOW -</b>



## SYNTHESIS OF SPECIALIST IMPACTS AS EXTRACTED FROM THE SPECIALIST REPORTS

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
	<p><i>standard.</i></p> <p><i>No-go alternative would result in no impact on faunal species in relation to road collision mortality.</i></p>			<p>is generally more cost effective than retro fixing existing roads.</p> <ul style="list-style-type: none"> <li>✦ Assess efficiency of roadkill mitigation approaches via a post-implementation roadkill monitoring program.</li> <li>✦ Implementation of speed limits on both internal access WEF roads (40km/h) as well as external public roads (60km/h).</li> <li>✦ Reduced speed limits of 30km/h where roads (both internal and external) cross High and Very high sensitivity areas identified; including riverine habitat, koppies and ecotones which may harbour sensitive species and generally have higher species diversity and abundance</li> <li>✦ Wildlife warning signage and speed reduction measures where roads cross High and Very high sensitivity areas.</li> <li>✦ Education and awareness campaigns on SCC and their habitat must form part of staff induction procedures to help increase awareness, respect and responsibility towards the environment for all staff and contractors.</li> <li>✦ Inductions on safe wildlife passing and driving to reduce possible injury and roadkill alongside roads.</li> <li>✦ There is higher risk of collision when animals are more active which is typically from late afternoon to early morning. During these times a low speed limit (30km/h) needs to be</li> </ul>	

## SYNTHESIS OF SPECIALIST IMPACTS AS EXTRACTED FROM THE SPECIALIST REPORTS

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
				<p>implemented. Night-time driving should be avoided as much as possible but if necessary, speed needs to be reduced significantly to avoid collisions. Lagomorph species (hares and rabbits) often freeze in headlights and require headlights to be momentarily turned off to allow the animal to move off the road.</p> <ul style="list-style-type: none"> <li>⚡ Reduced speeds also need to be implemented during reduced visibility such as misty conditions that have been observed on the site.</li> <li>⚡ Induction must include reporting of any vehicle/wildlife collision or found roadkill to the appointed Roadkill monitoring personnel.</li> <li>⚡ Search and rescue of slow-moving species, specifically Karoo Dwarf Tortoises, during the construction phase. IUCN guidelines for translocation of sensitive species should be consulted. Tortoises will need to be carefully relocated and provided shelter and water-rich food as well as monitoring of threatened species to ensure of their survival. Should a subpopulation be found further consultations with a herpetologist will be required for appropriated mitigation.</li> </ul>	
<b>POTENTIAL RISKS TO FAUNA SPECIES OF CONSERVATION</b>	The cumulative impact is of concern, given the fact that the renewable-energy industry is rapidly expanding in South Africa. The local fauna is already impacted and threatened by past and	<b>DIRECT</b>	<b>MODERATE -</b>	<ul style="list-style-type: none"> <li>⚡ <i>It is important to evaluate the consequences of each development before the next is begun.</i></li> <li>⚡ <i>Use a precautionary approach and aim to</i></li> </ul>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>MODERATE -</b>		<b>LOW -</b>

## SYNTHESIS OF SPECIALIST IMPACTS AS EXTRACTED FROM THE SPECIALIST REPORTS

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
<p><b>CONCERN:</b></p> <p><b>CUMULATIVE IMPACT</b></p>	<p>current land use and the combination of these existing anthropogenic impacts with planned developments may impact the local fauna with unexpectedly large effects. Cumulative effects can also result where the construction phase occurs at several locations simultaneously or if a new project begins construction immediately following the completion of another. Cumulative effects can cause a small localized effect (which may have a limited effect on its own) to have a significant impact on population level as there may be thresholds where the cumulative effects increase disproportionately.</p> <p><i>Cumulative impact, on a localised scale, would be moderate should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no impact from a cumulative faunal species of conservation concern loss perspective.</i></p>			<p><i>minimise negative effects even when the effects are not fully known.</i></p> <ul style="list-style-type: none"> <li>✦ <i>Ensure the construction phase is done in as short a period as possible and avoid breeding season, typically in the spring after good rains.</i></li> <li>✦ <i>Construction needs to be done during daytime, avoiding noise and disturbance when faunal communities are most likely active, particularly where the construction is in proximity to their habitat. Sensitive habitats near construction will need to be clearly marked.</i></li> <li>✦ <i>Relating construction phase of the development with neighbouring developments and farming activity to ensure construction does not begin immediately after the completion of another or simultaneously.</i></li> <li>✦ <i>The developer instigates a proactive mitigation measure by initiating a multi-stakeholder dialogue at a workshop to clarify these concerns and how they might be taken forward and co-funded. The aim of this mitigation is to reduce current impacts that threaten the survival of SCC populations. We recommend a biodiversity wildlife corridor approach whereby protecting sensitive habitats is made a priority. This may include species refuge areas where no form of indiscriminate wildlife killing/snaring is allowed, no or highly reduced livestock grazing, and no pest control including locust spraying is</i></li> </ul>	

## SYNTHESIS OF SPECIALIST IMPACTS AS EXTRACTED FROM THE SPECIALIST REPORTS

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
				<p><i>carried out.</i></p> <ul style="list-style-type: none"> <li>⤴ <i>Poaching and the use of hunting dogs at site is prohibited.</i></li> </ul>	
<b>POTENTIAL RISKS TO FAUNA SPECIES OF CONSERVATION CONCERN:</b>  <b>CASCADING IMPACT ACROSS TROPHIC LEVELS</b>	<p>The effect of the wind farm on one species may have indirect cascading effects (knock on effect) on other species within the same community due to ecological relations to one another. This means that an effect on one species may in turn affect many others within the same ecosystem. Cascading effects may be complex and unpredictable as it may be the result of different types of interactions including competition, predation, parasitism, or symbiosis.</p> <p><i>Cumulative impact, on a localised scale, would be moderate should the Taaibos and Soutrivier WEF clusters construction timelines overlap. However, it is important to note that the 5 WEFs and their associated infrastructure are proposed by the same developer and the EMPs will be prepared to the same standard.</i></p> <p><i>No-go alternative would result in no cascading impact across the trophic levels due to the proposed WEF.</i></p>	<b>DIRECT</b>	<b>MODERATE -</b>	<ul style="list-style-type: none"> <li>⤴ <i>Initiate a general Fauna Biodiversity Monitoring program</i></li> <li>⤴ <i>A Fauna Biodiversity program must be initiated pre-construction to have baseline population status and monitoring must be ongoing post-construction to identify any changes in occupancy in certain species' population which may in turn indirectly impact other fauna populations.</i></li> <li>⤴ <i>We recommend the use of multiple monitoring methods including and not limited to; camera trapping in diverse habitats, targeted camera trapping for SCC; small mammal monitoring with the use of Sherman traps; the use of Conservation Scent Detection Dog teams to assist in detecting SCC.</i></li> </ul>	<b>LOW -</b>
		<b>CUMULATIVE</b>	<b>MODERATE -</b>		<b>LOW -</b>
<b>DECOMMISSIONING PHASE</b>					

## SYNTHESIS OF SPECIALIST IMPACTS AS EXTRACTED FROM THE SPECIALIST REPORTS

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
<b>**DUE TO THE FACT THAT NO WIND ENERGY FACILITY'S HAVE BEEN DECOMMISSIONED IN SOUTH AFRICA, CES BELIEVES IT RESPONSIBLE TO STIPULATE THAT FUTHER ASSESSMENT IN THE FORM OF A DECOMMISSIONING ENVIRONMENTAL MANAGEMENT PROGRAMME BE DRAFTED, IN CONSULTATION WITH SPECIALISTS, WHEN THIS PHASE BECOMES RELEVANT.</b>					
<b>AGRICULTURAL IMPACT ASSESSMENT</b>					
<i>The agricultural impacts associated with the decommissioning phase will be similar to those listed in the construction phase and the associated mitigations measures must be updated and implemented to reduce potential adverse impacts.</i>					
<b>AQUATIC IMPACT ASSESSMENT</b>					
<i>The aquatic impacts associated with the decommissioning phase will be similar to those listed in the construction phase and the associated mitigations measures must be updated and implemented to reduce potential adverse impacts.</i>					
<b>AVIFAUNAL IMPACT ASSESSMENT</b>					
<i>The avifaunal impacts associated with the decommissioning phase will be similar to those listed in the construction phase and the associated mitigations measures must be updated and implemented to reduce potential adverse impacts.</i>					
<b>HERITAGE IMPACT ASSESSMENT</b>					
<i>The heritage impacts associated with the decommissioning phase will be similar to those listed in the construction phase and the associated mitigations measures must be updated and implemented to reduce potential adverse impacts.</i>					
<b>PALAEONTOLOGICAL IMPACT ASSESSMENT</b>					

## SYNTHESIS OF SPECIALIST IMPACTS AS EXTRACTED FROM THE SPECIALIST REPORTS

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
<i>None identified by specialist</i>					
<b>RIVERINE RABBIT IMPACT ASSESSMENT</b>					
<i>The socio-economic impacts associated with the decommissioning phase will be similar to those listed in the construction phase and the associated mitigations measures must be updated and implemented to reduce potential adverse impacts.</i>					
<b>SOCIO-ECONOMIC IMPACT ASSESSMENT</b>					
<i>The socio-economic impacts associated with the decommissioning phase will be similar to those listed in the construction phase and the associated mitigations measures must be updated and implemented to reduce potential adverse impacts.</i>					
<b>TERRESTRIAL BIODIVERSITY IMPACT ASSESSMENT</b>					
<i>The terrestrial biodiversity impacts associated with the decommissioning phase will be similar to those listed in the construction phase and the associated mitigations measures must be updated and implemented to reduce potential adverse impacts.</i>					

## 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: *CURRICULUM VITAE* OF THE EAP AND ENVIRONMENTAL TEAM**

- Dr Alan Carter (CES, Executive Consultant)
- Ms Caroline Evans (CES, Principal Consultant)



## CONTACT DETAILS

<b>Name of Company</b>	<b>Coastal and Environmental Services (Pty) Ltd. t/a CES</b>
<b>Designation</b>	East London Branch – Executive
<b>Profession</b>	Executive
<b>Years with firm</b>	18 (Eighteen) Years
<b>E-mail</b>	<a href="mailto:a.carter@cesnet.co.za">a.carter@cesnet.co.za</a>
<b>Office number</b>	+27 (0) 43 – 7267809 / 8313
<b>Nationality</b>	South African
<b>Professional Affiliations</b>	SACNASP: South African Council for Natural Scientific Profession EAPSA: Environmental Assessment Practitioners Southern Africa IWMSA: Institute Waste Management Southern Africa TSBPA: Texas State Board of Public Accountancy (USA)
<b>Key areas of expertise</b>	<ul style="list-style-type: none"><li>• Marine Ecology</li><li>• Environmental and coastal management</li><li>• Waste management</li><li>• Financial accounting and project feasibility studies</li><li>• Environmental management systems, auditing and due-diligence</li></ul>

## PROFILE

### Dr Alan Carter

Alan has extensive training and experience in both financial accounting and environmental science disciplines with international accounting firms in South Africa and the USA. He is a member of the American Institute of Certified Public Accountants (licensed in Texas) and holds a PhD in Plant Sciences. He is also a certified ISO14001 EMS auditor with the American National Standards Institute. Alan has been responsible for leading and managing numerous and varied consulting projects over the past 25 years.

**EMPLOYMENT  
EXPERIENCE**

- October 2013 – Present: Executive (EOH Coastal & Environmental Services, East London, South Africa)
- January 2002 – September 2013: Director (Coastal & Environmental Services, East London, South Africa)
- January 1999 – December 2001: Manager (Arthur Andersen LLP, Public Accounting Firm, Chicago, Illinois USA)
- December 1996 – December 1998: Senior Accountant/Auditor (Ernst & Young LLP, Public Accounting Firm, Austin, Texas, USA.)
- January 1994 – December 1996: Senior Accountant/Auditor (Ernst & Young, Charteris & Barnes, Chartered Accountants, East London, South Africa)
- July 1991 – December 1994: Associate Consultant (Coastal & Environmental Services, East London, South Africa)
- March 1989 – June 1990: Data Investigator (London Stock Exchange, London, England, United Kingdom)

**ACADEMIC  
QUALIFICATIONS**

- Ph.D. Plant Science (Marine) Rhodes University 1987
- B. Compt. Hons. Accounting Science University of South Africa 1997
- B. Com. Financial Accounting Rhodes University 1995
- B.Sc. Hons. Plant Science Rhodes University 1983
- B.Sc. Plant Science & Zoology Rhodes University 1982

**CONTINUING  
PROFESSIONAL  
DEVELOPMENT**

- Environmental Management Systems Lead Auditor Training Course - American National Standards Institute and British Standards Institute (2000)
- ISO 14001:2015 Implementing Changes - British Standards Institute (2015)
- Numerous other workshops and training courses

**PROFESSIONAL  
EXPERIENCE**

**Environmental Impact Assessment, Feasibility and Pre-feasibility Assessments:-**

- Managed numerous projects and prepared environmental impact assessment (EIA) reports in terms of relevant EIA legislation and regulations for development proposals including: Infrastructure projects: bulk water and waste water, roads, electrical, mining, ports, aquaculture, renewable energy (solar and wind), industrial processes, housing developments, golf estates and resorts, etc. (2002 – present).
- Projects have also included preparation of applications in terms of other statutory requirements, such as water-use and mining licence /permit applications.
- Managed projects to develop pre-feasibility and feasibility assessments for various projects, including various tourism developments, infrastructure projects, etc.
- Managed project for the East London Industrial Development Zone (ELIDZ) to develop a Conceptual Framework for a Mariculture Zone within the ELIDZ (2009).
- Managed pre-feasibility study to establish a Mariculture Zone within the Coega Industrial Development Zone (2014).
- Assisted City of Johannesburg in the process to proclaim four nature reserves in terms of relevant legislation (2015-2016).
- Acted as Environmental Control Officer (ECO) for numerous projects including solar and wind farms, roads, industrial processes, etc.

**Strategic Environmental Assessment:-**

- Managed Strategic Environmental Assessment (SEA) project toward the development of a Biofuel Industry in the Eastern Cape Province of South Africa (2014-2016)
- Managed Strategic Environmental Assessment (SEA) projects for two South African ports (2006 – 2007).
- Managed Strategic Environmental Assessment (SEA) projects for five (5) local municipalities in the Eastern Cape as part of the municipal Spatial Development Framework plans (2004 – 2005).
- Involved in the financial assessment of various land-use options and carbon credit potential as part of a larger Strategic Environmental Assessment (SEA) for assessing forestry potential in Water Catchment Area 12 in the Eastern Cape of South Africa (2006).

**Climate change, emissions trading and renewable energy:-**

- Provided specialist peer review services for National Department of Environmental Affairs relating to climate change impact assessments for large infrastructure projects (2017-2018).
- Conducted climate change impact assessment for a proposed coal-fired power station in Africa (2017-2018).

- Participated in the development of a web-based Monitoring & Evaluation (M&E) system for climate change Mitigation and Adaptation in South Africa for National Department of Environmental Affairs (DEA) (2015-2016).
- Managed project to develop a Climate Change Strategy for Buffalo City Metro Municipality (2013).
- Managed projects to develop climate change strategies for two district municipalities in the Eastern Cape Province (2011).
- Conducted specialist carbon stock and greenhouse gas emissions impact and life cycle assessment as part of the Environmental, Social and Health Impact Assessment for a proposed sugarcane to ethanol project in Sierra Leone (2009 - 2010) and a proposed Jatropha bio-diesel project in Mozambique (2009 - 2010).
- Managed project to develop the Eastern Cape Province Climate Change Strategy (2010).
- Managed project to develop a Transnet National Ports Authority Climate Change Risk Strategy (2009)
- Participated in a project to develop a Renewable Energy roadmap for the East London Industrial Development Zone (ELIDZ) (2013).
- Participated in a project for the East London Industrial Development Zone (ELIDZ) and Eastern Cape Government to prepare a Renewable Energy Strategy (2009).
- Contributed to the development of Arthur Andersen LLP's International Climate Change and Emissions Trading Services (2001).
- Conducted carbon credit (Clean Development Mechanism - CDM) feasibility assessment for a variety of renewable energy projects ranging from biogas to solar PV.
- Participated in the preparation of CDM applications for two solar PV projects in the Eastern Cape.

**Waste Management:-**

- Managed project to develop Integrated Waste Management Plans for six local municipalities on behalf of the Sarah Baartman District Municipality in the Eastern Cape Province (2016).
- Managed project to develop Integrated Waste Management Plans for four local municipalities on behalf of Alfred Nzo District Municipality in the Eastern Cape Province (2015).
- Managed project to develop Integrated Waste Management Plans for eight local municipalities on behalf of Chris Hani District Municipality in the Eastern Cape Province (2011).
- Managed a project to develop a zero-waste strategy for a community development in the Eastern Cape Province (2010).
- Managed waste management status quo analysis for a District Municipality in the Eastern Cape Province (2003).
- For three consecutive years, managed elements of the evaluation of the environmental financial reserves of the three largest solid waste companies (Waste Management, Inc., Republic Services, Inc., Allied Waste, Inc.) and number of smaller waste companies in the USA as part of the annual financial audit process for SEC reporting purposes. Ensured compliance with RCRA and

CERCLA environmental regulations.

- Managed elements of the evaluation of the environmental financial reserves of the largest hazardous waste company in the USA (Safety-Kleen, Inc.), as part of the audit process for SEC reporting purposes. Ensured compliance with RCRA and CERCLA environmental regulations.

**Environmental Due Diligence and Business Risk:-**

- Conducted environmental due diligence projects on behalf of the German Development Bank for a forestry pulp and paper operation in Swaziland (2010) and for a large diversified South African agricultural/agro-processing company (2011)
- Managed project for the Transnet National Ports Authority to identify the environmental risks and liabilities associated with the operations of the Port of Durban as part of a broader National initiative to assess business and financial risks relating to environmental management (2006).
- Managed project to determine the financial feasibility of various proposed tourism developments for the Kouga Development Agency in the Eastern Cape Province (2006)
- Contributed significantly to a study to determine the financial and environmental feasibility of three proposed tourism development projects at Coffee Bay on the Wild Coast (2004).
- Conducted sustainability and cost/benefit analysis of various waste water treatment options (including a marine pipeline at Hood Point) for the West Bank of East London (2004).
- Conducted analysis of permit fees and application processing costs for off-road vehicle use on the South African coastline for the Department of Environmental Affairs and Tourism, Marine & Coastal Management (2003).
- Involved in the determination of the historical cost element of environmental remediation insurance claims for a number of multinational companies, including Dow Chemicals, Inc. and International Paper, Inc.
- Evaluated the environmental budgeting process of the US Army and provided best practice guidance for improving the process.

**Policy and Guidelines:-**

- Development of Administration / Application Fee Structure for the Reclamation of Land, Coastal Use Permits, Coastal Waters
- Discharge Permits, Dumping Of Waste at Sea, Off-Road Vehicle Regulations Promulgated in Terms of the National Environmental Management Act: Integrated Coastal Management Act (Act No. 24 Of 2008) (2017).
- Managed project to develop an Estuarine Management Plan for the Buffalo River Estuary for the National Department of Environmental Affairs (2017).
- Managed project to develop a Coastal Management Programme for Amathole District Municipality, Eastern Cape (2015 – 2016).
- Managed project to develop a sustainability diagnostic report as part of the development of the Eastern Cape Development Plan and Vision 2030 (2013).
- Managed project for the Department of Environmental Affairs and Tourism, Marine & Coastal Management to determine the cost implications associated

with the implementation of the Integrated Coastal Management Act (2007).

- Managed project to develop a Conservation Plan and Municipal Open Space System (MOSS) for Buffalo City Municipality (2007)
- Managed project to develop a Sanitation Policy and Strategy for Buffalo City Municipality, Eastern Cape (2004 – 2006).
- Managed project to develop an Integrated Environmental Management Plan and Integrated Coastal Zone Management Plan for Buffalo City Municipality, Eastern Cape (2004 – 2005).
- Managed projects to develop and implement an Environmental Management System (EMS) for the Chris Hani and Joe Gqabi (formerly Ukhahlamba) District Municipalities in the Eastern Cape generally in line with ISO14001 EMS standards (2004 – 2005).
- Managed project to develop a State of the Environment Report and Environmental Implementation Plans for Amathole, Chris Hani, OR Tambo and Joe Gqabi District Municipalities in the Eastern Cape Province (2005 – 20010).
- Conducted analysis of permit fees and application processing costs for off-road vehicle use on the South African coastline for the Department of Environmental Affairs and Tourism, Marine & Coastal Management (2003).

**Environmental auditing and compliance:-**

- Conducted environmental legal compliance audit for various large Transnet Freight Rail facilities (2018).
- Managed projects to develop Environmental & Social Management Systems (ESMS) in line with IFC Performance Standards for three (3) wind farms in South Africa (2015-2018).
- Managed project to develop an Environmental & Social Management System (ESMS) in line with IFC Performance Standards for a telecoms company in Zimbabwe on behalf of the German Development Bank (2013)
- Participated in numerous ISO14001 Environmental Management System (EMS) audits for large South African corporations including SAPPI, BHP Billiton, SAB Miller, Western Platinum Refinery, Dorbyl Group and others (2002 – present).
- Reviewed the SHE data reporting system of International Paper, Inc. (IP) for three successive years as part of the verification of the IP SHE Annual Report, which included environmental assessments of 12 IP pulp and paper mills located throughout the USA.
- Conducted Environmental Management System (EMS) reviews for a number of large US corporations, including Gulfstream Aerospace Corporation

**Public financial accounting:-**

- While with Ernst & Young LLP, (USA), functioned as lead financial auditor for various public and private companies, mostly in the technology business segment of up to \$200 million in annual sales. Client experience included assistance in a \$100 million debt offering, a \$100 million IPO and SEC annual and quarterly reporting requirements.
- Completed three years of articles (training contract) in fulfilment of the certification requirements of the South African Institute of Chartered



Accountants which included auditing, accounting and preparation of tax returns for many small to medium sized commercial entities.

**Refereed Publications:-**

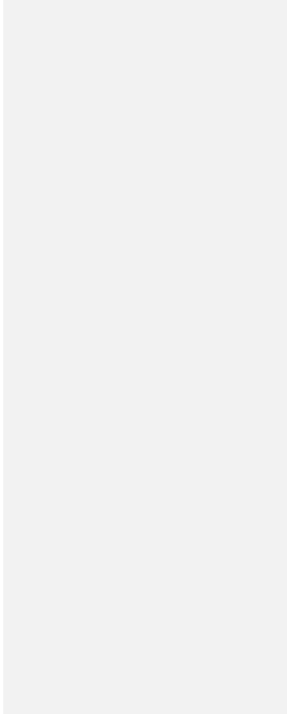
- Carter, A.R. 1985. Reproductive morphology and phenology, and culture studies of *Gelidium pristoides* (Rhodophyta) from Port Alfred in South Africa. *Botanica Marina* 28: 303-311.
- Carter, A.R. 1993. Chromosome observations relating to bispore production in *Gelidium pristoides* (Gelidiales, Rhodophyta). *Botanica Marina* 36: 253-256.
- Carter, A.R. and R.J. Anderson. 1985. Regrowth after experimental harvesting of the agarophyte *Gelidium pristoides* (Gelidiales: Rhodophyta) in the eastern Cape Province. *South African Journal of Marine Science* 3: 111-118.
- Carter, A.R. and R.J. Anderson. 1986. Seasonal growth and agar contents in *Gelidium pristoides* (Gelidiales, Rhodophyta) from Port Alfred, South Africa. *Botanica Marina* 29: 117-123.
- Carter, A.R. and R.H. Simons. 1987. Regrowth and production capacity of *Gelidium pristoides* (Gelidiales, Rhodophyta) under various harvesting regimes at Port Alfred, South Africa. *Botanica Marina* 30: 227-231.
- Carter, A.R. and R.J. Anderson. 1991. Biological and physical factors controlling the spatial distribution of the intertidal alga *Gelidium pristoides* in the eastern Cape Province, South Africa. *Journal of the Marine Biological Association of the United Kingdom* 71: 555-568.

**Published reports:-**

- Water Research Commission. 2006. Profiling Estuary Management in Integrated Development Planning in South Africa with Particular Reference to the Eastern Cape. Project No. K5/1485.
- Turpie J., N. Sihlophe, A. Carter, T. Maswime and S. Hosking. 2006. Maximising the socio-economic benefits of estuaries through integrated planning and management: A rationale and protocol for incorporating and enhancing estuary values in planning and management. Un-published Water Research Commission Report No. K5/1485

**Conference Proceedings:-**

- Carter, A.R. 2002. Climate change and emission inventories in South Africa. Invited plenary paper at the 5th International System Auditors Convention, Pretoria. Held under the auspices of the South African Auditor & Training Certification Association Conference (SAATCA).
- Carter, A.R. 2003. Accounting for environmental closure costs and remediation liabilities in the South African mining industry. Proceedings of the Mining and Sustainable Development Conference. Chamber of Mines of South Africa, Vol. 2: 6B1-5
- Carter, A.R. and S. Fergus. 2004. Sustainability analysis of wastewater treatment options on the West Bank of East London, Buffalo City. Proceedings of the Annual National Conference of the International Association for Impact

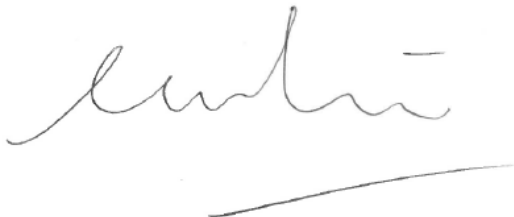


Assessment, South African Affiliate: Pages 295-301.

- Carter, A., L. Greyling, M. Parramon and K. Whittington-Jones. 2007. A methodology for assessing the risk of incurring environmental costs associated with port activities. Proceedings of the 1st Global Conference of the Environmental Management Accounting Network.
- Hawley, GL, McMaster AR and Carter AR. 2009, Carbon, carbon stock and life-cycle assessment in assessing cumulative climate change impacts in the environmental impact process. Proceedings of the Annual National Conference of the International Association for Impact Assessment, South African Affiliate.
- Hawley, GL, McMaster AR and Carter AR. 2010. The Environmental and Social Impact Assessment and associated issues and challenges. African, Caribbean and Pacific Group of States (ACP), Science and Technology Programme, Sustainable Crop Biofuels in Africa.
- Carter, A.R. 2011. A case study in the use of Life Cycle Assessment (LCA) in the assessment of greenhouse gas impacts and emissions in biofuel projects. 2nd Environmental Management Accounting Network- Africa Conference on Sustainability Accounting for Emerging Economies. Abstracts: Pages 69-70.

**CERTIFICATION**

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes me, my qualifications, and my experience. I understand that any wilful misstatement described herein may lead to my disqualification or dismissal, if engaged.



**Alan Robert Carter**

Date: 22 January 2020



## CONTACT DETAILS

<b>Name of Company</b>	<b>CES – Environmental and Social Advisory Services</b>
<b>Designation</b>	Grahamstown Branch
<b>Profession</b>	Principal Environmental Consultant
<b>Years with firm</b>	7 Years
<b>E-mail</b>	<a href="mailto:c.evans@cesnet.co.za">c.evans@cesnet.co.za</a>
<b>Office number</b>	+27 (0)46 622 2364
<b>Nationality</b>	South African
<b>Professional Body</b>	SACNASP, South African Council for Natural Scientific Profession, Professional 2017 IAIA
<b>Key areas of expertise</b>	<ul style="list-style-type: none"><li>➤ Project Management</li><li>➤ Renewable Energy</li></ul>

## PROFILE

### Ms Caroline Evans

Ms Caroline Evans is a Principal Environmental Consultant based in the Grahamstown branch. She holds a BSc degree in Zoology and Environmental Science (with distinction) and a BSc Honours degree in Environmental Science (with distinction), both from Rhodes University. Caroline has completed accredited courses in environmental impact assessments and wetland assessments.

Caroline's primary focuses include Project Management, the general Environmental Impact Assessment Process, Visual Impact Assessments and Wetland Impact Assessments. Examples of fields in which Caroline was the project manager and lead report writer include Wind Energy Facilities and the associated infrastructure (including powerlines), Solar PV, Waste Water Treatment Works, Housing Developments and Agricultural Developments. Her experience with wind energy facilities and associated infrastructure includes the project management and report writing for the Umsobomvu WEF, Dassiesridge WEF, Scarlet Ibis WEF, Albany WEF, Waaihoek WEF and the Great Kei WEF.

Caroline is well versed in South African policy and legislation relating to development, particularly in the Eastern Cape Province. In addition, Caroline's project management experience has helped her gain knowledge and experience in the technical and financial management and coordination of large specialist teams, competent authority and stakeholder engagement, and client liaison.

**EMPLOYMENT  
EXPERIENCE**

**CES, Senior Environmental Consultant**  
*August 2020 – present*

- Project Management
- Renewable Energy Consultant

**EOH Coastal and Environmental Services, Senior Environmental Consultant**  
*August 2016 – July 2020*

- Project Management
- Renewable Energy Consultant
- Wetland Specialist

**EOH Coastal and Environmental Services, Environmental Consultant**  
*November 2013 – July 2016*

**Rhodes University, Department of Environmental Science, Graduate Assistant**  
*January 2010 – January 2012*

**ACADEMIC  
QUALIFICATIONS**

**Rhodes University, Eastern Cape, South Africa**  
B.Sc. Honours Environmental Science (with distinction)  
*2011*

**Rhodes University, Eastern Cape, South Africa**  
B.Sc. Zoology & Environmental Science (with distinction)  
*2007-2010*

**COURSES**

- Rhodes University, Eastern Cape  
“Tools for Wetland Assessment” 2010. (with distinction)
- Rhodes University, Eastern Cape  
“Urban Ecology” 2010. (with distinction)
- Rhodes University, Eastern Cape  
“Post Graduate Statistics” 2010. (with distinction)
- Rhodes University, Eastern Cape  
“Environmental Impact Assessment” 2013. (with distinction)

**CONSULTING  
EXPERIENCE**

**ENVIRONMENTAL IMPACT ASSESSMENTS:**

- Project: Albany Wind Energy Facility (Grahamstown, EC)  
Role: Project Manager and Report Production
- Project: Umsobomvu Wind Energy Facility (Middelburg, EC / Noupoort, NC)  
Role: Project Manager and Report Production
- Project: Waainek Wind Energy Facility Post-Construction Bird and Bat  
Monitoring (Grahamstown, EC)

Role: Project Manager and Report Production

- Project: Dassiesridge Wind Energy Facility (Uitenhage, EC)  
Role: Project Manager and Report Production
- Project: Waaihoek Wind Energy Facility (Utrecht, KZN)  
Role: Project Manager and Report Production
- Project: Waaihoek Wind Energy Facility (Utrecht, KZN)  
Role: Project Manager and Report Production
- Project: Great Kei Wind Energy Facility (Komga, EC)  
Role: Assistant Project Manager and Report Production
- Project: Doordraai Citrus Plantation (Cookhouse, EC)  
Role: Project Manager and Report Production
- Project: Fishwater Flats WWTW Biogas (Port Elizabeth, EC)  
Role: Report Production
- Project: Olivewood Golf and Residential Estate (Chintsa, EC)  
Role: Report Production

**BASIC ASSESSMENTS:**

- Project: Albany Powerline (Grahamstown, EC)  
Role: Project Manager and Report Production
- Project: Scarlet Ibis Wind Energy Facility (NMBM, EC)  
Role: Project Manager and Report Production
- Project: Grey Jade Waterfall Feedlot Biogas (Berlin, EC)  
Role: Project Manager and Report Production
- Project: Black Lite Solar 5MW PV (Berlin, EC)  
Role: Project Manager and Report Production
- Project: Sitrusrand Kirkwood Citrus (Kirkwood, EC)  
Role: Project Manager
- Project: Kareekrans Middleton Pivot (Middleton, EC)  
Role: Project Manager
- Project: Uitsig Boerdery Kirkwood Citrus (Kirkwood, EC)  
Role: Project Manager

**OTHER REPORTS:**

- Project: Eastern Cape Biofuels Strategic Environmental Assessment (EC)  
Role: Report Production
- Project: Coega Industrial Development Zone (EC)

Role: Report Production

- Project: Umsobomvu WEF EA Amendments (EC & NC)  
Role: Project Manager and Report Production
- Project: Dassiesridge WEF EA Amendments (EC)  
Role: Project Manager and Report Production
- Project: Great Kei WEF EA Amendments (EC)  
Role: Project Manager and Report Production
- Project: Ukomeleza WEF EA Amendments (EC)  
Role: Project Manager and Report Production
- Project: Motherwell WEF EA Amendments (EC)  
Role: Project Manager and Report Production
- Project: Golden Valley II WEF EA Amendments (EC)  
Role: Project Manager and Report Production
- Project: Peddie WEF and PV EA Amendments (EC)  
Role: Project Manager and Report Production
- Project: Nqamakwe WEF and PV EA Amendments (EC)  
Role: Project Manager and Report Production
- Project: Thomas River Renewable Energy Facility EA Amendments (EC)  
Role: Project Manager and Report Production
- Project: Qunu WEF and PV EA Amendments (EC)  
Role: Project Manager and Report Production

**SPECIALIST REPORTS:**

- Project: Umsobomvu Wind Energy Facility (Middelburg, EC / Noupoort, NC)  
Role: Visual Impact Assessment
- Project: Dassiesridge Wind Energy Facility (Uitenhage, EC)  
Role: Visual Impact Assessment
- Project: Great Kei Wind Energy Facility (Komga, EC)  
Role: Visual Impact Assessment
- Project: Waaihoek Wind Energy Facility (Utrecht, KZN)  
Role: Visual Impact Assessment & Wetland Impact Assessment
- Project: Olivewood Golf and Residential Estate (Chintsa, EC)  
Role: Visual Impact Assessment
- Project: Oyster Bay Wind Energy Facility (Oyster Bay, EC)  
Role: Wetland Impact Assessment



**CERTIFICATION**

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I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes me, my qualifications, and my experience. I understand that any wilful misstatement described herein may lead to my disqualification or dismissal, if engaged.



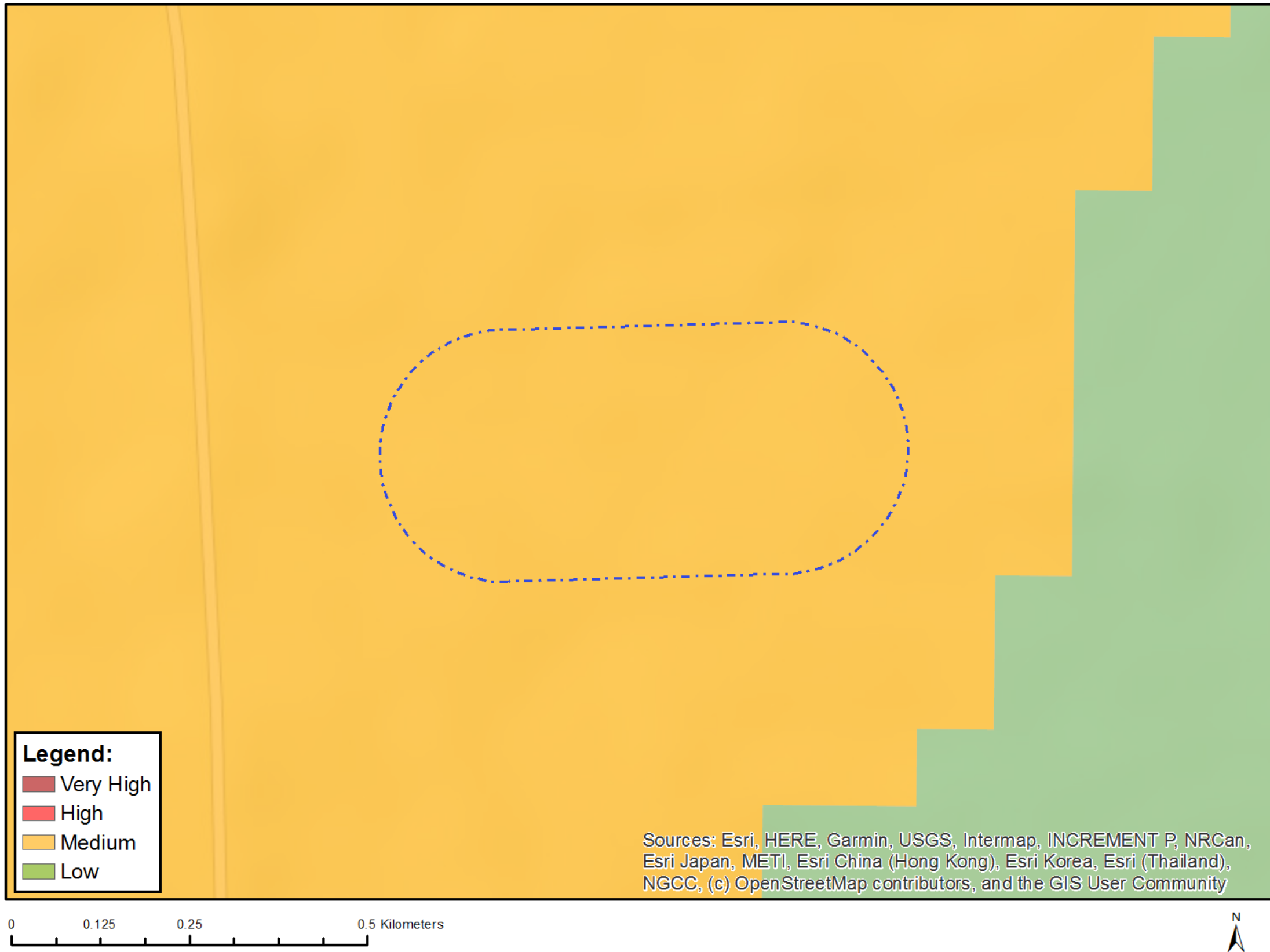
**CAROLINE ANN EVANS**

Date: June 2019

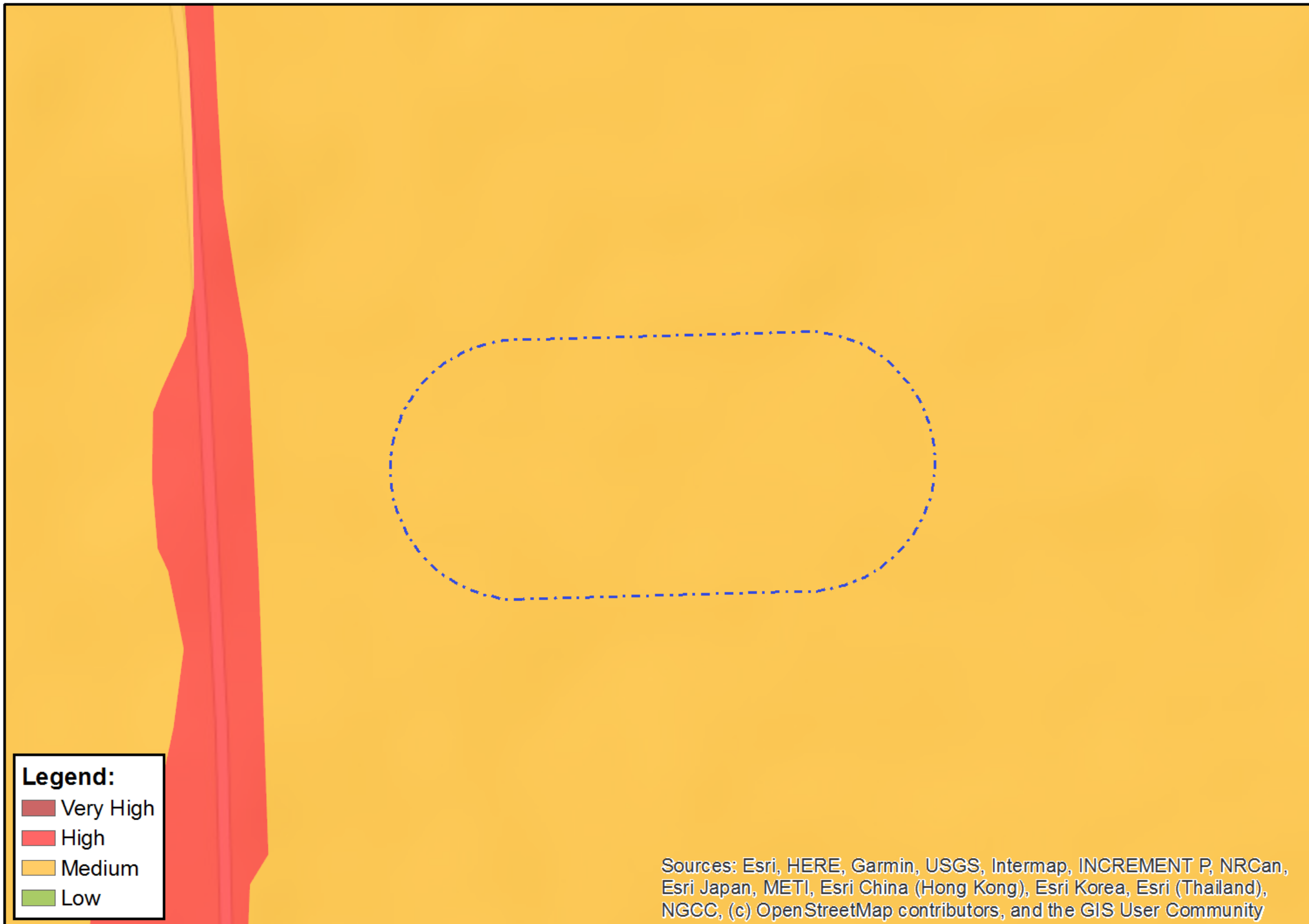
APPENDIX 3: NATIONAL SCREENING TOOL REPORT A3 SENSITIVITY MAPS

THEME	VERY HIGH SENSITIVITY	HIGH SENSITIVITY	MEDIUM SENSITIVITY	LOW SENSITIVITY	SENSITIVITY DESCRIPTION
AGRICULTURE THEME			X		MEDIUM: Land capability; 06. Low-Moderate/07. Low-Moderate/08. Moderate
ANIMAL SPECIES THEME			X		MEDIUM: Aves-Neotis ludwigii : Mammalia-Bunolagus monticularis : Reptilia-Chersobius boulengeri Sensitive species 3
AQUATIC BIODIVERSITY THEME				X	Low - Low sensitivity
ARCHAEOLOGICAL AND CULTURAL HERITAGE THEME				X	Low - Low sensitivity
CIVIL AVIATION THEME				X	Low - Low sensitivity
DEFENCE THEME				X	Low - Low Sensitivity
PALAEOLOGY THEME	X				Very High - Features with a Very High paleontological sensitivity
PLANT SPECIES THEME				X	Low - Low sensitivity
TERRESTRIAL BIODIVERSITY THEME	X				Very High - Critical biodiversity area 1; Protected Areas Expansion Strategy

Map of Agriculture Theme sensitivety



Map of Animal Theme sensitiviey

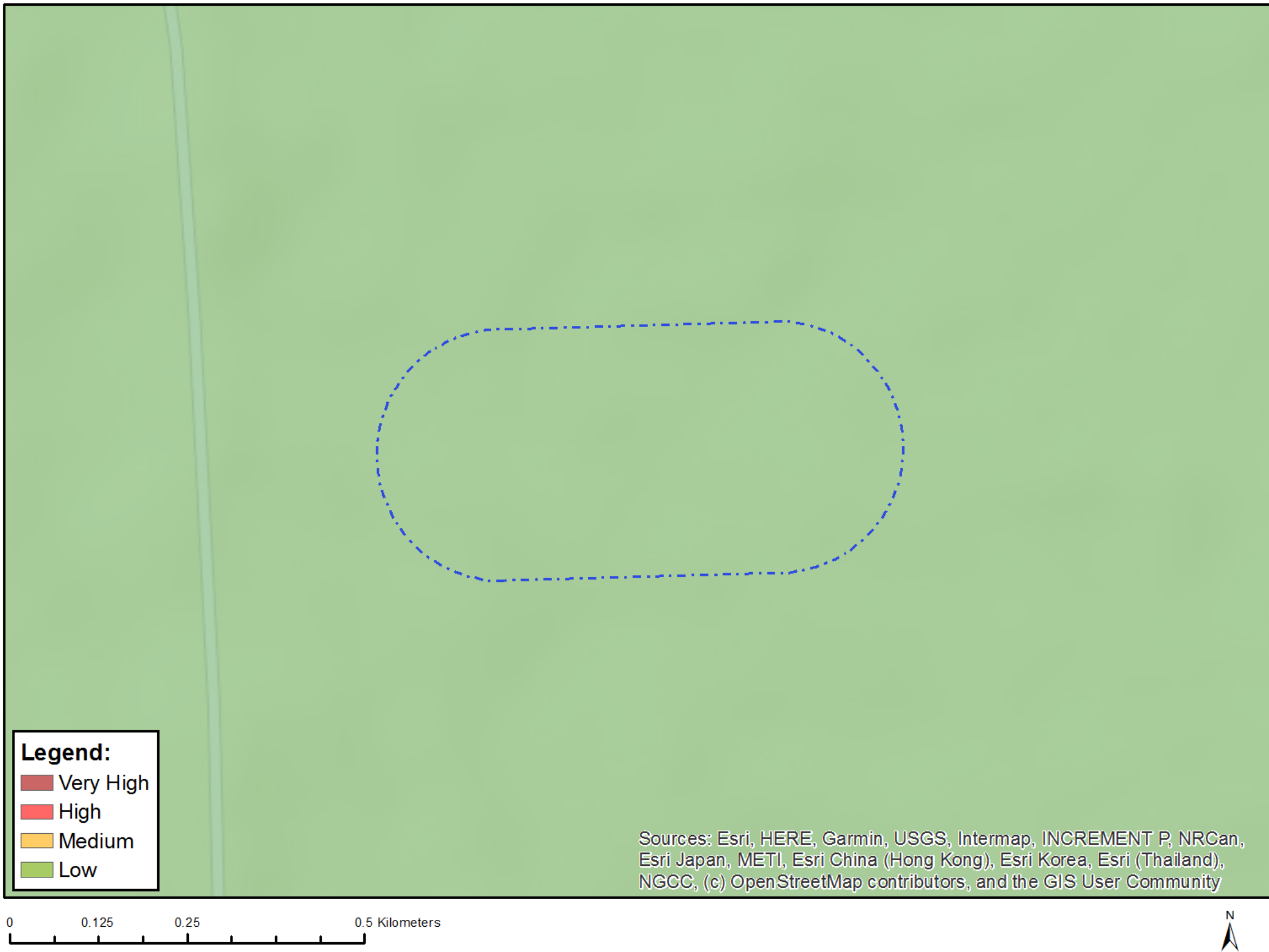


0 0.125 0.25 0.5 Kilometers

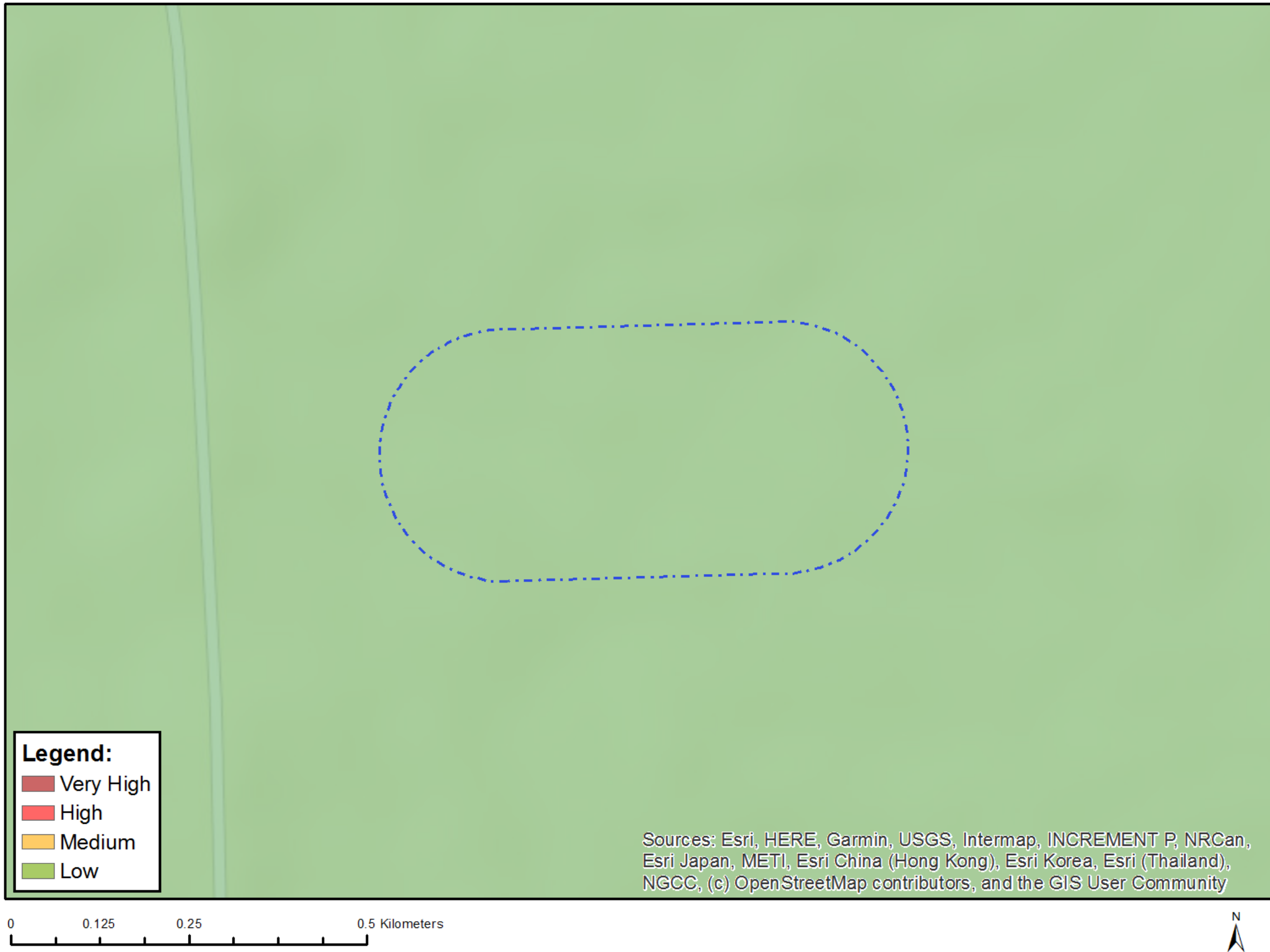




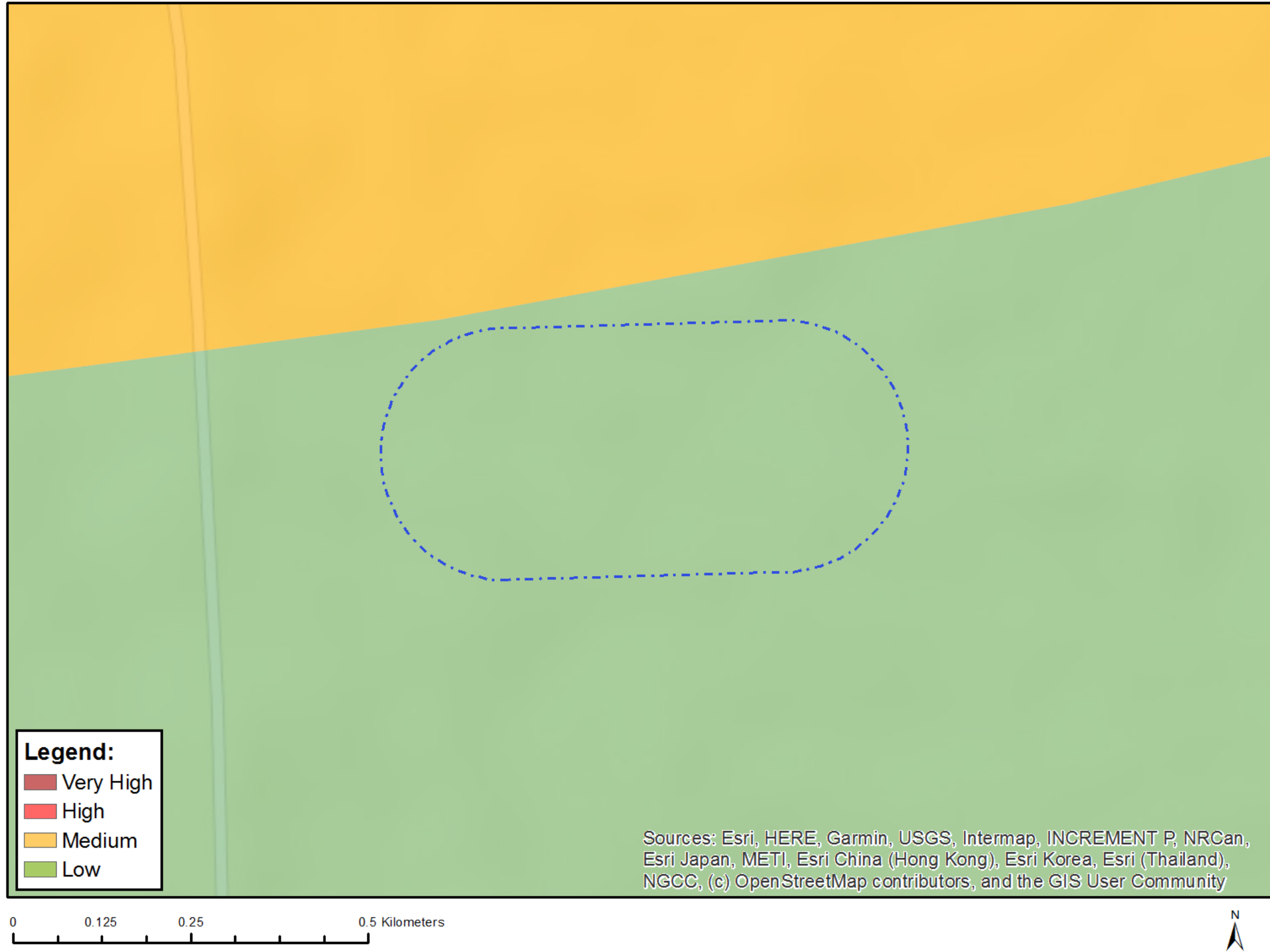
Map of Aquatic Theme sensitivey



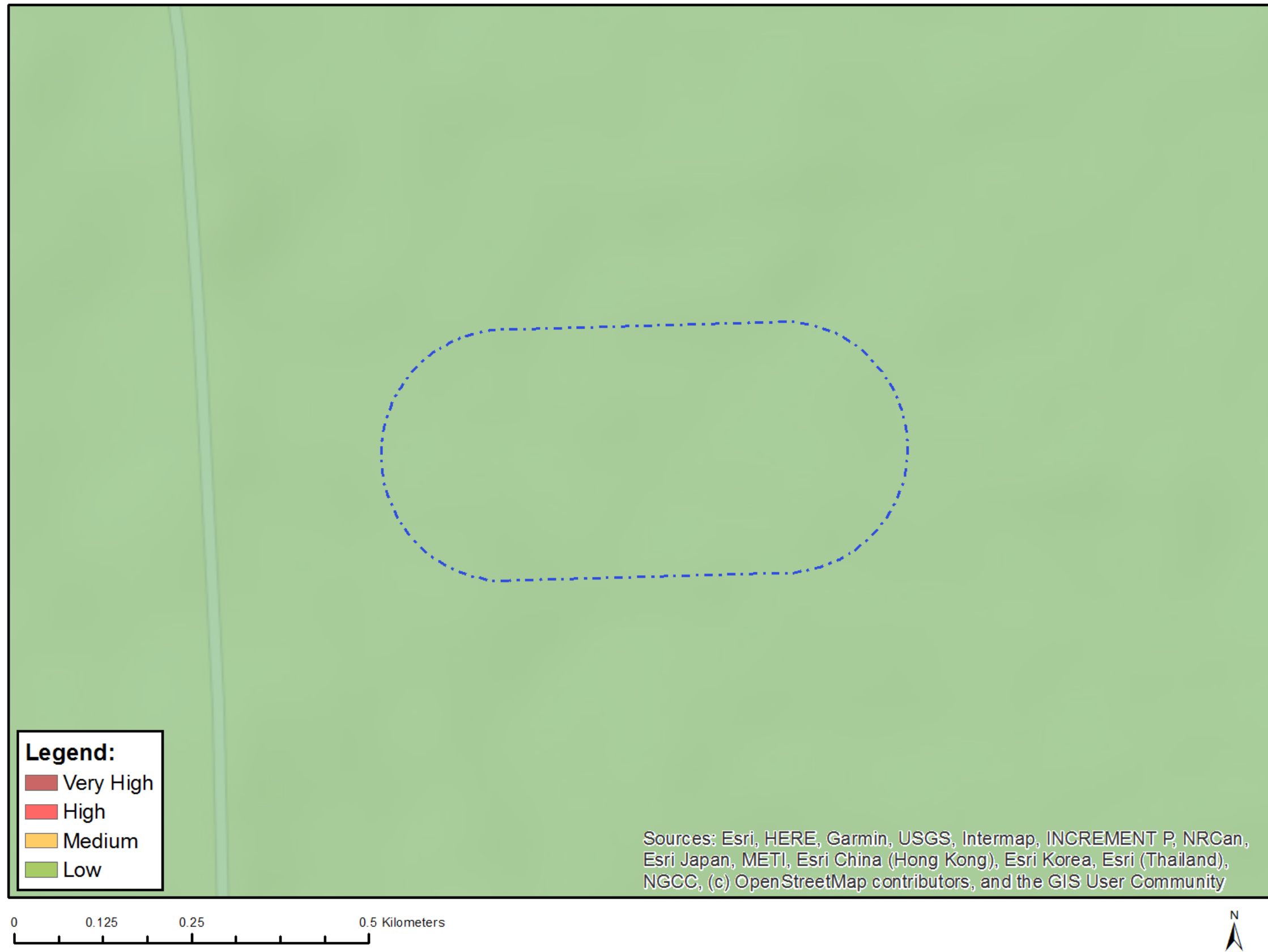
Map of archaeological and heritage Theme sensitivy



Map of Civil Aviation Theme sensitivey



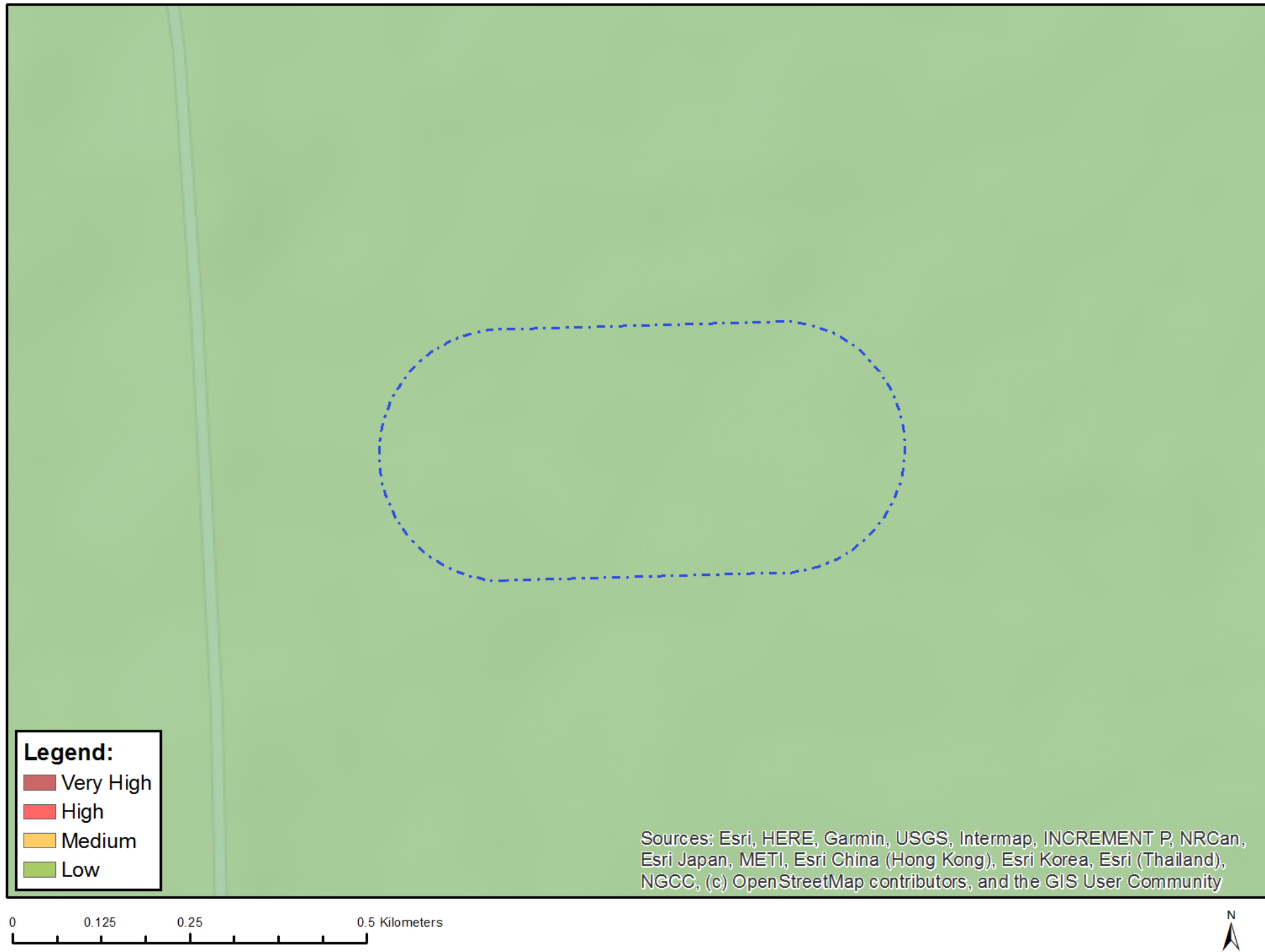
Map of Defencive Theme sensitiviey



Map of Palaeontology Theme sensitivey



Map of plant species theme sensitivity



Map of terrestrial biodiversity species theme sensitivey

